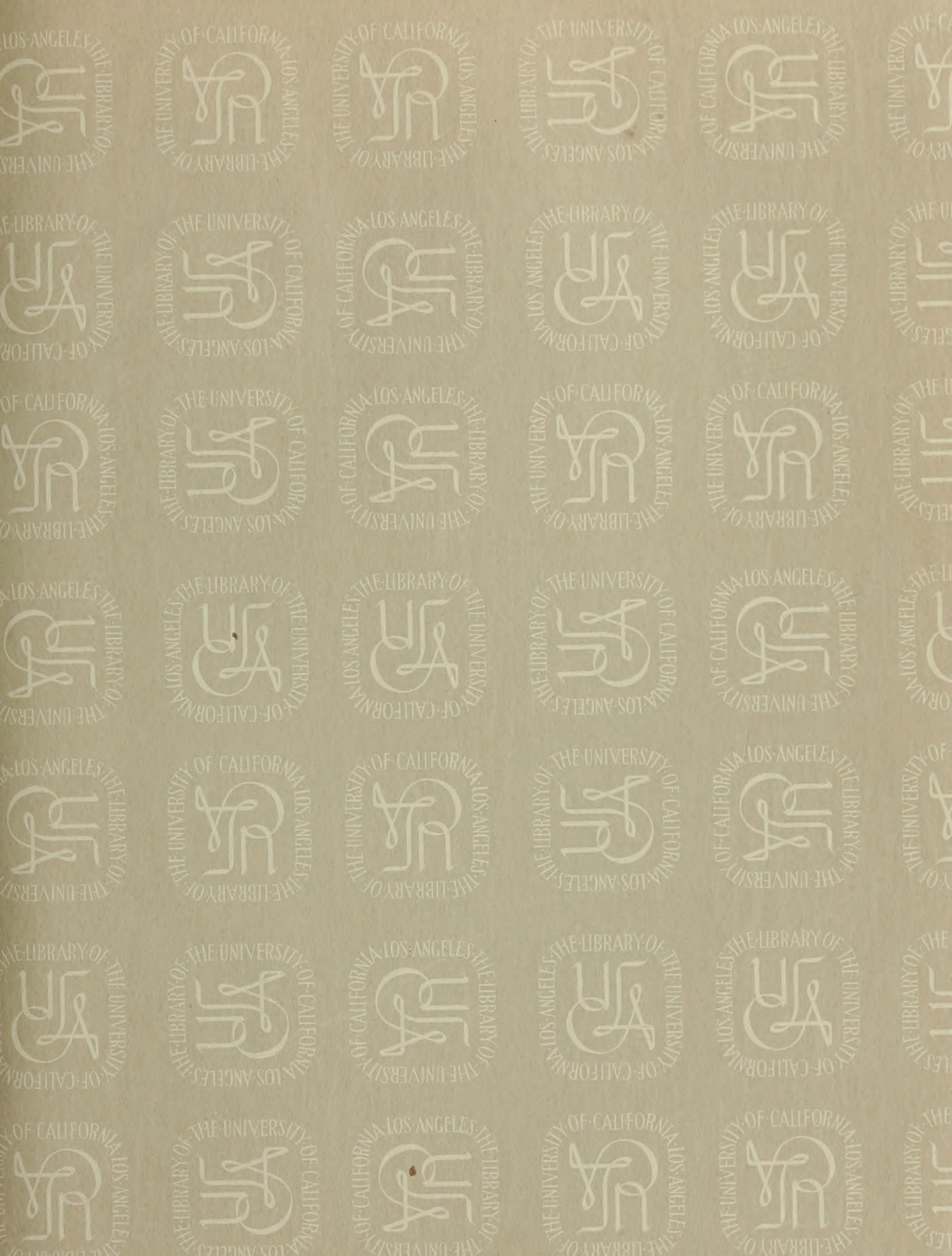
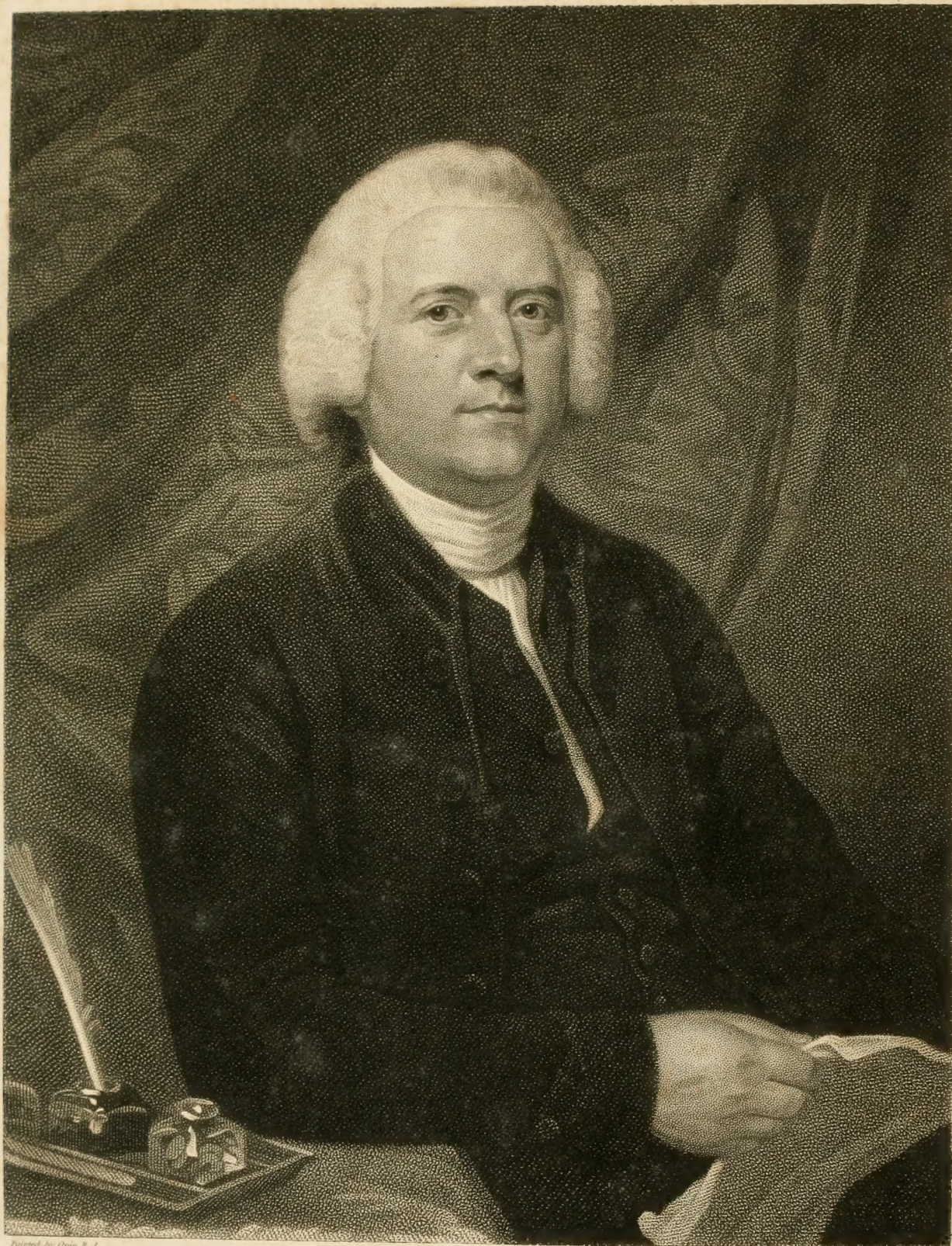










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ABRAHAM REES, D.D.F.R.S.

THE
CYCLOPÆDIA;

OR,

UNIVERSAL DICTIONARY

OF

Arts, Sciences, and Literature.

BY

ABRAHAM REES, D.D. F.R.S. F.L.S. *S. Amer. Soc.*

WITH THE ASSISTANCE OF

EMINENT PROFESSIONAL GENTLEMEN.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS,

BY THE MOST DISTINGUISHED ARTISTS.

IN THIRTY-NINE VOLUMES.

VOL. I.

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1819.

PREFACE.

THE CYCLOPÆDIA, which has been the production of the incessant labour of almost twenty years, is now completed, very much to the relief of the Editor's mind, and, as he hopes, to the satisfaction of the Public. To the candid judgment of its numerous readers, the Editor submits the work, assuring them, that, on his part, no pains have been wanting to render it worthy of their approbation. If he had foreseen the time and attention which the compilation and conduct of it required, and the unavoidable anxiety which it has occasioned, he would probably never have undertaken it. But habits of application, and some degree of experience in a work of this nature, disposed him to embark in it, and enabled him to overcome the difficulties that presented themselves to his view in his further progress. He hopes that he may be allowed to say, that an early and long-continued attachment to scientific pursuits, and a desire of serving the cause of Literature and Science, had no inconsiderable influence in directing his views to this object, and encouraging his perseverance in the accomplishment of it. He ought also to acknowledge, that the candour with which his labours, on this as well as on a former similar occasion, were received by the Public, and the expressions of approbation with which they were honoured in the course of sixteen years, afforded a very powerful inducement to unremitting assiduity and exertion. The Proprietors also, who had undertaken this work without any patronage besides that of the Public, and who were advancing large sums towards rendering it worthy of that patronage, were liberal in their co-operation, and in enabling the Editor to procure every kind of assistance, which he might find to be necessary and useful. They employed artists of the first reputation in their respective departments, whose performances have given a peculiar character to this work. The Proprietors and Editor were likewise honoured by connection and acquaintance with persons, eminently distinguished in those branches of science to which they had devoted their talents; and these persons not only consented to be co-adjutors, but to give celebrity to the work by allowing their names to be annexed to it, whilst they were enhancing its importance and value by their contributions. Although the Editor cannot decline availing himself of the reputation which the Cyclopædia must acquire from the established and well-known character of his associates,

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and with this view presenting their names to the Public, he does not wish to rob them of any portion of fame that belongs to them, in order to enrich himself. Notwithstanding all the assistance which he has received, and which he thus gratefully and respectfully acknowledges, his own responsibility furnishes a large demand on the candour of the Public ; nor will those who duly consider, that he has devoted almost twenty years of his life, measured not by fragments of time, but by whole days of twelve or fourteen hours, to the completion of his undertaking, and in so doing impaired his health and constitution, be indisposed to exercise that liberality in their estimate of his labours which he solicits. He is not unapprised of defects and imperfections ; and if he were to begin the *Cyclopædia de novo*, he could improve it. Science is progressive ; and since the commencement of this work, its advances in several departments have not been inconsiderable. The Editor has endeavoured to watch its steps, and to incorporate in his pages every discovery and improvement that has attended its progress. He now presents his work, in its finished state, at the bar of the Public, anxiously but not timidly waiting a favourable decision. He begs leave, however, to suggest, that he does not consider himself as responsible for the opinions advanced by his co-adjutors in the articles which they have furnished, any more than for those which occur in extracts from printed works. Some of these seem to him to be erroneous ; and they are actually controverted and contradicted in other parts of the *Cyclopædia*, where the mention of them occurs. As he could not prescribe limits to the articles supplied by his co-adjutors, he could not presume to prohibit a statement of their own sentiments on the subjects of the articles which they contributed. In every case the reader will form his own judgment.

The names of most of his co-adjutors have been already published on the covers of several parts of the work ; but after he has again recited them, every reader will be able to assign to each, so well known in the circle of science, the articles of any extent and of principal importance, which he has furnished. Under each head, the arts and sciences being arranged in alphabetical order, will be mentioned the names of those to whom the Editor is indebted for contributions ; though in some cases the number is small and the articles are short, whilst in others they are more numerous and more extended. Many of these articles have been considerably enlarged in consequence of the Editor's own researches. His own additions are so incorporated with the communications of his friends, that it would not be easy to distinguish them without a minuteness of detail, which, as he conceives, would be tedious and uninteresting. *Agriculture*, Dr. Dickson. — *Algebra* and *Analysis*, Barlow, Bonycastle, and Pond. — *Anatomy* and *Physiology*,

Abernethy and Lawrence. — *Comparative Anatomy*, Macartney, Lawrence, and Clarke. — *Annuities*, W. Morgan. — *Antiquities*, H. Ellis and Strutt. — *Architecture*, Porden, E. Aikin, P. Nicholson, Dr. Milner, and Webster. — *Astronomy*, Bonycastle and Pond. — *Astronomical Instruments*, Rev. Dr. Pearson. — *Biography*, Sir J. E. Smith, Dr. Burney, Dr. Malkin, and Dr. T. Rees. — *Botany*, Sir J. E. Smith, Dr. Woodville, Rev. Mr. Wood. — *Canals*, Farey, senior. — *Chemistry*, Aikin, Sylvester, Dalton, Brande, Dr. Marcet, Sir Humphrey Davy, Dr. C. Taylor, and Dr. Davy. — *Conic Sections and Curvilinear Geometry*, Ivory. — *Drawing*, Howard. — *Dynamics*, Cavallo. — *Education*, Dr. Carpenter. — *Electricity*, Cavallo and Cuthbertson. — *Engraving*, Landseer. — *Entomology, Conchology*, and several other articles of *Natural History*, Donovan. — *Exchange, Standard, Coinage, and Weight*, Dr. Kelly. — *Blast and Blowing Furnaces*, Mushett. — *Geology*, Koenig, Bakewell. — *Geography*, Tooke, Hinckes. — *Geometry*, Barlow, Ivory. — *Grammar*, Dr. Jones. — *Heraldry*, Sir G. Naylor. — *History, English*, S. Turner and Owen Pugh. — *Horology*, Rev. Dr. Pearson. — *Language*, Dr. Carpenter, Dr. Jones. — *Magnetism*, Cavallo. — *Manufactures*, Duncan, J. Thomson, Parkes, and Farey, junior. — *Mechanics and Machinery*, Cavallo, Farey, junior. — *Medicine*, Dr. Bateman and Dr. Henderson. — *Mental Derangement*, Dr. Haslam. — *Meteorology*, L. Howard, Dalton, and Dickson. — *Midwifery*, Dr. Bland. — *Mineralogy*, Koenig, Bakewell. — *Mining*, Taylor. — *Naval Architecture*, Glover. — *Navigation*, Mackay. — *Music*, Dr. Burney and Farey, senior. — *India Mythology*, Major Moor. — *Mental and Moral Philosophy*, Dr. Carpenter. — *Painting*, Russell, Opie, Ottley, and Phillips. — *Prosody*, H. Parker. — *Sculpture*, Flaxman, P. Hoare, and Bacon. — *Surgery*, Blair, who also furnished the article *Cipher*, and S. Cooper. — *Topography*, Britton. — *Versification*, H. Parker ; — and a variety of *Miscellaneous* articles by Joyce, Ellis, Fletcher, Howard, Clarkson, and several other gentlemen, who were occasional contributors, and whose names it is needless to mention. To Mr. S. Bevan and some other literary and scientific friends, the Editor is indebted for the assistance which they have afforded him in suggesting articles that had been omitted, and that have been supplied in the *Addenda*. Dr. Thomas Rees has, towards the close of the work, paid particular attention to the arrangement of the Plates. He has also drawn up a digested catalogue of them, together with an alphabetical index of the subjects which they comprise ; and added such explanations, and corrections of references, as appeared to be necessary or desirable, after a minute and careful collation, made in conjunction with the Editor, of every Plate, with the printed letter-press to which it pertained. The Editor and Proprietors of this work are also indebted to

Mr. Donovan, for the General Systematic Arrangement of the Plates of Natural History.

The general plan upon which this work has been conducted, and which was stated in the Advertisement that announced the publication of it, seemed to the Editor, after some experience in this department of literary labour, and after consulting several competent judges, the most suitable to the nature and design of a Scientific Dictionary. Whatever may be the advantage resulting from separate dictionaries appropriate to each particular science, which is the plan of the FRENCH ENCYCLOPÉDIE, or from distinct treatises introduced in a dictionary of one alphabet, according to some modern compilations of this kind, the inconvenience and perplexity that attend the multiplication of alphabets, whether they occur in different serieses of volumes, or in the form of an index at the close of each treatise, will furnish an objection against this mode of arrangement, which it will not be easy to obviate. In a work of such magnitude as the French Dictionary, consisting already of between 100 and 200 volumes, and of undetermined extent, the best treatises that have been written, or that may be written, on each subject, may be introduced, and the work itself may be a complete library, and supersede the necessity of recurring to any other. But in a publication of limited compass, such as booksellers may undertake, and the general class of readers purchase, it is hardly possible to combine separate articles, sufficiently instructive, with treatises equally comprehensive and complete. To those who usually consult dictionaries for information, this plan, we are persuaded, is by no means the most eligible. If they wish to extend their knowledge beyond the limits to which a dictionary must necessarily restrict it, they will recur to appropriate treatises for the purpose; and the dictionary should furnish them with the necessary references. A dictionary is intended for communicating knowledge in an easy and expeditious manner; and it is desirable that the several articles should be so full and comprehensive, as to afford sufficient instruction on the subjects to which they relate, without the necessity of recurring to another dictionary, or to an index, for further information. It may be said, indeed, that the sciences are thus mutilated and mangled; and that it is impossible to preserve their unity without discussing each in a separate treatise. We readily allow, that this is an inconvenience, inseparable from the form of a dictionary; but at the same time we think that this may be remedied in a considerable degree by that kind of ramification of the principal subject, which, with suitable references, will lead the reader to subordinate articles, that form, by their mutual connection and dependence, an aggregate or whole, superseding in all common cases the necessity of a distinct treatise. These

references, when judiciously distributed and arranged, will serve, like the index of a book, but much more effectually, to conduct the reader from one subject to another: they will enable him to perceive their relation to each other; and they will direct him how to collect and combine the dispersed parts of any science into one entire and regular system. Each article will afford him, as it were, a distinct lecture; and he may pursue the same course of study by the means now suggested, or vary it as he thinks proper. Upon the whole, the advantage of separate treatises under each head of science, such as the limits of a dictionary will allow, seems to be more imaginary than real; more especially as the want of them may be supplied in the manner that has been mentioned.

In conformity to our proposed plan, it has been our endeavour to give, under each distinct head of science, an historical account of its rise, progress, and present state, concisely and yet as comprehensively as our limits and our sources of information would allow; to refer to those articles in which the discussion of them occurs, and to point out such publications as afford further information. References of this kind are introduced under each separate article, wherever they are thought to be necessary and useful; and thus the reader is able to form his judgment concerning the authorities upon which the compilers of the several articles depend; and if he shall have opportunity or inclination, he may recur to them for himself.

Whilst the Editor and his co-adjutors in this work have availed themselves of the assistance which other similar dictionaries have afforded them, they have not contented themselves with mere transcripts; they have resorted as much as possible to original writers, which they have been enabled to do by the facility of their access to large libraries; and by the citations which they subjoin to the several articles, the Public will judge of the extent of their research, and of the industry and labour which they have bestowed on this compilation. In their account of the arts and manufactures, they have consulted the artisans and manufacturers themselves, and derived from them every kind of information that was likely to conduce to the credit and utility of the work: and this they have not been able to do without incurring a very considerable expence.

Some apology may, perhaps, be thought necessary for the extension of this work beyond the limits first proposed. When it was determined to

introduce biography, as well as geography, topography, and history, upon a larger scale than the Proprietors and Editor had at first intended, principally in compliance with the wishes of intelligent and esteemed subscribers, the enlargement of it became indispensable. To his co-adjutors, whose assistance was highly important, the Editor could not presume to prescribe limits, which would have depreciated the value of the articles which they contributed, and within which, for their own reputation, they would not have consented to be confined, and of course the work would have been deprived of the benefit of their contributions. This circumstance could not fail to occasion an enlargement of the Cyclopædia; but it was proportionably enhanced in value; and the Editor is satisfied, that the purchasers will not ultimately regret the augmentation of expence. The plates likewise have been multiplied far beyond the original intention of the Proprietors, because new and unthought-of subjects were introduced in the progress of the work; but as these plates constitute a character of excellence peculiar to this Cyclopædia, it is thought that the circumstance of their being additional embellishments of the work, besides that of their being indispensable as explanatory of the articles to which they refer, will be a sufficient apology for the increase of their number; more especially when it is considered, that the augmented number of plates, as well as the enlargement of the work, have occasioned a diminution of profit to the Proprietors. It would have been more their interest, as well as more gratifying to the Editor, to have compiled a Cyclopædia in fewer volumes, and to have contented themselves with a smaller number of plates; as in all probability the sale would have been greater, and the sum of money expended upon it would of course have been much less. The Editor must do the booksellers concerned in this Cyclopædia the justice to say, that they have consented to forego part of the possible profit that might have accrued from it for the sake of its reputation and utility.

CYCLOPÆDIA:

OR, A NEW

UNIVERSAL DICTIONARY

OF

ARTS and SCIENCES.

A

A May be considered, I. as a LETTER; II. as a WORD; and III. as an ABBREVIATION.

I. **A**, as a LETTER, or the mark of a vocal sound, is the most simple, and that which the dumb are most easily taught to utter.

To pronounce it clearly, we need only open the mouth wider than for any other sound, and then emit the air from our lungs. It is the first letter of the alphabet in all the known languages of the world, except in that of the Ethiopians; in which, according to Ludolfus, it is the thirteenth.

We must seek the origin of this, and the rest of our letters, in the Oriental languages. See ALPHABET and LETTERS.

In the English language, the character **A** is the mark of three different sounds, which are termed by our grammarians the *broad A*, the *open A*, and the *slender A*.

1. Our *broad A*, resembles the sound marked by the German **A**, and is found in many of our monosyllables, as *all*, *wall*, *halt*, *fall*, where it is pronounced as *au* in *cause* and *fault*, or as *aw*, in *law*. It is probable that this *broad* sound was that which our Saxon ancestors expressed by the character **A**, as it is still, almost uniformly, retained in the rustic pronunciation and northern dialects of our language; as *taulk* for *talk*, *maun* for *men*, *haund* for *hand*, &c.

2. The *open A* of the English, is not unlike the **A** of the Italians in *adagio*, and is the sound marked by this letter in *father*, *rather*, &c.

3. The *slender* sound marked by the character **A**, is peculiar to the English language, and resembles the sound of the French *e* masculine, or of their diphthong *ai* in *pais*; perhaps it is a middle sound between them, or between the *a* and *e*. Such we have in the words *place*, *free*, *twice*, and in all those that terminate in *ation*; as *salvation*, *preservation*, &c.

The sounds of which **A** is the character in our language,

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are sometimes short; as in the words *glafs*, *grafs*, *brafs*, &c. at other times long; as in *glaze*, *graze*, &c. Their length is commonly denoted by an *i* immediately subjoined to the *a*; as in *plain*, *rain*, &c. or by an *e* added at the end of the word; as in *plane*, *crane*, &c.

Some contend that there are four, others, that there are five distinct sounds, denoted by the character **A** in the English language. There are, perhaps, little variations and distinctions in the sounds marked by the character **A**, as well as by the other vowel letters in our alphabet; but they are so local or arbitrary, or, after all, so nice and subtle, that they entirely escape the notice of foreigners, and are hardly distinguishable by the natives. Those who desire to enter more deeply into the first formation of sounds, and to see the elementary principles of speech treated with philosophical accuracy, will find satisfaction in the ingenious treatises of Wallis and Holder.

In burlesque poetry, the letter **A** is sometimes added after words; it lengthens them a syllable, without altering their sense; as *line-a*, for *line*, in Dryden, &c. It is sometimes redundant, when prefixed to words, as *arise*, *awake*; the same with *rise*, *wake*, &c.

In our Calendar, **A** is the first of the DOMINICAL letters which were introduced in imitation of the eight NUNDINAL letters of the Romans, of which the **A** was one.

II. **A** is a WORD. This first simple sound is used in our language to express most of the vehement emotions of the soul. We naturally use it on all sudden occasions of admiration, joy, anguish, apprehension of danger, &c. and where the emotion is very great, the **A** is enforced by adding an aspirate to it, as *ah*!

It is sometimes a noun; for we say great **A** and little *a*; but it is most commonly a definite, or an indefinite article. It is *definite*, and denotes the number *one*, as, *a* man is coming, that is, *no more than one*. It is also used as an in-

B

definite

Admirandum is to be read, *a* naturally come this way; that is, *admirandum*.

A, as a preposition, has no plural signification: before a word beginning with a vowel, *y* and *u* excepted, and *h* when it precedes a vowel, it is written *an*, of which is the contraction; as *an* harbour, *an* ox, *an* hour, &c. *A* seems to be a true and genuine preposition, in the three following cases: 1. When it is put before a participle or principal noun, denoting some action not yet accomplished; as *I am a* writer. 2. When it is placed before local surnames; as Thomas *à* Becket. 3. When it is used in composition; e. g. *afoot*, *asleep*, &c. Dr. Wallis supposes it to be a contraction of *at*: but Dr. Lowth thinks, that it is the preposition *on*, and sometimes *of*. *At*, he says, has relation chiefly to *place*; *on* has a more general relation, and may be applied to *action*, and many other things, as well as *place*.

In some instances, *A* has a peculiar signification, denoting the proportion of one thing to another; as such income *a* year, so many hours *a* day, so much *a* man, &c.

III. *A* is also an ABBREVIATION. *A* put to bills of exchange, is in England an abbreviation for *accepted*, and in France for the word *accepté*. It is likewise usual among merchants to mark their sets of books with the letters *A*, *B*, *C*, instead of the numbers 1, 2, 3, &c.

In the Roman inscriptions, the sense of the *A* is to be collected chiefly from the connection of the words, and the scope of the inscription. *A* singly stands for *Aulus*, *Augustus*, *avus*, *avunt*, *avis*, *avus*, *adus*, *adilis*, *adilius*, *ararium*, *aula*, *anima*, *amicus*, *amica*, *albo*, *alia*, *ada*, &c. and, by a more modern abbreviation, for *artium*. Thus, *A. M.* stands for *Artium Magister*, *Master of Arts*, and *A. B.* for *Artium Baccalarius*, *Bachelor of Arts*, *AA.* signifies *Augusti*, and *AAA.* stands for *auro*, *argento*, *ere*. *A. B.* stands for *alia* *bona*, and *A. C.* for *alii* *cujus*, &c. On the Greek and Roman medals, *A* denotes commonly the name of the place where they were struck, as Athens, Argos, Antioch, Aquileia. On French coins *A* is the mark of the mint of Paris, and *AA* signifies their coinage at Metz.

The Romans in their trials used their *A* to denote absolution; whence Cicero calls it *litera salutaris*, the saving letter. Their manner was this: Three ballots were given to each judge, marked one with an *A*. for *absolvo*, *I absolve*; a second with a *C*. for *condemno*, *I condemn*; and the third with *N. L.* which stood for *non liquet*, *it is not clear*. One or other of these each judge, according to his judgment, put into an urn; and the prætor acquitted or condemned the criminal, according to the respective number of these letters. If the suffrages for acquitting and condemning were equal, the accused was always acquitted.

The Romans also made use of the letter *A* in collecting their suffrages in cases of legislation. When a new law was proposed, or an amendment of an old one was in agitation, each voter had two ballots put into his hand, the one marked *A*. signifying *antiquo*, q. d. *antiquam volo*, *I like the old way*; and the other marked *U. R.* for *uti rogas*, *as you desire*; and his suffrage was given, by putting the one, or the other, into the urn. *A*, in the days of Roman barbarism, was one of the numeral letters, and signified five hundred; when written with a dash over it, thus *Ā*, it denoted five thousand. The letter *A* is also used by Chronologers and Historians as an abbreviation for *anno*; so they put *A. M.* for *anno Mundi*, *A. D.* for *anno Domini*, &c.

The Romans dated from the building of Rome; and in their writings *A. U. C.* stands for *anno ab urbe condita*. The Greeks used *A*, α , prefixed to a word, as a PRIVATIVE particle. With them it was also a numeral letter denoting unit.

Among Logicians, *A* denotes an universal affirmative proposition; according to the verse,

Afferit A, negat E, verum generaliter ambe. See BARBARA.

In Algebra *A* or *a*, and the first letters of the alphabet, represent *known* quantities; and the last letters represent quantities that are *unknown*.

In the prescriptions of Physicians, *A*, or $\bar{a}$, or $\bar{a}\bar{a}$, denotes equal parts of the ingredients specified, and is a contraction of the preposition *æva*, which is used in the same sense by medicinal writers in the Greek tongue.

Among Chemists, *AAA* signifies an AMALGAMA, or the operation of amalgamating.

In Heraldry, the letter *A* is used as a bearing in arms.

AA, *Peter Vander*, in *Biography*, an eminent bookfeller at Leyden, who was living in 1729. He published an atlas of 200 charts compiled after the long voyages from 1246 to 1696. They are not deemed very accurate. They are included in the *Galerie Agréable du Monde*, in 66 vols. folio. *Aa* continued Grævius's *Thefaurus*, or an account of the modern Italian writers, in six other volumes, with the *Thefaurus Antiquitatum Siciliæ*.

AA, in *Hydrography*, the name of several rivers: one in Westphalia, which rises near Munster and falls into the river Embs; another, that has its source in the department of Somme, in France, becomes navigable by means of sluices near St. Omer, passes on to Gravelines, and discharges itself into the English Channel; a third in Livonia, that falls into the gulf of Riga; and a fourth in Switzerland, that rises in Mount Brunig, and falls into the lake Lucerne.

AACH, in *Geography*, a small town in Germany, in the circle of Suabia and Landgravate of Nellenburg, near the source of the river *Aach*, which falls into the lake of Zell. It belongs to the House of Austria. E. long. 9°. N. lat. 47° 55'.

AAGARD, *Nicholas* and *Christian*, in *Biography*, two brothers born at Wiburg in Denmark in the beginning of the 17th century. The former is known for his philosophical works and other tracts, particularly his disputations upon Tacitus; the latter for his excellent poetry.

AAGGI-DOGI, in *Geography*, a mountain of Amasia in Turkey, on the frontiers of Persia, which is crossed by the Caravans in their way from Constantinople to Ispahan.

AAG-HOLM, a small island on the coast of Norway, near the mouth of the river Lendevand.

AAHUS, or *AHAUSZ*, i. e. *the house on the Aa*, a small town in the circle of Westphalia, and bishoprick of Munster. It is the capital of the prefecture of *Aabus*, and has a citadel. E. long. 7° 1'. N. lat. 52° 10'.

AAKIAR, a prefecture of the diocese of *AARHUUS* containing 16 parishes.

AAKIRKE, a town in the island of *BORNHOLM*, which has the privileges of a city, and in which are held the provincial court and the synod. E. long. 14° 56'. N. lat. 55° 15'.

AALBURG, the capital of a diocese of the same name in North Jutland, in Denmark, and a bishop's see. It derives its name from the number of eels that are taken here. This city is large and populous; and next to Copenhagen, the most opulent and best built in the kingdom. It carries on a considerable trade in herrings and grain, and has different manufactures of muskets, pistols, saddles, and gloves. It has an exchange for merchants; as well as a safe and deep harbour. The population of this diocese amounts to 80,872 persons. E. long. 9° 46'. N. lat. 56° 50'.

AALEN, or *AHLEN*, a free Imperial town belonging to the bench of Suabia, and so called from the number of eels which are in that part of the river Kocher that runs

runs through it. This city is Lutheran. It was formerly under the dominion of the kings of Bohemia, and sold to Ebberhard, Count of Wirtemberg. The Emperor Charles IV. recovered it, and restored it to the empire in 1360. This, and similar cities that are almost in a ruined state, preserve their franchises and immunities with care. E. long. 9° 36'. N. lat. 48° 48'.

AALST, or AELST, *Everard*, in *Biography*, a painter, was born at Delft in 1602 and died in 1658. He excelled in fruit pieces, dead game, and armory. His nephew, named William, surpassed his uncle. He was born in 1620 and died in 1679. His pictures are chiefly known in Holland.

AALST, or ALEST, in *Geography*, the capital of a county of the same name in the district of Ghent and circle of Burgundy, and lying between the rivers Schelde and Dender. This city lies on the latter of these rivers. E. long. 3° 54'. N. lat. 50° 58'.

AAM, or HAAM, is a liquid measure generally used by the Dutch; it contains 128 mingles, each mingle weighing about 36 ounces avoirdupois; and consequently the *Aam* is equal to 148½ pints of Paris, or to 288 pints of English measure; the Paris pint weighing 31 ounces, and that of England 16 ounces.

AAMA, in *Geography*, a province of Barbary in Africa, about 15 days' journey from Tunis.

AANSIRE, a small island on the coast of Norway, opposite to AAG-HOLM.

AAR, or AREN, in *Hydrography*, a large river of Switzerland, which has its source in Mount Grimsel in the south of the canton of Bern, and pursuing a circuitous course towards the north-west, passes through the lakes of Brienz and Thun to Bern, and afterwards changing its direction towards the north-east, flows to Solothurn and Brugg, and being joined by the Reufs and Limmatt, discharges itself into the Rhine near Waldshut. There is another smaller river of the same name in Westphalia.

AAR, in *Geography*, the name of a small island in the Baltic.

AARASSUS, in *Ancient Geography*, a town of Pisidia in Asia, which some have supposed to be the Anassus of Ptolemy. Strabo, *Geog.* tom. ii. p. 855.

AARAW, in *Geography*, a town and bailiwick in the canton of Bern in Switzerland. E. long. 7° 10'. N. lat. 40° 2'.

AARDENBORG, a small town in Flanders situated on a canal which communicates with the Zwin. It was once a fortress; but its works were totally razed in 1700. E. long. 3° 14'. N. lat. 51° 17'.

AARHUUS, the capital of a diocese of the same name in North Jutland, extending from that of Wiburg along the Cattegat, about 15 miles in length and 8 or 9 in breadth. This diocese is extremely fertile, and diversified with woods, bays, and lakes abounding with fish. It is watered by several rivers, the chief of which is the Guden. The town lies in a fine plain between the sea and a lake, from which a stream of water passes through it. It is large and populous, has 6 gates, 2 principal churches, 2 market places, an university, a free school, and a well endowed hospital. It carries on a good trade. The number of inhabitants in this diocese is estimated at 117,942. E. long. 10°. N. lat. 56° 6'.

AARON, in *Scripture History*, the son of Amram and Jochebed, and the grandson of Levi, was born A. M. 2430, before the Christian æra 1574. He was three years older than his brother Moses, and appointed to aid him under the character of his advocate and interpreter, as well as prophet, in his intercourse with Pharaoh, and in the rescue of the Israelites from their bondage in Egypt. With this view

they both went together into Egypt; and after many attempts to overcome the opposition of the Egyptians, and the obstinacy of Pharaoh, they accomplished their object A. M. 2513, ante A. D. 1491. After the Exodus of Israel, and during their peregrination in the Wilderness, Aaron and his sons exercised the office of priests by a divine appointment; and as soon as the TABERNACLE was built, Aaron was consecrated by Moses with the holy oil, and invested with the pontifical ornaments. When Moses went up to the Mount to receive the law, Aaron, accompanied by the 70 elders, followed him; but during his continuance for 40 days on the Mount, the people became impatient and tumultuous, and Aaron, yielding to their solicitations, melted down their pendants, and the ear-rings of their wives and children, and formed the golden CALF, to which they paid homage. He afterwards humbled himself for this offence, obtained forgiveness, and was continued in the priesthood. In a subsequent period, viz. A. M. 2515, Korah aspired to the priestly office, and Dathan and Abiram claimed a share with Moses in the sovereign authority; for which act of rebellion, as their history informs us, they were signally punished. Aaron was afterwards confirmed in the priesthood by the miracle of the almond-rod, which blossomed, and which was deposited in the most holy place, in order to perpetuate his title, and the remembrance of this prodigy. He married Elisheba, the daughter of Aminadab of the tribe of Judah, by whom he had four sons; two of whom were destroyed by fire, and from the other two the race of the high priests of the Jews was continued from Aaron in regular succession. When the period of Aaron's service was completed, he ascended Mount Hor near the encampment of the Israelites at Mosera, disrobed himself of the pontifical ornaments in the view of the people, and put them upon Eleazar his eldest son, and his successor in the high priesthood. He then died in the arms of Moses and his son, at the age of 123 years, in the 40th year after the Exodus; and they buried him in a cave of this mountain: but the place of his interment was concealed, probably under an apprehension that in future ages he might become an object of superstitious worship. For a farther account of Aaron the reader is referred to Exodus, Leviticus, and the book of Numbers to the 24th verse of the xxth chapter; and for an abstract, with remarks on several circumstances pertaining to his station, character, and office, to Calmet's Dictionary of the Bible.

AARON, in *Church History*, a British martyr, who suffered a cruel death, together with Julius, under the persecution of Dioclesian, in the year 303. It does not appear what were the British names of these two martyrs; as the Christian Britons took new names from the Latin, Greek, or Hebrew, at the time of their baptism. They were buried at Caerleon, and each of them had a church dedicated to his memory in that city. In the Roman martyrology their feast was fixed on the first of July. Biog. Brit.

AARON, a presbyter and physician of Alexandria, author of 30 books in the Syriac tongue, containing the whole practice of physic, called the Pandects, chiefly collected from the Greek writings, and supposed to be written before 620. They were translated into Arabic by a Syrian Jew physician about A. D. 683. He is the first author that mentions, and that has clearly described, the small-pox and measles, which probably first appeared at Alexandria in Egypt A. D. 640, and were brought thither by the Arabians when they took that city. He directed the vein under the tongue to be opened in the cure of the jaundice, and observed that the fæces in that disease are of a white colour. The above-mentioned work and its translations are lost: and

we have only fragments remaining, collected by Mohammed R. in his *Commentaries*.

AARON, or HARRUN, *in General Biography*, a celebrated caliph of the Soudan empire. See BAGDAD.

AARON ALFANG, a learned Rabbi and CARAITI in the thirteenth century, who wrote an Hebrew grammar, printed at Constantinople in 1581. He was probably the same with ALFANG, who wrote a commentary on the Pentateuch, which is in MS. in the French king's library, and translated by D'OLIVIER in 1710; and M. S. annotations on the Old Testament. There was another Aaron, distinguished from the former by the epithet *Hacharon*, i. e. posterior, who was born at Nicomedia in 1346. His writings are esteemed oracular by the Caraites. The Garden of Eden, containing the doctrines and customs of his nation, is the principal.

AARON, a Levite of Barcelona, was the author of 613 precepts on Moses in Hebrew, printed at Venice in 1523. He died in 1292.

AARON, *Ben schaim*, was chief of the synagogue of Fez and Morocco in the beginning of the seventeenth century. His commentary on the Prophets, intitled the heart of Aaron, one on the Syphra, and another on the Law, were printed at Venice in 1609, folio.

AARON, *Ben aser*, was a celebrated Rabbi, who is said to have invented the Hebrew points and accents towards the fifth century. His Hebrew grammar was printed by Bomberg in 1515, folio.

AARON, *in Geography*. See ST. MALOES.

AARONSBURGH, in *Geography*, a town of America, lying at the head of Penn's creek in the county of Northumberland, about 30 miles W. from Louisburgh, and 40 W. by N. from Sunbury.

AARSSENS, *Francis*, Lord of Someldyck and Spyck, one of the greatest ministers for negotiation in the United Provinces. He was sent by Barneveldt, who presided over these provinces, as agent into France, and was the first person recognised, in 1609, as Dutch ambassador by the French court. He was the first of three extraordinary ambassadors sent to England in 1620, and the second of those who were deputed in 1641, to negotiate the marriage of Prince William, son to the Prince of Orange. After having been employed in several other important missions, he died in an advanced age, very rich, and left on record memoirs of all the embassies in which he had been engaged.

AARSSENS, or AERTSEN, *Peter*, denominated from his stature by the Italians *Pietro Longo*, a celebrated painter, was born at Amsterdam in 1519. He excelled in painting a kitchen with its furniture, and his altar-pieces were particularly admired. A famous piece of this kind was destroyed in the insurrection of 1566; and because he complained of this outrage, he was in danger of being murdered by the populace. He died in 1575.

AARTGEN, or AERTGEN, a painter of eminence, who was born at Leyden in 1498, and pursued his father's trade of a woolcomber to the age of eighteen. He voluntarily lived in meanness and obscurity; and declined offers of advancement, alleging that he found more sweets in his poverty than others did in their riches. He never worked on Monday, chusing to devote that day, with his disciples, to the bottle. It was his practice to stroll about the streets in the night, playing on the German flute; and in one of these frolics he was drowned in 1564.

AASAR, in *Ancient Geography*, a town of Palestine, situated between Azotus and Aſcalon, which in the time of Jerome was a hamlet.

AATTER, a district of the northern part of Arabia Felix, on the Red Sea.

AAVORA, in *Natural History*, the fruit of a sort of large palm tree in the West Indies, and in Africa. It is of the size of a hen's egg, and included, with several more, in a large shell. In the middle of the fruit there is a hard nut, about the size of a peach stone, which contains a white almond, very astringent and proper to check a DIARRHOEA.

AB, in the *Hebrew Chronology*, the eleventh month of the civil year, and the fifth of the ecclesiastical year, which begins with *Nisan*. This month answered to the moon of July, comprehending part of July and of August, and contained thirty days.

The first day of this month is observed as a fast by the Jews, in memory of Aaron's death; and the ninth, in commemoration of the destruction of the temple by Nebuchadnezzar, in the year before Christ 587. Josephus observes, that the burning of the temple by Nebuchadnezzar, happened on the same day of the year on which it was afterwards burned by Titus. The same day was remarkable for Adrian's edict, which prohibited the Jews to continue in Judæa, or to look towards Jerusalem and lament its desolation. The eighteenth day is also kept as a fast, because the sacred lamp was extinguished that night, in the reign of Ahaz. On the twenty-first, or according to Scaliger, the 22d day, was a feast, called Xylophoria, from their laying up the necessary wood in the temple: and on the twenty-fourth, a feast in commemoration of the abolishing of a law by the Asmoneans, or Maccabees, which had been introduced by the Sadducees, and which enacted, that both sons and daughters should alike inherit the estates of their parents.

AB, in the *Syriac Calendar*, is the name of the last summer month.

AB, prefixed to the names of places, generally denotes that they belong to some abbey.

ABA, or ABAU, HANIFAH. See HANIFAH.

ABA, ABAS or ABUS, in *Ancient Geography*, a mountain of Greater Armenia, situated between the mountains Niphates and Nibarus. According to Strabo, (Geog. tom. ii. p. 799.) the Euphrates and Araxes flow from this mountain; the one towards the west, and the other to the east. Eustathius and Dionysius Periegetes, call this mountain, which is part of Mount Taurus, Achos.

ABA, or ABÆ, a city of Phocis in Greece, near Heli-con, famous for an oracle of Apollo, more ancient than that at Delphi, and also for a rich temple, plundered and burnt by the Persians. Strabo's Geog. tom. i. p. 647, and the authors there cited.

ABACA, in *Botany*, a kind of flax or hemp, gathered in some of the Manillas or Philippine Islands. This plant is sown every year; being gathered, it is steeped in water, and beaten as hemp is. It is of two kinds, the white and the grey. The white abaca is used for making very fine linen; but the grey is employed for nothing but cordage.

ABACA, in *Geography*, one of the Philippine Islands in Asia.

ABACÆNA, in *Ancient Geography*, a town of Media, and another of Cana in the Hither Asia.

ABACÆNUM, a town of Sicily, the ruins of which are supposed to be near Trippi, a citadel on a steep mountain near Messina. Its inhabitants were called *Abacenini*. Stephan. de Urbibus, tom. i. p. 2.

ABACAY, in *Natural History*, a name given by the people of the Philippine Islands to a species of parrot, called also CALANGAY.

ABACH, in *Geography*, a market town of Bavaria, situated on the Danube. It has an old castle, in which Henry II. is said to have been born, and is much frequented.

quented on account of its mineral waters. E. long. $11^{\circ} 59'$. N. lat. $48^{\circ} 53'$.

ABACINARE, or ABBACINARE, derived either from the Italian *basino*, a *basin*, or *basio*, a *dark place*, in *Writers of the Middle Ages*, a species of punishment, consisting in the blinding of the criminal, by holding a red hot basin, or bow, before his eyes. Du-Cange.

ABACK, in *Sea Language*, signifies the situation of the sails, when their surfaces are flatted against the masts by the force of the wind. They may be brought *aback*, either by a sudden change of the wind, or an alteration in the ship's course. They are laid *aback* to effect an immediate retreat, without turning either to the right or left, in order to avoid some imminent danger, in a narrow channel, or when she has advanced beyond her station in the line of battle, or otherwise. The sails are put in this position by slackening their lee-braces, and hauling in the weather-ones.

ABACOA, in *Geography*, one of the *BAHAMA islands*, about 54 miles in length and 21 miles in breadth. See PROVIDENCE.

ABACOOCHEE, a river of America, called also COOSA.

ABACOT, a cap of state, wrought up in the form of two crowns, worn by our ancient British kings.

ABACTOR, formed of *ab*, from, and *actor*, a driver, from *agere*, to drive, (called by the Roman lawyers *Abigeus* or *Abigeus*), one who drives off cattle in herds; in contradistinction to one who steals a single sheep, &c. only, who is called a thief. *Nam qui ovem unam surripuerit, ut fur coercetur, qui gregem ut Abactor*. The punishment of *Abigeat* was more severe than that of *Furtum*; viz. condemnation to the mines, banishment, or even death itself, according to the quality of the offender. But sometimes in Spain the punishment was more severe than elsewhere, the people there being most addicted to it.

ABACTUS, or ABIGEATUS, among the *Ancient Physicians*, was used for a miscarriage procured by art, or force of medicines, in contradistinction to *abortus*, which is natural. But the moderns know no such distinction. See ABORTION.

ABACUS, among the *Ancients*, was a kind of cupboard, or BUFFET.

The word is formed from the Greek *αβαξ*, which, among that people, signified the same thing.

ABACUS, among the *Mathematicians*, was a little table strewed over with dust, on which they drew their schemes and figures.

In this sense, the word seems formed from the Phœnician *אבאק*, *abak*, dust.

ABACUS *Pythagoricus*, a table of numbers, contrived for the ready learning of the principles of arithmetic; so denominated from its inventor, Pythagoras.

Hence also, from an agreement in point of use, the names *Abacus* and *Abaco* are used, among Latin and Italian writers, for an alphabet, or ABC, &c.

The *Abacus Pythagoricus* was, in all probability, no other than what we call a multiplication-table.

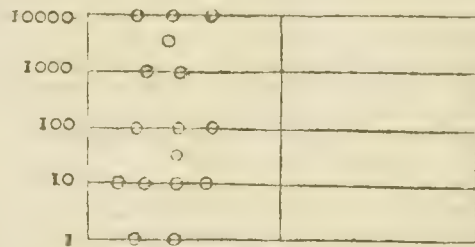
Ludolfus and Wolfius give us methods of performing multiplication without the help of the *Abacus*; but they are too operose in ordinary cases for practice. See MULTIPLICATION.

The *Abacus* for facilitating the operation of arithmetic, is an instrument almost as ancient, and extensive, as the art of arithmetic itself: if it be later than the methods of computing by the fingers, and by *lapilli*, or stones (which obtained among the Egyptians), it is at least much prior to the use of numeral letters or figures, wrought with the pen.

We find it in use, under some variations, among the

Greeks, Romans, Chinese, Germans, French, &c. It excels in point of facility, and neatness of operation, as working without any strokes or blots of the pen, or waste of paper; some also give it the preference in point of expedition.

The *Abacus* is variously contrived; that chiefly used in European countries is made by drawing any number of parallel lines, at pleasure, at a distance from each other, equal to twice the diameter of a *calculus*, or counter. Here a counter placed on the first or lowermost line, signifies 1; on the second, 10; on the third, 100; on the fourth, 1000; on the fifth, 10,000; and so on. In the spaces between the lines, the same counters signify half of what they signify on the next superior line; viz. in the space between the first and second lines, 5; between the second and third, 50; between the third and fourth, 500; and so on. Thus the counters on the *Abacus*, in the figure here subjoined, make the sum of 37392.—The *Abacus* is also divided cross-wise into *areole*, by means whereof subtractions are made. Wolf. Lex. Math. p. 171, seq.



The Grecian *Abacus*, *αβαξ*, or counting-board, was an oblong frame, divided by several brass-wires stretched parallel to one another, and mounted with an equal number of little ivory balls, like the beads of a necklace. By the arrangement of these balls, distinguishing the numbers into different classes, and observing the relations of the lower to the upper, all kinds of computations were easily performed. Mahudel, in Hist. Acad. R. Inscr. tom. iii. p. 390.

The Roman *Abacus* was much the same with the Grecian, except that instead of strings, or wires, and beads, in the Roman, we find pins and groves for them to slide in. It is described by several authors; but notwithstanding all these descriptions, we should have had a very obscure idea of the ancient manner of reckoning, if figures of it had not been found among the ancient marbles. Phil. Trans. N° 180.

The Chinese *Abacus* consists, like the Grecian, of several series of beads strung on brass wires, extended from the top to the bottom of the instrument, and divided in the middle by a cross piece from side to side; so that in the upper row each string has two beads, which are each reckoned for five; and in the lower row, each string has five beads of different values; the first being reckoned as 1; the second, as 10; the third, as 100, &c. as among us. Add, that instead of four pins for digits, or units, in the Roman *Abacus*, the Chinese has five beads.

We have two different figures, and descriptions, of the Chinese *Abacus*, one given by F. Martinus, who had lived many years in China; the other by Dr. Hooke, who copied it from a Chinese dictionary of the court-language. See SHWAN-PAN.

ABACUS *logisticus* is a rightangled triangle, whose sides, forming the right angle, contain the numbers from 1 to 60; and its area, the products of each two of the opposite numbers. This is also called a *canon of SEXAGESIMALS*.

ABACUS & *palmula*, in the *Ancient Music*, denote the machinery,

the devil, and by the strings of the polyhedron, or instrument of magic drugs, vice struck, with a plectrum.

ABACUS, in architecture, is used by Kircher for the structure and support of the keys of a musical instrument, whether to be touched with the hand or the feet.

ABACUS, or **ABACUS**, in *Architecture*, is the uppermost member of the capital of a column; serving as a kind of spring, both to the capital and the whole column.

Vitruvius, and others after him, who give the history of the orders, tell us, the *abacus* was originally intended to represent a figure of the land over an urn, or rather over a basket.—An Athenian old woman happening to place a basket thus, covered over the roof of an acanthus: that plant shooting up the following spring encompassed the basket all around, till meeting with the tile, it curled back, in a kind of scroll. Callimachus, an ingenious sculptor, passing by, took the hint, and immediately executed a capital on this plan; representing the tile by the *abacus*, the leaves by the volutes, and the basket by the vase, or body of the capital. There is some difference in the form of the *abacus* in different orders. In the **TUSCAN**, **DORIC**, and ancient **IONIC**, it is a flat, square member, well called *trapezium*, its original title; whence the French call it *tailloir*, *trencher*. In the richer orders it loses its native form; its four sides or faces being arched, or cut inwards, with some ornament, as a rose, or other flower, or a fish's tail, in the middle of each arch. See **CORINTHIAN** and **COMPOSITE**. But some architects take other liberties in the *abacus*, in respect of its name, place and office. Thus, in the Tuscan order, where it is the largest and most rustic, it taking up one third of the height of the whole capital, it is sometimes called the dye of the capital.—In the Doric it is not always the uppermost member of the capital; a *cymatium* being frequently placed over it.—In the Ionic, some make it a perfect ogee, and crown it with a fillet.—The proportion of the *abacus*, as prescribed by Vitruvius, is, that its diagonal (from corner to corner) be twice its height; but the moderns dispense with this proportion.—Samarzani applies the term *abacus* to a concave moulding in the capital of the Tuscan pedestal, and Palladio calls the plinth above the echinus, or boustin, in the Tuscan and Doric orders, by the same name.—In the *Ancient Architecture*, *Abacus* is used to denote certain compartments in the incrustation or lining of the walls of state-rooms, **MOSAIC** pavements, and the like. There were *abaci* of marble, porphyry, Jasper, alabaster, and even glass; shaped variously, square, triangular, and the like.

ABADA, in *Zoology*, a singular kind of wild animal in Benguela, in Africa. It is about the size of a half-grown colt, shy and swift-footed. It has two horns, one in its forehead, and another in the nape of its neck, which are of different length and bulk. The head and tail of this animal resemble those of an ox, and its feet are cloven like those of a stag, but much thicker. The front horn is deemed an antidote in many disorders; and the pulverised bones are made into a poultice, and recommended by the natives as a sovereign remedy against all aches and pains, and as effectual for purifying the blood and humours. Mod. Un. Hist. v. 13. p. 8. See **RHINOCEROS**.

ABADAN, in *Geography*, a town of Asia, on the gulph of Persia, and near the mouth of the river Tigris. It is dependent on Bassora. E. long. 47° 15'. N. lat. 29° 20'.

ABADAVINE, in *Ornithology*. See **SPINUS**.

ABADDON, Heb. corresponding to *Apollyon*, Gr. i. e. *Destruction*, in *Scripture*, is represented, Rev. ix. 11. as king of the locusts, and the angel of the bottomless pit, who has been thought by many interpreters to be Satan, or

the devil. Dr. More (Theol. Works, p. 130.) interprets this title as referring to the profession which the Mahometans should make of maintaining the doctrine of the unity. Le Clerc and Dr. Hammond understand by the locusts in this passage, the zealots and robbers who infested and desolated Judæa before Jerusalem was taken by the Romans, and by *Abaddon*, John of Gischala, who having treacherously left that town before it was surrendered to Titus, came to Jerusalem and headed those of the zealots who acknowledged him as their king, and involved the Jews in many grievous calamities. The learned Grotius concurs in opinion, that the locusts are designed to represent the sect of the zealots, who appeared among the Jews during the siege, and at the time of the destruction of Jerusalem. Mr. Jos. Mede remarks, that the title *Abaddon* alludes to Obodas, the common name of the antient monarchs of that part of Arabia, from which Mahomet came; and considers the passage as descriptive of the inundation of the Saracens. Mr. Lowman (Paraphr. on Rev. p. 118, &c.) adopts and confirms this interpretation. He shews that the rise and progress of the Mahometan religion and empire exhibit a signal accomplishment of this prophecy. All the circumstances here recited correspond to the character of the Arabians, and the history of the period that extended from A. D. 568 to A. D. 675. In conformity to this opinion, *Abaddon* may be understood to denote either Mahomet, who issued from the abyss, or the cave of Hera, to propagate his pretended revelations, or, more generally, the Saracen power. Mr. Bryant supposes *Abaddon* to have been the name of the Ophite deity, the worship of whom prevailed very antiently and very generally. See **SERPENT**.

ABADIR, in the Roman *Theology*, the stone which Saturn swallowed, believing it his new-born son Jupiter, and which at length became deified, and the object of religious worship. The Carthaginians gave this title to gods of the first order.

ABÆ. See **ABA**.

ABAF, in the *Sea Language*, is used in speaking of things placed or done towards the stern, or hinder part of a vessel; called also *ast*, and stands opposite to *fore*.—Thus they say a thing is *abaf* the fore-mast, when it is behind it, or near to the stern. The post of the master, captain, and other officers, is *abaf* the main-mast.—The stern, strictly speaking, is only the outside; *abaf* includes both inside and out.

ABAF the beam, denotes the relative situation of any object with the ship, when the object is placed in any part of that arch of the horizon which is contained between a line at right angles with the keel and that point of the compass which is directly opposite to the ship's course.

ABAGI, the same thing with **ABASSI**, although of different value; it is worth at Tefflis, and throughout all Georgia, about 36 sols French money; four chaouris, which are also called sains, make one *abagi*.

ABAKA Il Khan, in *Biography*, the 8th emperor of the Moguls, of the race of Zingis, who succeeded his father Hulaku, and commenced his reign, A. D. 1264. He was prudent and learned, and possessed many amiable qualities which endeared him to his subjects, and rendered his government prosperous. He joined the Christians in celebrating Easter-day at Hamadan, whence some have erroneously inferred that he was a Christian. He reigned 17 years. Mod. Un. Hist. v. iv. p. 386.

ABAKANSKOI, in *Geography*, a garrison town of the province of Yenisei, in Siberia. It stands on the river Jenisei, and is so called from the river Abaken, which falls into the Jenisei at no considerable distance from it. E. long. 94° 5'. N. lat. 53° 5'.

ABALAK, a small town in Siberia, about two miles from

from Tobolsk, famous for an image of the Virgin Mary, to which many pilgrims resort, and which is annually carried in procession to Tobolsk. E. long. 68° 20'. N. lat. 58° 11'.

ABALIENATION, from *ab* and *alienare*, to *alienate*, in the Roman *Law*, denotes a species of alienation; whereby those goods called *res mancipi*, such as cattle, slaves, lands, and possessions, within the territory of Italy, were transferred to persons legally capable thereof, either by a formula, called *traditio nexu*, or a surrender in open court.

ABALIENATUS, *alienated from*, a medical term, which, when applied to the body, signifies that the part so spoken of, is in a state that requires amputation: and when applied to the senses, denotes their total destruction.

ABALITES. See **AVALITES**.

ABALLABA, in *Geography*, the ancient name of *Appleby*, a town in Westmoreland, remarkable only for having been a Roman station. W. long. 1° 4'. N. lat. 55° 38'.

ABALUS, an island, as the ancients supposed, in the German ocean, called by Timæus *Basilis*, and by Xenophon Lampacenus *Baltia*, now the peninsula of Scandinavia. Amber, according to Pliny, (Hist. Nat. tom. ii. p. 770. ed. Hard.) was thrown on the shores of this island by the waves of the sea; and he reports, that some persons thought this substance dropped from the trees in the adjacent mountains.

ABAN la Ville, a town in the bailiwick of Quingey, situate between the town of that name and Lieu Dieu, in Franche Comte. E. long. 6° 15'. N. lat. 47° 10'.

ABANA, a river of Phœnicia, which rising from Mount Hermon, washed the south and west sides of Damascus, and fell into the Phœnician sea to the north of Tripolis. The *Abana* was one branch of the **BARRADY**, called by the Greeks *Chrysorrhœas*. This river is mentioned by Naaman, 2 Kings, v. 12.

ABANGA. See **ADY**.

ABANO, a village near Padua, in Italy, famous for its warm baths. In one of these baths the patients are covered with the warm mud. E. long. 10° 47'. N. lat. 45° 30'.

ABANTES, in *Ancient History*, a warlike people who came originally from Thrace, and settled in Phocis, a country of Greece, where they built a town, called **ABA**, after the name of their leader. Some ancient authors say, that the *Abantes* afterwards settled in the island *Eubœa*, now called *Negropont*: others say these *Abantes* came from Athens. These people are called by Homer (Il. i. ii. v. 542.) *οἰκιστὴς κορυμνήτης*, from wearing their long hair behind. They were called *Curetes* from their cutting it short before.

ABANTIA, or **ABANTIS**, in *Ancient Geography*, a name given to the island *Eubœa*, in the Egean Sea; extending along the coast of Greece, from the promontory Sunium of Attica to Thessaly, and separated from Bœotia by a narrow strait called *Euripus*. It derived its name from the **ABANTES**, according to Strabo, tom. ii. p. 682. Others say, that the inhabitants were called *Abantes*, from Abas their leader, who first reigned in the island; and Reineccius supposes that they were Arabians, who followed Cadmus into *Eubœa*, and settled there.

ABAPTISTA, or **ABAPTISTON**, in *Surgery*, derived from the privative *α* and *βαπτω*, to *plunge*; the shoulder of a trepanning instrument. This term is employed by Galen, Fabricius ab Aquapendente, Scultetus, and others, to denote the conical saw with a circular edge (otherwise called **MODIOLUS** or **TEREBRA**), which was formerly used by surgeons to perforate the cranium. Modern practitioners, however, have usually preferred the cylindrical form. Various contrivances are recommended, to avoid the danger that may arise from want of dexterity in the operation of trepanning, and a new instrument has been lately

delineated for this purpose, by Mr. Redman of Paddy; (Philosophical Magazine for April 1800;) but as no invention can compensate for a defect of skill in the surgeon, these precautions are not in general attended to. For a more particular account of this instrument, see **TREPAN** and **TREPINE**.

ABARA, in *Geography*, a town in the greater Armenia, under the dominion of the Turks. E. long. 46° 15'. N. lat. 39° 45'.

ABARANER, a town of Turcomania, in Asia, situated on the river Alingena, and twenty miles north of Nakfivan. It is said that 300 Roman Catholics reside here. E. long. 46° 30'. N. lat. 39° 50'.

ABARCA, an ancient kind of shoe used in Spain to pass the mountains, made of raw hides, and bound with cords, which secured them against the snow.

ABARIM, in *Scripture Geography*, a ridge of high mountains situate between the rivers Arnon and Jordan, and nearly opposite to Jericho, in the land of Canaan. Nebo and Pisgah, which were supposed to have been the same mountain, formed a part of this extensive range of steep hills. Here the Israelites encamped for the last time but one before they passed over Jordan into the promised land. The name *Abarim* was applied to part of this ridge of mountains in the time of Eusebius and Jerome. Wells's Geog. of the O. Test. vol. ii. p. 152, &c.

ABARIMON, in *Ancient Geography*, a valley of Scythia, at the foot of Mount Imaus, the inhabitants of which, according to Pliny, (Hist. Nat. tom. i. p. 370.) were Anthropophagi, little superior in their habits and manners to the wild beasts with which they associated. Their feet were turned backwards, and yet they were very swift.

ABARIS, in *Biography*, the famous Hyperborean Sage, who is said to have been the disciple and friend of Pythagoras, and to have performed a great number of singular exploits. His history is so fabulous, that Herodotus contents himself with relating (lib. iv. cap. xxxvi. p. 296. ed. Wessell.) that he travelled through the world on an arrow, without any sustenance. Harpocration (art. *Δαρις*) informs us, that he was sent by his countrymen as an ambassador to Athens, in conformity to an order of Apollo, who being consulted at the time of a destructive plague that generally prevailed, replied, that the Athenians should offer up prayers on behalf of all other nations; on this occasion, as we learn from Diodorus Siculus, (lib. ii. c. xlvii. p. 159. ed. Wessell.) he renewed the friendship and intercourse between his countrymen and the people of Delos, which had been interrupted. He also visited Lacedæmon; where some writers say, as we are informed by Pausanias, (lib. iii. cap. xiii. p. 238. ed. Kuhnii,) he built a temple consecrated to Proserpine the Salutary. *Abaris* performed this long voyage with ease and expedition, being transported through the air, over rivers, seas, and mountains, on an enchanted arrow, which, says Jamblichus, (Vit. Pythag. p. 118.) he had received as a present from Apollo. Some have suggested that this arrow denoted his skill in astronomy, by which he directed his course. He is said by Strabo (lib. vii. tom. i. p. 462.) to have gained the esteem of the learned men of Greece by his politeness, eloquence, and wisdom. He particularly excelled, says Jamblichus, (cap. xix. p. 131.) in the arts of magic and divination, of which he exhibited the most illustrious proofs in all the countries through which he travelled. He adds, that he was taught by Pythagoras to find out all truth by the science of arithmetic. Porphyry (Vit. Pythag.) informs us, that he was capable of foretelling earthquakes, driving away plagues, laying storms, &c. *Abaris*, says Bayle, constructed the famous palladium of the bones of Pelops, and sold it to the people

people of Thon. After he had visited many countries, and collected a great quantity of gold, he set out on his return home; and on his way had an interview with Pythagoras at Crotona, in Italy. Suidas enumerates various books which he is said to have written; and Himerius the Sophist, applauds him for imitating the Greek, which he acquired by means of the intercourse that subsisted between the Greeks and Hyperboreans. In his various peregrinations he imposed upon the vulgar by false pretences of supernatural powers; delivering oracular predictions, healing diseases by incantation, and practising other arts of imposture. Hence the fabulous stories concerning *Abaris* grew up into an entire history written by Heraclides. Some of the later Platonists, says Eshfield, (*History of Philosophy*, vol. i. p. 103.) in their zeal against superstition, collected these and other fables, and exhibited them, not without large additions from their own fictions and traditions, in opposition to the miracle of Christ. He concludes upon this work, that *Abaris* has a better title to place among impostors than among philosophers, and that the story in which he is furnished may, with some degree of probability, be fixed about the third olympiad, or B. C. 768. The age of Pythagoras is no less uncertain, otherwise it is not likely that they should be contemporaries. Mr. Toland in his *Philosophical Works*, (vol. i. p. 161.) premising that the *Hebrides* were the Hyperboreans of Diodorus, infers that *Abaris* was both of that country, and likewise a Druid, having been the priest of Apollo. Suidas, says this writer, who knew not the distinction of Insular Hyperboreans, makes him a Scythian; whereas Diodorus has truly fixed his country in the island, and not on the continent. Notwithstanding the fictions and errors that have been blended with the history of *Abaris*, it is certain, (as he apprehends,) that he travelled over Greece, and from thence into Italy, where he familiarly conversed with Pythagoras, who favoured him beyond all his disciples, by imparting his doctrines to him, (especially his thoughts of nature,) in a more plain and compendious method than to any others. The Hyperborean in return presented the Samian, as if he had equalled Apollo himself in wisdom, with the sacred arrow, on which he had traversed seas and mountains; as the vulgar, particularly in the Hebrides, still believe, that wizards and witches waft themselves whither they please upon broom-sticks. According to the account given by Himerius, and cited by Toland, (p. 180, &c.) *Abaris* the sage, was by nation an Hyperborean, a Grecian in speech, and resembling a Scythian in his habit and appearance. He came to Athens, holding a bow, having a quiver hanging from his shoulder, his body wrapt in a plaid, girt about his loins with a gilded belt, and wearing trowsers reaching from his waist downward. His habit, therefore, was not that of the Scythians, who were always covered with skins; but he appeared at Athens in the native garb of an aboriginal Scot. As for what regards his abilities, Himerius relates, that he was affable and pleasant in conversation, in dispatching great affairs secret and industrious, quicksighted in present exigencies, in preventing future dangers circumspect, a searcher after wisdom, desirous of friendship, trusting indeed little to fortune, and having every thing trusted to him for his prudence. Neither the Academy nor the Lyceum, says Mr. Toland, could furnish out a man with fitter qualities to go so far abroad, and to such wise nations, about affairs no less arduous than important. But if we attentively consider his moderation in eating and drinking, and the use of all those things which our natural appetites incessantly crave, adding the candour and simplicity of his manners, with the solidity and wisdom of his answers, all which we find sufficiently attested: it must be owned, that the world at that time had few to compare with *Abaris*. One of our most industrious

historians has adopted the opinion of Mr. Toland, and taken great pains to prove that *Abaris* was a native of Britain, or of one of the British isles. See Carte's *Gen. Hist. Eng.* vol. i. p. 52, &c. cited by Dr. Henry in his *History of Great Britain*, vol. ii. p. 70, 8vo.

ABARNUS, or ABARNIS, in *Ancient Geography*, a city, country, and promontory of Pariana, near the Hellespont. Milesius, in his description of Asia, says, that it was a promontory of Lampfacus; and it is said to have been so denominated from *Abarnis*, a Phocian, by the Phocians, who built Lampfacus. Some writers have called it *Aparnis*. Stephan. de Urbibus, tom. i. p. 4.

ABARTICULATION, in *Anatomy*. See DIARTHROSIS.

ABAS, a weight used in Persia for weighing pearls; being an eighth part lighter than the European CARAT.

ABAS, in *Mythology*, the son of Hypothoon and Megaira, who entertained Ceres, and offered a sacrifice to that goddess; but *Abas* ridiculing the ceremony, and giving her opprobrious language, she sprinkled over him a certain mixture which she held in her cup, that transformed him into a newt or water-lizard.

ABAS, or ABASIA, in *Entomology*, a species of the *Bombyx* of Fabricius, and of the *Phalena* of Linnæus, with brown, spreading wings, the hinder wings cinereous, and the ocellus reddish. It is found in Surinam.

ABASA, in *Geography*, a small town of Romania in European Turkey, 12 miles from Adrianople, in the road to Constantinople. N. lat. 42° 8'. E. long. 26° 35'.

ABASED, ABAISSE', in *Heraldry*, is applied to the vol, or wings of eagles, &c. when the tip, or angle, looks downward towards the point of the shield; or when the wings are shut: the natural way of bearing them being spread, with the tip pointing to the chief, or the angles. A chevron, a pale, bend, &c. are also said to be *abased* when their points terminate in, or below the centre of the shield. Again, an ordinary is said to be *abased*, when it is below its due situation.

ABASCIA, or ABCASSIA, in *Geography*, the northern district of the western division of Georgia, in Asia. The inhabitants are poor and treacherous. They trade in furs, the skins of the buck and tyger, linen yarn, box-wood, and bees-wax; but their principal traffic consists in the sale of their own children to the Turks, and to one another. They are christians only in name; but their customs resemble those of the MINGRELIANS. The men are robust and active, and the females fair and beautiful. E. long. from 39° to 43°. N. lat. from 43° to 45°. See ABASSA and ABHKAS.

ABASCUS, a river of Asiatic Sarmatia, which rises in mount Caucasus, and falls into the Euxine, between Pityus to the east and Nosis to the west.

ABASITIS, a tract of Asiatic Mysia, in which was situated the ancient city of Ancyra.

ABASKAJA, a town in Siberia, on the river Irchim. It has a church encompassed by ramparts, and guarded by dragoons. E. long. 69° 5'. N. lat. 50° 10'.

ABASSA, the smaller and the great, two districts in the vicinity of the Caucasian mountains. The former, according to the account lately given by Pallas in his journey to the southern departments of Russia, is inhabited by six tribes, who were formerly Christians, but their nobles now acknowledge the Mahometan religion; their manners, clothing, and way of life, resemble those of the CIRCASSIANS; and there is some similitude in their language. They likewise practise agriculture, though they live more by pasturage. They are celebrated on account of their large and fine breed of horses; and they would be rich (in their own estimation) if they were not incessantly plagued,

plagued by the encroachments of the Circassian princes. The most powerful inhabitants of the great *Abassi* are the *Natuschaki*. See *ABASCIA* and *ABHKAS*.

ABASSI, a silver coin current in Persia, worth two *mammoudis*, or four *chayes*; the *chaye* being estimated at nine sols six deniers of French money, makes the *abassi* worth thirty-eight sols; seventeen sols of Holland, or from one shilling and four pence to about eighteen pence English. It derives its name from Shah Abbas II. king of Persia, under whom it was struck.

ABASSI, in *Geography*. See *GOMBROON*.

ABASSIA, in *Geography*. See *ABYSSINIA* and *ETHIOPIA*.

ABAT-CHAUVÉE, a name given in Poitou, Angoumois, Saintonge, La Marche, and Limosin, in France, to a sort of very ordinary wool; much like that called by the French, *poissant*, and *phres*.

ABATE, *Andrea*, in *Biography*, a Neapolitan master, who excelled in painting inanimate objects. His colouring was bold; he gave a noble relief to the vases and other ornaments, with which he enriched his design; and grouped all his objects with peculiar judgment and care. He died in 1732. *Pilkington's Dict.*

ABATE, in *Law*, from the French *abbatre*, signifies to break down or destroy; as, to *abate* a nuisance; and to *abate* a castle. It is likewise used to denote the act of one who steps into an estate, void by the death of the last possessor, before the heir can enter; and by that means keeps him out. It also means to defeat or overthrow, on account of some error or exception. See **ABATEMENT**. It is also used in the neuter sense thus: the writ of the demandant shall *abate*, i. e. be frustrated or overthrown; the appeal *abateth* by covin, i. e. the accusation is defeated by deceit.

ABATE, in the *Manege*. A horse is said to *abate*, or take down his *curvets*, when he puts both his hinder legs to the ground at once, and observes the same exactness in all the times.

ABATELEMENT, in *Commerce*, (from the French *abbatre*), a term used for a prohibition of trade to all French merchants in the ports of the Levant, who will not stand to their bargains, or who refuse to pay their debts. It is a sentence of the French consul, which must be taken off before they can sue any person for the payment of their debts.

ABATEMENT, in *Heraldry*, something added to a coat-armour, to distinguish its proper value and dignity, and note some dishonourable action, or stain, in the character of the person who bears it. These *abatements*, which are nine in number, may be made by reversion or diminution.

Reversion is either turning the whole escutcheon upside-down, for treason; or the adding another escutcheon, inverted, in the former, for deflowering a maid or widow, or flying from the banner of the sovereign.

Diminution is the blemishing any part by adding a stain, or mark of diminution: such are the delf tenné for a person who revokes or recedes from a challenge; a point dexter parted tenné, for a person who boasts of an act of valour which he never performed; a point point sanguine, for a person guilty of cowardice; a point champaign tenné, for him who kills his prisoner after his having demanded quarter; a plain point sanguine, for one who tells a lie to his sovereign or commander in chief; a gore sinister tenné, for him who behaves in a cowardly manner towards his enemy; and a gusset sanguine, for an adulterer or drunkard, the gusset being on the right side for the former, and on the left for the latter.

It may be added, that these marks must not be of metal,

and always either tenné or sanguine, otherwise instead of diminutions, they become additions of honour.

The last editor of *Guillim* discards the whole notion of *abatements*, as a chimera. He alleges that no one instance is to be met with of such bearing; and that it implies a contradiction to suppose it. Arms, being *insignia nobilitatis & honoris*, cannot admit of any mark of infamy, without ceasing to be arms, and becoming badges of disgrace, which all would covet to lay aside. Besides, as no hereditary honour can be actually diminished, so neither can the marks thereof. Both indeed may be forfeited; as in the case of treason, where the escutcheon is totally reversed, to intimate a total suppression of the honour.

Some instances, however, are produced to the contrary by *Columbiere* and others. But these, though they may shew some extraordinary resentments of princes for offences committed in their presence, do not amount to a proof of such custom or practice; much less authorize the being of particular badges in the hands of inferior officers, as kings at arms. *Menestrier* calls them English fancies.

In a word, as arms are rather the titles of the dead than of the living, it would seem, that they can neither suffer diminution nor *abatement*; for thus an equal indignity would be put upon the ancestor and the descendant. Diminution, therefore, and *abatement*, can only affect arms lately granted, and solely when the person who obtained them is yet alive, and has tarnished his former glory by his subsequent misbehaviour. Even in this case, where *abatement* may properly take place, it can only be made by the suppression of some honourable badge, and not by the introduction of any degrading emblem.

ABATEMENT, in *Law*, is the frustrating, or setting aside a suit, on account of some fault, either in the matter, or proceeding thereof. Thus, *Plea in*

ABATEMENT, is some exception alleged, either against the plaintiff's writ, as wanting due form, or against his count or declaration, as being insufficient, or varying from the writ, specialty, or record; or against the matter of either, as insufficient, or being before another court; or against the allegations, as being uncertain, on account of some misnomer, or the death of one of the parties, or the marriage of the plaintiff, being a woman; to which some add disability.—Upon any of these, the defendant prays, that the plaintiff's writ or plaint may *abate*, i. e. that his suit may cease for that time: if it be granted, all writs and processes must begin *de novo*.

The death of a plaintiff did in all cases *abate* the writ before judgment, until the statute 8 and 9 W. III. c. 11. by which neither the death of the plaintiff nor that of the defendant shall *abate* it, if the action might be originally prosecuted by and against the executors or administrators of the parties, and if there are two or more plaintiffs or defendants, and one, or more, die; the writ or action shall not *abate*, if the cause, or action, survives to the surviving plaintiff, against the surviving defendant, &c. See **PLEA**. *Abatement* also denotes an irregular entry upon lands. See **ABATE**.

ABATEMENT of Freehold. See **REMAINDER**.

ABATEMENT of Nuisance. See **NUSANCE**.

ABATEMENT, in *Commerce*, is a discretionary allowance made for damage in goods sold, for a defect of weight or measure, on account of bad markets, or to a bankrupt-debtor, &c. See **DISCOUNT** and **REBATE**.

ABATEMENT, in the *Customs*, is an allowance made upon the duty of goods, when the quantum damaged is determined by the judgment of two merchants upon oath, and ascertained by a certificate from the surveyor and land-waiter.

be observed, that St. Paul and St. Mark used the Syriac *abba*, which was understood in the synagogues and primitive assemblies of Christians, but added to it, when writing to foreigners, by way of interpretation, the term *father*. The Jews assumed this denomination as a title of dignity; in allusion to which, our Saviour forbade his disciples to call any man their father on earth.

It was also anciently used as a title of honour, which some great men, it is said, still retain in the Pyrenean mountains.

ABBA, ABA, or ANBA, is more particularly used in the Syriac, Coptic, and Ethiopic churches, as a title which the people give to their bishops.

The bishops themselves bestow the title *abba*, more eminently, on the patriarch of Alexandria; which occasioned the people to give him that of *baba*, or *papa*, that is, *grandfather*; a title which he bore before the bishop of Rome. It is a Jewish title of honour, given to certain of that class of Rabbins called Tanaites; and it is also particularly used by some writers of the middle age, for the superior of a monastery, usually called ABBOT.

ABBADIE, *James*, in *Biography*, an eminent protestant divine, was born at Nay in Berne, in 1654, or 1658. He studied in various places, but received his degree of Doctor of Divinity at Sedan. Discouraged from the exercise of his profession in France, on account of the distressed circumstances of the protestants, he first settled at Berlin under the patronage of the Elector of Brandenburg, about the year 1680 or 1681, where he resided for many years with great reputation. In 1688 the Elector died, and he accompanied Marshal Schomberg, first to Holland, and then to England with the Prince of Orange. Losing his patron, whom he attended to Ireland, in 1690, he returned to England, and became minister of the French church at the Savoy. He afterwards removed to Ireland, and, by the recommendation of King William, he obtained the deanry of Killaloo, with some other preferments. He was strongly attached to the cause of his royal master, as appears by his elaborate defence of the Revolution, and his history of the assassination-plot. In 1726 he removed again to England, and died in the parish of Mary-le-bone, in London, in the following year, at the age, as some say, of 69, and according to others 73. He was a zealous protestant, and one of the most eloquent men of the period in which he lived. But his imagination and memory, which was singularly retentive, as well as his learning and eloquence, seem to have been superior to his judgment. His works were numerous, and much approved at the time of their publication:—the chief of them were the following, *viz.* *Traité de la Vérité de la Religion Chrétienne*, Rotterdam 1684, 2 tomes 8vo; which work has been translated into English and High Dutch, and has passed through several editions. Mr. Bayle commends this book, as one of the most perfect in its kind.—*Traité de la Divinité de notre Seigneur Jesus Christ*, Rotterd. 1689, 8vo.—*L'Art de se connoître soi-même, ou la Recherche des Sources de la Morale*, Rot. 1692, 12mo.—*Defence de la Nation Britannique*, &c. à Londres, 1692, 8vo.—*Histoire de la Conspiration dernière d'Angleterre*, &c. Londres, 1696, 8vo. This book was written by order of King William III. and the original papers for compiling it were furnished by the Earl of Portland and Sir William Trumball, secretary of state.—*La Vérité de la Religion Réformée*, Rot. 1718, 8vo. 2 tom.—*La Triomphe de la Providence et de la Religion, ou l'Ouverture des sept Sceaux per le Fils de Dieu*, &c. Amst. 1723, 4 vols. 12mo. *Biog. Brit.*

ABBA-GUMBA, in *Ornithology*. See ERKOOB.

ABBAISBLUR, in *Anatomy*, a name given by Win-

slow, and other French writers, to one of the muscles of the eye, called by others the *deprimens* and *humilis*; and by Fabricius, the *rectus inferior*: Cowper and Albinus call it the *depressor oculi*: and it is one of the *quatuor recti oculi* of the last author.

ABBAS, in *Biography*, son of Abdalmotaleb, and uncle of Mahomet, was at first hostile to his nephew as an impostor and traitor to his country; but being taken prisoner in the second year of the Hegira, at the battle of Beder, and a large ransom being demanded, he represented to Mahomet that the payment of it would ruin him, and reduce his family to dishonour. Mahomet, however, had heard that he had secreted money, and inquired for the purses of gold which he had left with his mother at Mecca. *Abbas* was thus led to regard him as a prophet, and to embrace his religion. He afterwards saved his life at the battle of Honain, soon after the reduction of Mecca. *Abbas* was not only a great commander, but an eminent doctor of the Mussulman law, and read lectures upon every chapter of the Koran, as Mahomet pretended to receive them from heaven. He died in 653, and his memory is held in veneration among the Mussulmen to this day.

ABBAS ABDALLAH, *Ebn*, was the grandson of Abdalmotaleb, and the most considerable of all the doctors among the Mussulmen. He is said to have acquired from the angel Gabriel a perfect knowledge of the Koran, when he was ten years of age, and was honoured with the title of Targiman al Koran, or interpreter of the Koran. He died in the 68th year of the Hegira, and was very much lamented.

ABBAS I. *Shah*, surnamed the *Great*, was the third son of Khodabandeh, and the 7th king of Persia of the race of the Sosis. He succeeded Ismael III. who had murdered their eldest brother Amir Hamzeh, and who was himself put to death after a short reign of eight months, in the year 1585. These two princes are not commonly reckoned in the number of Persian kings. His first thoughts and actions, after he ascended the throne, if we except the murder of his tutor Murhid, to whom he was indebted for his life and crown, were directed to the recovery of those provinces which the Turks and Tartars had taken from his predecessors. By a series of victories, he defeated Abdallah, khan of the Usbecks, who invaded Khorazan, and the Othman Turks, from whom he took Tauris; subdued the provinces of Shirwan and Ghilan; took possession of the kingdom of Ier, comprising a great part of Persia proper; invaded and secured Georgia, and captured Bagdat, and Ormuz in the Persian gulf. After a prosperous reign of 43 years, during which he consolidated the divided provinces of the Persian empire, and considerably enlarged its extent, he was seized with a dangerous distemper at Ferabad, in the province of Mazanderan, supposed to have been the effect of poison, and closed a life of 70 years in 1628. Having appointed his grandson for his successor, he ordered his death to be concealed till the throne was secured to him; and for this purpose he directed his funeral obsequies to be performed at three different places at once, and that his body should be exposed every day in the hall of justice, seated in a chair of state, with the eyes open, and his back to the hangings, behind which stood a person who contrived to answer any questions that were proposed. By this artifice his death was kept secret for six weeks. The memory of Shah *Abbas* has been held in high veneration by the Persians, and they speak of him as the greatest prince their country has produced for many ages. He was wise and valiant, attentive to the poor, and rigorous in the administration of justice. He adopted all possible measures for promoting the wealth and good government of his dominions; and took great pains to intro-

and commerce in the 11th c. Having established an empire of Persia, he built the wall which separates the Persian mountains at the distance of 100 miles from the sea, in order to secure the Zand, or the sacred books of the Persians, by turning away the current of the river. He also destroyed all other cities with the exception of the ruins. Notwithstanding, of which many notorious instances are recorded in his history, he was not without some noble feelings as a tyrant; and, when he was about to lead into the world to liberty, he was said to have said to the world to liberty. Mod. Un. Hist. vol. v. p. 118, &c.

ABBAS, *8th*, II. the 9th king of Persia, of the Soffi race, was the great grandson of the former, and succeeded his father in 1642, at the age of thirteen years. His cruel and tyrannical father had ordered him to be deprived of sight; but the eunuch, who was charged with the office, more compassionate than the savage parent, refrained from executing it. The father relented, and rejoicing to find, when he was dying, that his command had been disobeyed, appointed him to his succession. The first civil expedition of this prince, when he was 18 years of age, for the recovery of Candahar, which had been surrendered to the English, at the time of his father, and his defence of it against an army of 300,000 men, seem to have been the principal events of his reign. His character has been very differently represented by those who have professed to give an account of his life. What some have extolled his justice and magnanimity, others have broken in the highest terms of his talents and military exploits; others have reproached him for his cruelty and debauchery. Upon the whole, he seems to have been more kind and tolerant to strangers than to his own subjects, and especially to the Christians, whom he distinguished by his protection and favour. He was very much addicted to drinking, and governed by passion; and after a reign of about 24 years, fell a sacrifice to his intemperance, and died in 1666. The Jews were very severely persecuted during his reign; because, as it is pretended, the Messiah did not appear, according to the assurances which they are said to have given to Alexander the Great, and which was the stipulated condition of their toleration. See Mod. Univ. Hist. vol. v. p. 150. 8vo.

ABBAS III. was succeeded by the famous Kuli Khan. ABBASSIDES, in *History*, a race of Caliphs, who were thirty-seven in number, and succeeded one another from 750 to A. D. 750 and 755, for about 523 years without interruption. They were so called from *Abul Abbas*, the first of the race, with whom this dynasty commenced, according to the *Annals*, p. 15. A. D. 750.

ABBASSUS, in *Ancient Geography*, a town of the greater Phrygia, on the borders of the Tolistobojii, a people who inhabited the northern parts of Galatia in Asia.

ABBE, in a *monastic sense*, the same with ABBOT.

ABBE, in a *modern sense*, the denomination of a class of persons, which has been popular in France, but was not known among the Romanists till about a century and a half ago. *Abbes* are persons who have not obtained any fixed settlement either in church or state, but they are expectants of any office that may occur. Their dress is rather that of an ascetic, or of a professed scholar, than of an ecclesiastic. They are a numerous and useful body. In colleges they are the instructors of youth, and tutors in private families; and many of them obtain a decent subsistence by their writings. They are persons of universal talents and learning, and are held in esteem and respect by people of various dispositions, and particularly by the female sex to whom they are devoted.

ABBEFJORD, in *Geography*, a sea-port town of Norway, about 20 miles south-west of Christiania, situate on a small bay, in which are three islands.

ABBER-LOUGH, a lake of Lorne, in Argyleshire, in Scotland.

ABELLSS, the superior of an ABBEY, or convent of NUNS. The *abbess* has the same rights and authority over the nuns, that the ABBOTS regular have over their monks. Her sex, indeed, does not allow her to perform the spiritual functions annexed to the priesthood; but in some instances *abbesses* have the privilege of commissioning a priest to act for them: and they have even a kind of episcopal jurisdiction.

F. Martene, in his treatise on the rights of the church, observes, that some *abbesses* have formerly confessed their nuns. But he adds, that their excessive curiosity carried them such lengths, that there arose a necessity of checking it.

St. Basil, in his rule, allows the *abbess* to be present with the priest at the confession of her nuns.

Before the conquest *abbesses* were summoned to the Witenagemote, and they assisted in the deliberations of ecclesiastical councils.

ABBEVILLE, in *Geography*, the capital of Ponthieu in the late province of Picardy, in France. It lies in a pleasant valley, and is divided into two parts by the river Somme. This town carries on a considerable trade in grain, oil, hemp, flax, cordage, soap, &c. by means of the Somme, in which the tide rises six feet, and by which ships may come to the middle of the town. The woollen manufactory was established here in 1665, and has succeeded so well, that its cloths are deemed little inferior to those of England and Holland. In this respect it has been aided by the clandestine importation of English and Irish wool, and of workmen from this country. It is conveniently situated for a fortification, and as it has never been taken, it is sometimes called the *maiden town*. It has a collegiate church, thirteen parish churches, and other public buildings. It is 52 miles south of Calais, and 80 N. by W. of Paris. E. long. 1° 49' 45". N. lat. 50° 7' 1".

ABBEVILLE is also the name of a county in the district of Ninety-six, in South Carolina, bounded on the N. E. by the Saluda, and on the S. W. by the Savannah; 35 miles in length, and 21 in breadth, containing 9197 inhabitants, of whom 1665 are slaves.

ABBEY, or ABBY, a monastery, or religious house, governed by a superior under the title of ABBOT, or ABBESS.

In our ancient statutes the word is sometimes also written *abbathy*. By 31 H. VIII. c. xiii. *abbathies* are given to the king.

Abbeys differ from PRIORIES, in that the former are under the direction of an abbot, and the latter of a prior; but abbot and prior (we mean a prior conventual) are much the same thing, and differ in little but the name.

One third of the best benefices in England were anciently by the pope's grants, appropriated to *abbeys*, and other religious houses; which, upon their dissolution under king Henry VIII. became lay-fees. For a farther account and an estimate of the number and value of religious houses abolished and surrendered in this reign, see MONASTERY.

ABBEY-LANDS. See PREMUNIRE and TITHE.

ABBEYBOYLE, in *Geography*, a town of Ireland, in the county of Roscommon, and province of Connaught, famous for an old abbey. W. long. 8° 32'. N. lat. 56° 54'.

ABBEYHOLM, a town in Cumberland, so called from an abbey built by David king of Scots. It is situated on an arm of the sea, and is 16 miles S. W. of Carlisle. W. long. 3° 29'. N. lat. 54° 53'.

ABBEY-

ABBEYMILTON, or **MIDDLETON**, an ancient, but mean town in Dorsetshire, which had formerly an abbey and a market, and which is 12 miles N. E. of Dorchester. W. long. 2 29'. N. lat. 50° 51'.

ABBIANY, a town on the coast of Guinea, in Africa, at the distance of three leagues from Tebbou.

ABBIATI, *Philippus*, in *Biography*, an eminent painter, who was born at Milan in 1630, and died in 1715, at the age of 75 years. He was distinguished by fertility of invention and correctness of design. His hand was free, and his touch light; he executed with expedition, and performed with equal beauty, in fresco and in oil. Pilkington's Diet.

ABBON, in *Biography*, a monk of St. Germain-des-Prés, who composed, in barbarous Latin verses, a relation of the siege of Paris by the Normans toward the close of the 9th century. He was more distinguished as a faithful historian than as a good poet. His poem published in the second volume of Duchesne's collection, and has since been more correctly printed, with notes, by Duplessis, in 1753. Biog. Dict.

ABBON, *De Fleury*, was born in the territory of Orleans. After devoting himself with ardour to the study of almost every art and science, and obtaining distinguished reputation in the schools of Paris and Rheims, he was elected abbot of the monastery of Fleury, of which he was a monk. He wrote an Apology for his conduct against the accusations of his enemies, which was addressed to the kings Hugh and Robert; to whom he also dedicated a collection of canons on the duties of kings and subjects. The collection of his letters and canons, and his apology, were published in 1687, in folio. He was slain in a quarrel that arose between the French and Gascons at Reole in Gascony, in 1004. Gen. Dict.

ABBOT, or **ABBAT**, originally derived from the Hebrew *Ab*, *father*, signifies the superior of a monastery of monks erected into an abbey or prelacy.

Abbots were really distinguished from the clergy, though frequently confounded with them, because they were a degree above laymen. St. Jerome, writing to Heliodorus, says expressly, *alia monachorum est causa, alia clericorum*.

In those early days the *abbots* were subject to the bishops, and the ordinary pastors. Their monasteries being remote from cities, and built in the farthest solitudes, they had no share in ecclesiastical affairs. They went on Sundays to the parish-church with the rest of the people; or, if they were too remote, a priest was sent to them, to administer the sacraments, till, at length, they were allowed to have priests of their own body. The *abbot*, or archimandrite, was usually the priest; but his function extended no farther than to the spiritual assistance of his monastery, and he remained still in obedience to the bishop. In process of time, as many of them were persons of learning, they opposed the heresies that sprung up, which induced the bishops to fix them near, and in the cities.

The *abbots* soon laid aside their former plainness and simplicity, and endeavoured to be independent of the bishops, which occasioned some severe laws to be made against them at the council of Chalcedon: notwithstanding this, in time, many of them carried the point of independency, and got the appellation of *lord*, with other badges of the episcopate, particularly the mitre.

Hence arose new species and distinctions of *abbots*: *mitred*, and *not mitred*; *croziered*, and *not croziered*; *ecumenical abbots*, *cardinal abbots*, &c.

ABBOTS, *Mitred*, were those privileged to wear the mitre; and also allowed a full episcopal authority within their several precincts.—Among us, there were also called

abbots sovereign, and *abbots general*; and they were lords of parliament. Of these Sir Edward Coke reckons twenty-seven, and Selden twenty-six, in England, beside two *mitred priors*.

The rest, who were *not mitred*, were subject to the *diocesan*.

ABBOTS, *Croziered*, are those who bear the *crozier*, or pastoral staff.

ABBOTS were likewise distinguished into *abbots definitive*, and *abbots presentative*; but are now chiefly distinguished into *regular* and *commendatory*.

ABBOTS, *Regular*, are real monks, or religious, who have taken the vows, and wear the habit of the order.

ABBOTS in commendam, are seculars; though they have undergone the tonsure, and are obliged, by their bulls, to take orders when they come of age.

Though the term *commendam* intimates, that they have only the administration of their abbeys for a time; yet do they hold, and reap the fruits of them for ever, as well as the regular *abbots*.

Their *bulls* give them a full power *tam in spiritualibus quam in temporalibus*; and yet it is true that the commendatory *abbots* do not perform any spiritual offices; nor have they any spiritual jurisdiction over their monks. So that the phrase in *spiritualibus*, is rather something of the Roman style than a reality.

The ceremony whereby *abbots* are created, is properly called *benediction*; or sometimes, though improperly, *consecration*.

It anciently consisted in clothing them with the habit called *cuculla*, a *corol*; putting the pastoral staff in their hands, and the shoes called *pedales*, or *pedules*, on their feet. These particulars we learn from the *Ordo Romanus* of Theodore, archbishop of Canterbury.

ABBOT is also a title, which has been given to certain bishops, because their sees had originally been abbeys; and they were even elected by the monks: such are those of Catania and Montreal in Sicily.

ABBOT is also an appellation sometimes given to the superiors or generals of some congregations of regular *canons*; as that of St. Genevieve at Paris.

ABBOT is also a title borne by several magistrates, and other lay-persons.—Among the Genoese, one of their principal magistrates was called the *abbot* of the people.

In France, particularly about the time of Charlemagne, there were several lords and courtiers, who having the superintendency of certain abbeys committed to them, were styled *abbacomites*, or *abbey-counts*.

ABBOT, *George*, Archbishop of Canterbury, was born Oct. 29, 1562, at Guildford in Surrey. Having passed through the rudiments of literature in his native town, he was removed, in 1578, to Baliol college at Oxford. In 1583, he was elected probationer fellow of his college; and having passed through the usual course of graduation, he took orders and became a celebrated preacher in that university; and in 1597 he was elected Master of University College. In 1600, and again in 1603, he was Vice-chancellor of the university, and discharged the duties of this office with general approbation. In the succeeding year the translation of the Bible, now in use, was undertaken by the direction of king James; and Dr. *Abbot* was the second of eight learned divines in the university of Oxford, to whom the care of translating the whole New Testament (excepting the epistles) was committed. In 1605 he was again Vice-chancellor. After the decease of his patron, the Earl of Dorset, in 1608, he became chaplain to Geo. Hume, Earl of Dunbar, and accompanied him this year to Scotland, to assist in establishing an union between the Scots and English churches; and in conducting this business he ac-

indefatigable diligence in preaching and writing, notwithstanding the many other engagements of his high office, of the high commission court, over which he presided, and of his regular attendance at the privy council. He was distinguished by his partial favour both with prince and people, and chiefly concerned in all the great transactions of church and state. His great solicitude for the protestant religion induced him zealously to promote the match between the Elector Palatine and the Princess Elizabeth, which was solemnized on the 14th of February 1613, the archbishop performing the ceremony in the royal chapel. During the agitation of the divorce between the Lady Frances Howard, daughter of the Earl of Suffolk, and Robert Earl of Essex, which has been considered as one of the greatest blemishes of King James's reign, the archbishop added much to the reputation he had acquired for inflexible integrity. He resisted the divorce, though the king was very desirous of its taking place, and he published his reasons for persisting in his opinion, to which the king himself thought fit to reply. Sentence was given in the lady's favour. In 1618 the king's declaration for punishing sports and pastimes on the Lord's day gave the archbishop great uneasiness; and happening to be at Croydon on the day when it was ordered to be read, he had the courage to forbid its being read. This year he did great service to the protestant religion, by employing Mr. N. Brent to procure the MS. of Father Paul's excellent History of the Council of Trent. In 1619, when his health began to decline, he prepared to execute the benevolent design in favour of his native town of Guildford, which he had long meditated; he attended when Sir Nicholas Kempe laid the first stone of his hospital, and afterwards nobly endowed it. Towards the close of this year, when the Elector Palatine accepted the crown of Bohemia, he took part with those who thought, that natural affection for his son and daughter, and a just concern for the protestant interest, ought to have engaged his majesty warmly to support the new election. Being unable to exert himself, he made a tour into Hampshire; and when he was hunting in the park of Lord Zouch at Bramzil, he had the misfortune of killing his lordship's keeper by an arrow from a cross-bow, which he shot at one of the deer. This accident threw him into a deep melancholy. The day on which it happened he kept as a monthly fast ever afterwards, and he settled an annuity of 20l. on the widow. This accident excited prejudices against him in the minds of many persons, though his majesty declared, that "an angel might have miscarried in this sort," and wrote him with his own hand a consolatory letter. A commission of ten persons was appointed to inquire into this matter, and the result of the whole was, that a pardon and dispensation passed the Great Seal, and he was declared capable of all metropolitical authority, as if this affair had not happened. In the parliament that met on the 19th Feb. 1620, the archbishop took an active part in the measures which were then pursued for persuading the king to dissolve his treaties with Spain, relating to the marriage and the palatinate. Though, on account of his increasing infirmities he seldom attended in person in the king's council, he constantly attended, and was with him when he expired on the 27th of

March 1625. He performed the duty of his rank in putting the crown on the head of king Charles I.; but he visibly declined in the king's favour, and the Duke of Buckingham watched for an opportunity of testifying the severity of his displeasure against him. An occasion soon presented itself in consequence of his refusing to license a sermon, preached by Dr. Sibthorpe, to justify and promote a loan, which the king had intended. Accordingly he was suspended from all his functions as primate, and they were exercised by commissioners appointed by the king. But a parliament being necessary, he was again restored to his authority and jurisdiction. His presence at court, however, was unwelcome; and Laud, who directed the rigorous measures of the church party, which the archbishop disapproved, had the honour, as dean of the chapel, of baptizing the young prince, afterwards Charles II. The archbishop, being worn out with care and infirmities, died at Croydon on the 4th of August in 1633, at the age of seventy-one. He was buried at Guildford, where a stately monument was erected over his grave, with his effigy in his robes. He was distinguished by his natural talents, and by a considerable portion of acquired literature, as the various works which were written by him testify. He manifested, in many circumstances, a great degree of moderation to all parties; and he was desirous that the clergy should engage the respect of the laity by the sanctity of their manners and the uprightness of their behaviour, rather than claim it as necessarily attached to their function. But his sentiments and conduct have not escaped reflections; nor has even Lord Clarendon done justice to his memory. Dr. Welwood has more truly appreciated his abilities and merit. There was another writer of the same name, who published a Paraphrase on Job, a Vindication of the Sabbath, and a Paraphrase on the Psalms. He died about the year 1650, and had been a member of the parliament that was then sitting. Biog. Brit.

ABBOT, Robert, was brother to the former, born at Guildford in 1560, and completed his studies at Baliol college in Oxford. He took his degree of Master of Arts in 1582, and became a distinguished preacher, to which his preferment was owing. In 1594 he became no less eminent for his writings. In 1597 he took his degree of Doctor in Divinity; and in the beginning of the reign of king James he was appointed chaplain in ordinary to his majesty, who ordered the doctor's book, *De Antichristo*, to be printed with his own commentary on the Apocalypse. He was elected master of Baliol college in 1609, and in 1612 his majesty appointed him regius professor of divinity at Oxford. The reputation which he acquired by his lectures induced his majesty to name him for the see of Salisbury, and he was consecrated by his brother at Lambeth, Dec. 3, 1615. He found the cathedral falling into decay, and applied the sum of 500l., which he obtained from the prebendaries, towards repairing it. Here he devoted himself with exemplary assiduity to the duties of his function; but his close application to study brought upon him the gravel and stone, which terminated his life on the 2d of March 1617, in the 58th year of his age. He was buried over-against the bishop's seat in the cathedral. Dr. Fuller (in his Worthies of England) says, speaking of the two brothers, "that George was the more plausible preacher, Robert the greater scholar; "George the abler statesman, Robert the deeper divine; "gravity did frown in George, and smile in Robert." His writings were numerous, and many of his MSS. were given by Dr. Corbet, who married his grand-daughter, to the Bodleian library.

There was another Robert Abbot, a minister, and author of several devout pieces, who was scarcely a writer before the bishop died.

ABBOTS-BROMLEY, in *Geography*, a town of Staffordshire, with a market on Tuesday. W. long. 1° 2'. N. lat. 51° 5'.

ABBOTSTURN, a small town in Dorsetshire, with a market on Thursday. W. long. 1° 17'. N. lat. 50° 42'. The abbey near this town was founded by a Norman lady about the year 1026; and Edward the Confessor and William the Conqueror were benefactors to it.

ABBOTS-CASTLE, or **APPEWOOD-CASTLE**, an old fortification, in Staffordshire, seven miles from Wolverhampton, on the north side of the road from Shrewsbury to London, situated on a lofty round promontory, and a steep ridge of hills, which extend a mile in length, and are supposed to have been one continued fortification, and a work of the ancient Britons.

ABBOTS-LANGLEY, a village in Herts, four miles from St. Albans, famous as the birth-place of pope Adrian IV.

ABBREVIATE of **ADJUDICATION**, in *Scots law*, an abstract or abridgment of a decret of adjudication, which is recorded in a register kept for that purpose.

ABBREVIATION, or **ABBREVIATURE**, a contraction of a word, or passage, made by dropping some of the letters, or by substituting certain marks, or characters, in their place.

A late ingenious writer on the subject of grammar distributes the parts of speech into words, necessary for the communication of our thoughts, which are the noun and verb, and *abbreviations*, employed for the sake of dispatch. These latter, he says, are in the strict sense of the term, parts of speech, because they are all useful in language, and each has a different manner of signification. He inclines, however, to allow that rank only to the necessary words; and to include all the others, which are not necessary to speech, but merely substitutes of the first sort, under the title of *abbreviations*. Words, he says, have been called *winged*, whence the title of this work, viz. *πτερολογισια*; and they well deserve that name, when their *abbreviations* are compared with the progress which speech could make without these inventions; but compared with the rapidity of thought, they have not the smallest claim to that title. *Abbreviations* are employed in language three ways; in terms, in sorts of words, and in construction. Mr. Locke's Essay is the best guide to the first; and the authors who have given particular explanations of the last are numberless; the province of this author is confined to the second class of *Abbreviations*. See *ΕΠΕΑ ΠΤΕΡΟΕΝΤΑ*; or, *The Diversions of Purley*, c. i. p. 39. &c.

Lawyers, physicians, &c. use abundance of *abbreviations*; partly for the sake of expedition, and partly for that of mystery. A list of the principal *abbreviations*, in the several arts and faculties, see under **CHARACTER**.

Of all people, the Rabbins are the most remarkable for this practice; so that their writings are unintelligible, without an explanation of the Hebrew *abbreviations*. The Jewish authors and copyists do not content themselves to *abbreviate* words, like the Greeks and Latins, by retrenching some of the letters, or syllables thereof; but they frequently take away all except the initial letters. Thus, $\aleph$ stands for *rabbi*, and κ for $\aleph$, $\aleph$, κ , or $\aleph$, according to the place in which it is found.

But still further, they frequently take the initial letters of several succeeding words, join them together, and adding vowels to them, make a barbarous sort of word, representative of all the words thus abridged. Thus, *Rabbi Schelemoh Farhi*, in the jargon of Hebrew *abbreviations*, is called *Raf*; and *Rabbi Melech ben Aishimon*, is *Rambam*. Mercerus, David de Pomis, Schneider, Buxtorf, &c. have given expli-

cations of such *abbreviations*. The most copious collection of Roman *abbreviations*, is that of Sertorius Ursatus: *Sertorii Ursati, equitis, de notis Romanorum commentarius*.

ABBREVIATION of *Fractions*, in *Arithmetic and Algebra*, is the reduction of them to lower terms. See **FRACTION**.

ABBREVIATOR, in a general sense, a person who abridges any large book into a more narrow compass.

ABBREVIATOR is more particularly used for an officer in the court of Rome, appointed an assistant to the vice-chancellor, for drawing up the pope's briefs, and reducing petitions, when granted by the pontiff, into proper form, for being converted into bulls.

The *Abbreviators* are supposed by Ciampini, in his two volumes on their institution, office, &c. to be the successors either of the *cancellarii* in the imperial household, or of the seven *notarii*, said to have been placed by pope Clement I. in the seven quarters of Rome, to write down the acts of the martyrs within their several districts.

The *abbreviators* form a college of seventy-two persons, divided into two ranks; one called *abbreviatores de parco majore*, who are twelve in number, all prelates; the other, *abbreviatores de parco minore*, called also *examinatores*, who may be lay-men.

ABBS HEAD (St.), in *Geography*, a promontory of Berwickshire in Scotland, in the southern extremity of the Frith of Forth. N. lat. 55° 55'. W. long. 1° 56'.

ABBT, *Thomas*, in *Biography*, was born in 1738, at Ulm, and died in 1766, at Blückerberg, a privy-counsellor of the Count of Schaumburg-Lippe. Besides his translation of Sallust into German, he also published a volume "concerning Merit," and another "concerning Death for one's country," which are well esteemed. He is one of the earliest German writers, who retain a classical rank, and would have probably excelled as an historian, if his life had been prolonged. Gen. Biog.

ABBTENAU, in *Geography*, a market town in the archbishoprick of Salzburg, about 20 miles S. E. of the city of Salzburg. N. lat. 47° 32'. E. long. 12° 56'.

ABBUTALS. See **ABBUTTALS**.

ABCEDARY, **ABCEDARIAN**, or **ABECEDARIAN**, is sometimes applied to compositions whose parts are disposed in the order of the letters of the alphabet.

In this sense *abecedarian* is synonymous with *alphabetical*. Thus we meet with *abecedarian* psalms, lamentations, prayers, and the like; chiefly among Hebrew writers; which makes it probable they were the inventors of this species of composition.

This is the first and most manifest indication of verse in the Hebrew poetical books. Poems of this kind consist of 22 lines, or systems of lines, or periods, or stanzas, according to the number of the letters in the alphabet; and every line, or stanza, begins with each letter in its order. This artificial contrivance was intended for the assistance of the memory, and was chiefly employed in subjects of common use, as maxims of morality and forms of devotion. There are still extant in the books of the Old Testament twelve of these poems, viz. Psalms xxv. xxxiv. xxxvii. cxii. cxix. cxlv. Prov. xxxi. 10—31. Lament. i. ii. iii. iv. Three of these, viz. Ps. cxii. cxlii. Lam. iii. are perfectly alphabetical, in which every line is marked by its initial letter; in the other nine every stanza only is so distinguished. With respect to the three former it may be observed, that the whole poem is distributed into stanzas; two of them, viz. Ps. cxii. cxlii. into ten stanzas each, all of two lines, except the two last stanzas in each, which are of three lines; and the third, viz. Lam. iii. consists of twenty-two stanzas, of three lines, the initial letter of every stanza being also the initial letter of every

every line of the stanza. In these three poems, the lines correspond to the natural letters, in the same poem, and consequently to the number of letters, in the number of lines; and especially in the number of syllables, and the lines of the same stanza correspond one with another, in the matter and the form, in the sense and the construction. Of the other nine poems, *viz.* Pl. xxx. xxxiv. cxxxviii. Pss. xxxi. Lam. iii. consist of stanzas of two lines; two, *viz.* Lam. i. ii. of stanzas of three lines; and one, *viz.* Pl. xxx. of stanzas of four lines; allowing for the stanzas, which are probably owing to the mixture of the Hebrew and the Arabic, and which are not strictly alphabetical. These poems, therefore, consist of stanzas pointing out their limits, and the lines corresponding one with another in matter and form, as in the poems more perfectly alphabetical. In these however, two of them, *viz.* Pl. cxxx. xxxi. have the first shorter than the second, the third, Lam. iii. by about one-third, or almost half; and of the other nine poems, the stanzas of which are only alphabetical, three, *viz.* Lam. i. ii. iv. consist of the longer lines, and the six others of the shorter.

From these examples it may be inferred, that the poems, perfectly alphabetical, consist of verses properly so called, regulated by some regard to harmony or cadence, measure, numbers, or rhythm. The other poems, which are divided into stanzas by the initial letters, are compositions of the same kind, and equally consist of verses. We may also conclude from these perfectly alphabetical poems, that the Hebrew verse did not consist in rhyme, or similar and correspondent sounds at the ends of the verses, but in some sort of rhythm, probably some sort of metre, the laws of which are altogether unknown and undiscoverable. Nevertheless the peculiar form of composition is so observable, as plainly to discriminate in general the parts of the Hebrew poems which are written in verse from those which are written in prose. See Lowth's Preliminary Dissertation to his *Hebrew*, p. 4, &c.

ABCEDE, or **ABSCISS**, from *abscide*, to *cut off*, a term in Surgery, signifying nearly the same thing as to suppurate. An abceded surface, is a part whose texture has been altered, vitiated, or separated by the formation of purulent matter. The mere contiguity of purulent matter to a solid part of the living body, will sometimes effect a dissolution of its natural structure: this may arise either from the acrimonious quality, or the mechanical pressure, of the confined pus. See **ABSCEDENTIA**, **ABSCCESS**, **PUS**, and **SUPPURATION**.

ABCOURT, in *Geography*, a town near St. Germain's, four leagues from Paris, famous for a brisk chalybeate water, impregnated with fixed air and the fossil alkali, and resembling that of Spa.

ABDALLAH, termed of *Abel, Isaac, and Allah, God*, and denoted by the word *Abdallah*, a younger son of Abdal-Metalleh, and the father of MAHOMET. He was the most beautiful and modest of the Arabian youth, and when he married Amina, of the noble race of the Zahrites, 200 virgins are said to have expired of jealousy and despair. Gibbon's *Hist.* vol. ix. p. 255.—Several other eminent Arabians bore the same name.

ABDALLAH, *Ebn Salem*, was a Jew, intimate with Mahomet, and an early convert to his religion. He is said to have assisted him in compiling his pretended revelations.

ABDALLAH, *Ebn-Zobeir*, having ingratiated himself with the inhabitants of Mecca and Medina, by his religious zeal and engaging behaviour, was proclaimed Caliph, A. D. 682. He was recognized in all the provinces of the empire, except Syria and Palestine; and enjoyed his dignity nine years, till the 72d year of his age, and 33d of the

Hegira. At this juncture Mecca was besieged, and the Caliph's spirits were supported by the attention of his mother Asfema, grand-daughter to the Caliph Abubeker, who, at the age of 90, administered refreshment to him and his soldiers at the breach with her own hand. At length, however, he took leave of his mother, and sallied out on the enemy. Having killed many with his own hand, he was at last overpowered; and when he found the blood trickling down his face and beard, he is said to have repeated this verse from an Arabian poet; "The blood of our wounds flows not upon our heads, but our feet;" and he soon died. The avarice of this *Abdallah* gave rise to the proverb: "That there was never a brave man who was not liberal, till *Abdallah* the son of Zobeir." He is reported to have been so pious and so intent on his devotions, that a pigeon once alighted on his head, whilst he was thus employed, and sat long there without his perceiving it. Gen. Dict.

ABDALMALEC, the son of Mirwan, and fifth caliph of the race of the Omniades, succeeded his father in the 65th year of the Hegira, A. D. 685, and reigned 21 years. At the commencement of his reign he converted the temple of Jerusalem into a mosque, and directed his subjects to perform their pilgrimage to this place; because Abdallah Ebn Zobeir, who had been elected caliph by the Arabs, retained possession of Mecca. In the progress of his reign he concluded a treaty with the Greek emperor, reduced Persia, or rather Irak, under his dominion, and having failed to engage the submission of Abdallah by amicable conference, laid siege to Mecca, and took it. By this event he acquired possession of the peninsula of the Arabs, and became sole and absolute master of the Moslem empire. In the 76th year of the Hegira, he caused dinars, and dirhems, to be struck, with Arabic inscriptions upon them, which proclaimed the unity of the God of Mahomet. Before his time the former, or gold coins, had Greek, and the latter, a silver money, had Persian characters upon them. On this occasion he established a mint for coinage in his own dominions. *Abdalmalec* was deemed brave, religious, and wise, and was much more powerful than any of his predecessors; having subdued Abdallah Ebn Zobeir, and annexed Arabia to his empire; reduced to his obedience the sectaries of all denominations that appeared in arms against him; conquered India, or at least a considerable part of that vast region in the East; and in the west, penetrated with his victorious troops as far as Spain. He was buried at Damascus; and the government devolved on Al Walid, the eldest of his sixteen sons, who extended the Moslem conquests, and rebuilt the temple of Medina in a style of extraordinary magnificence. Under the reign of this caliph the Greek language and characters were excluded from the accounts of the public revenue. If this change (says Mr. Gibbon, *Hist. of the Decline and Fall of the Roman Empire*, vol. x. p. 8. 8vo.) was productive of the invention, or familiar use of our present numerals, the ARABIC or Indian cyphers, a regulation of office has promoted the most important discoveries of arithmetic, algebra, and the mathematical sciences. *Abdalmalec* was avaricious to such a degree as to be denominated by some of his subjects, in derision, the *father of a slave*; and his breath was so fetid, that the flies which accidentally lighted upon his lips were poisoned by it; from which circumstance he was called the *father of flies*. Mod. Un. Hist. vol. ii. p. 32. 8vo.

ABDALMOTALLEB, or *Abdol Motalleb*, the son of Hassem, the father of ABDALLAH, and grandfather of MAHOMET, was, according to Abulfeda, prince, or chief of the Koreish, during the war of the Elephant. Upon the death of the father of Mahomet, he took charge of his

grandson; and at his decease committed the care of him to his son Abu Taleb, who was the guide and guardian of his youth. The life of *Abdul Motaleb* is said to have been prolonged to the age of 110 years; and he was the father of six daughters and thirteen sons.

ABDALONYMUS, defended from king Cinyras, and of the royal family of Sidon, lived in obscurity, and subsisted by cultivating a garden, when Strato had possession of the crown of Sidon. Alexander the Great having deposed Strato, wished to restore the race of Cinyras, and having found Abdalonymus, he was convinced of his high descent by the apparent dignity of his person. Interrogating him how he bore his poverty, Abdalonymus replied, "I with I may bear my new condition as well. These hands have supplied my necessities. I have had nothing, and I have wanted nothing." Alexander was so much pleased with this reply, that, besides bestowing upon him what belonged to Strato, he augmented his dominions, and gave him a large present out of the Persian spoils.

ABDALS, in the Eastern countries, a kind of faints supposed to be inspired to a degree of madness. The word comes, perhaps, from the Arabic *abdallah*, the servant of God. The Persians call them *devanch khoda*, agreeably to the Latin way of speaking of their prophets and sibyls, *q. d. furentes Deo, raging with the God*.

The Abdals are often carried by excess of zeal, especially in the Indies, to run about the streets, and kill all they meet of a different religion. The English sailors call this *running a muk*, from the name of the instrument, a sort of poignard, employed on this occasion. D'Herbel. Bib. Or. p. 5.

ABDELAVI, in *Botany*, an Egyptian plant very like a melon, except that the fruit is more oblong, and acute at the extremities.

ABDELEUR, in *Geography*, an island in Africa, situate in the country of Anian, in the Indian Sea. N. lat. 11° 55'. E. long. 51° 45'.

ABDERA, or **ABDARA**, in *Ancient Geography*, a town of Bætica in Spain, a Phœnician colony; now *Adra* or *Aladra*, to the west of Almeira in Granada.

ABDERA, a maritime town of Thrace, not far from the mouth of the river Nestus, on the east side. Solinus says, that *Abdera* was founded by the sister of Diomedes, and took her name; but Stephanus (de Urb. tom. 1. p. 5.) ascribes the name to Abderus, one of the companions of Hercules, who was devoured by the fabulous horses of Diomedes. Herodotus (lib. 1. p. 168.) informs us, that Timæsius, the Clazomenian, attempted to lay the foundation of it, but he was prevented by the Thracians from accomplishing his purpose. The Teians afterwards succeeded and settled in this place, in order to avoid the contumely of the Persians, which gave occasion to its being called *Abdera pulchra Tejorum colonia*, signifying, that brave men will live any where rather than suffer oppression and servitude. To this saying some suppose that Cicero alludes in his epistles to Atticus, lib. 4. 7. The horses that fed on the grass in the neighbourhood of this city were seized with madness, according to Pliny (Hist. Nat. tom. 2. p. 374. Ed. Hard.) In the reign of Cassander, king of Macedon, it was so infested with frogs and rats that the inhabitants were obliged, for a time, to quit it. The *Abderites* were for some months, in the reign of Lyfimachus, afflicted with a singular disease. It was a kind of burning fever, according to the description of it given by Lucian, (Op. tom. 2. p. 1. Ed. Reitz.) which came to a crisis on the seventh day. During its continuance, the imaginations of those who were seized with it were distracted, and they fancied themselves players; and they continued reciting verses from some tragedy, particu-

larly out of the *Andromeda* of Euripides, till the cold of winter terminated their delirium. Of the cause of this disease Lucian gives the following account. Archelaus performed the tragedy of *Andromeda* before the *Abderites* in a very hot summer; several persons were attacked with the fever on their leaving the theatre; and their imaginations being fully possessed with the dramatic incidents which had been exhibited, they could not forbear imitating Archelaus's action and declamation: and from them the fever was communicated to others by infection.

The *Abderites* were reproached for want of wit and judgment; nevertheless many eminent persons, as Protagoras, Democritus, Anaxarchus, Hecateus the historian, Nicænetus the poet, and several others, were born in this city. It was formerly famous for its gold and silver mines; but it is now reduced to a mean place, on the Archipelago, called *Polytilo*, *Asperosa*, and *Astrizzo*. There was another city of the same name in Iberia, built by the Phœnicians, and now called *Almeria*.

ABDERAHMA, **ABDIRACHMAN**, or **AEDALRAHMAN**, a Saracen viceroy in Spain, who revolted and formed an independent principality at Cordova. He had several successors of the same name.

A viceroy and captain-general of this name led the Saracens and their followers into France, ravaging the country wherever they came; but at length he was met at Tours by Charles Martel, who had been reinforced by a body of Germans and Gepidæ; and, after many skirmishes, a general action took place, in which the Saracen army was totally defeated, and *Abderahma* was killed, with 370,000 Moors. This great event, which first broke the Saracen power, and taught the Europeans that they were not invincible, is placed by most writers in the year 732, Heg. 114. Mariana (Hist. Spain, l. 7. c. 2.) dates this battle in the year 734, twenty-one years after the conquest of Spain.

ABDERANA. See **ARIANA**.

ABDEST, among the *Mahometans*, a peculiar manner of washing, before prayer, entering the mosque, or reading the Alcoran; practised with some difference both by Turks and Persians. The word is compounded of the Persian *ab*, water, and *dest*, hand.

ABDIAS of *Babylon*, in *Biography*, a legend-writer, who had the effrontery to boast, that he had seen Christ, was one of the 70 disciples, had been eye-witness of the actions and prayers of several of the apostles at their death, and had followed St. Simon and St. Jude into Persia, by whom he had been made the first bishop of Babylon. But his forgery is easily detected; as he mentions Hegesippus and Jul. Africanus, one of whom lived about 130 and the other 221 years after our Lord's ascension. His book, intitled *Historia Certaminis Apostolici*, was published by Wolfgang Lazius at Basil, in 1551, and has passed through several editions in other places. It may be seen, with notes, in Fabr. Codex. Apocr. N. T. part 2. p. 388.

ABDICARIA propositio, in *Logic*, is used for a negative proposition.

ABDICATION, **ABDICATIO**, derived from *abdicare*, to renounce, the act whereby a magistrate, or person in office, renounces, and gives up the same, before the legal term of service is expired.

Abdication is frequently confounded with *resignation*; but, strictly speaking, there is a difference: *abdication* being done purely and simply; whereas *resignation* is done in favour of some other person.

In this sense, Dioclesian is said to have *abdicated* the crown; but Philip IV. of Spain *resigned* it. The parliament of England voted that king James II. having endeavoured

seemed to favour the constitution of the kingdom, for he was a man of great wisdom and piety, and his reign was a time of peace and prosperity, which the people loved, and which we have had out of the memory of our forefathers, and that the king was a man of great wisdom and piety, and his reign was a time of peace and prosperity, which the people loved, and which we have had out of the memory of our forefathers. The vote was given by a great majority in favour of the word *abdicated*, and it was decided, that *abdicated* was more proper. The commons adhered to their vote, and by their perseverance obtained the best of the matter. The Scots convention voted that King James, by his maladministration and his abuse of power, had *forfeited* (from *foris-facio*) all title to the crown.

ABDICATION, among Roman Writers, is more particularly used for the act whereby a father discarded or disclaimed his son, and expelled him the family.

In this sense the word is synonymous with the Greek *ἀποδοξάζειν*, and the Latin *a famili alienatio*, or sometimes *abdicatio*, and *agere*; and stands opposed to *adoption*. It is distinguished from *EXTERMINATIO*, or disinheriting, in that the former was done in the father's life-time, the latter is well at his death: so that whoever was *abdicatus*, was also disinherited, but not *exterminatus*.

ADDITIE Causes, are the secret or remote causes of distempers, which physicians of the dogmatic, or rational sect, termed, were necessary to be known, in order to establish a right method of cure.

ABDOMEN, in *Anatomy*, derived from *abdere* to *hide*, the *Lower Belly*, or the cavity that is bounded at its upper part by the diaphragm, or midriff, by which it is separated from the thorax; and at its lower part it is distinguished from the pelvis by a circular ridge of bone, which is considered as the brim of the luter cavity. The spine and lumbar muscles form the back part of the abdomen, while the sides and front are completed by muscles, named *abdominales*. The abdominal muscles are the *OBLIQUI externi* and *interni*, the *RECTI transversales*, and *PYRAMIDALES*. This great cavity is divided by anatomists into certain regions or districts, that they may be able easily and accurately to describe the situation of the contained viscera. The divisions are in a great degree arbitrary; one imaginary line is drawn across from the greatest convexity of the cartilage of the 7th or last true rib; another from those projecting points of the hip-bones, named the anterior and superior spinous processes. That part of the cavity, which is situated above the upper line, is termed the epigastric region; that below the lower one, the hypogastric. The space included between the lines, is called the umbilical region. These regions are again subdivided: the sides of the epigastric region, which extend beneath the cartilages of the ribs, being named *hypochondria*, and the small depression at the upper part, just over the ensiform cartilage, being called *scrobiculus cordis* by Latin writers, and the pit of the stomach commonly by the English. The sides of the umbilical region are named the *ilia* or *flanks*, and the back part the *loins*. The sides of the hypogastric region are the *groins*, and the lower part in front, the *pubes*. The boundaries of the abdomen are every where lined by a thin and elastic membrane, named *peritoneum*, which is also spread over the contained viscera. From the smooth glossy surface of this membrane, a small quantity of an aqueous fluid is poured forth, which keeps the bowels separate from each other, and from the sides of the cavity in which they are contained. All the abdominal viscera, except the kidneys, are employed in the digestion of our food, the conversion of it into chyle, and the expulsion of the residue. The viscera more directly em-

ployed in the chylipoietic function, are the stomach, and the small and large intestines. The small intestines are divided into the duodenum, the jejunum, and the ileum; the large into the cæcum, colon, and rectum. The liver, with its gall-bladder, the spleen, and pancreas, are subservient to the functions of the alimentary canal. Behind the peritonæum in the loins, we find the kidneys, which are also abdominal viscera. Several processes of peritonæum present themselves in the cavity of the abdomen, and claim attention, as the great and small omentum, the mesentery, and others of less importance.

The abdominal viscera are pressed upwards towards the hollow cavity of the chest, by the abdominal muscles, in expiration; they are pushed down again by the action of the diaphragm during inspiration. When both the diaphragm and abdominal muscles act at the same time, a pressure is made on all the abdominal viscera, which is occasionally employed to aid particular parts in performing their office; to assist, for instance, in the expulsion of urine and feces, and in parturition. The effort by which this pressure is made, we call *straining*, and it is often so forcible as to protrude some of the viscera from their natural situation in the cavity of the abdomen. The parts thus protruded form external tumors, and are called *herniæ* or *ruptures*. Coughing, in which the abdominal muscles alone compress the viscera, and tend to diminish the cavity of the abdomen, produces, in a gradual manner, such protrusions.

The principal nutrient arteries of the parietes of the abdomen, are the lower intercostal, the lumbar, and circumflexed arteries of the ilium, at the sides; whilst the epigastric, and internal mammary arteries are distributed in front and communicate by their minute branches with the former vessels. These arteries have corresponding veins. The nerves supplying the parietes of the abdomen arise from the lower dorsal and lumbar nerves, and their branches are distributed in a circular manner round that cavity. For an account of the large arteries, veins, nerves, and absorbents, which are found at the back part of the abdomen, in their progress to supply the contained viscera, and also the pelvis and lower extremities, see *Ramifications of ARTERIES, VEINS, and NERVES*, and *Distribution of the ABSORBING VESSELS*.

ABDOMEN, in *Medicine*. This part of the body is liable frequently to become the seat of several important and dangerous *Diseases*. Some of these are real affections of this cavity, while others, though commonly referred to it by the patient, more properly belong to the *primæ viæ*, or the organs of generation and urine.

All these diseases, with the manner of treating them, will be found under some of the following heads or terms, *viz.*

1. **INFLAMMATIONS** of the abdominal viscera, including Inflammation of the Diaphragm, see *DIAPHRAGMATITIS*; of the Liver, *HEPATITIS*; of the Stomach, *GASTRITIS*; of the Peritonæum, *PERITONITIS*; of the Intestines or Mesentery, *ENTERITIS*; of the Bladder, *CYSTITIS*; of the Kidneys, *NEPHRITIS*; and of the Womb, &c. *HYSTERITIS*.

2. **Painful or Spasmodic Affections**, referred to the *abdomen* by the patients, and not attended by inflammation or fever, will be found under *CARDIALGIA* or *GASTRODYNIA*; pain in the region of the stomach, under *ENTERODYNIA*, *COLIC*, *JAUNDICE*, *CALCULI*, *SCIRRHUS*, *HYSTERIA*, *GOUT*, and *WORMS*.

3. **Other Diseases of the Primæ Viæ**, or Intestines, will be included under *VOMITING*, *CHOLERA*, *DIARRHOEA*, *LIENTERIA*, and *DYSENTERIA*.

4. **DROPSIES** of the *abdomen* will be treated of under *ASCITES*, *HYDROPS ovarii*, and *TYMPANITES*.

ABDOMEN,

ABDOMEN, *Chirurgical Diseases and Operations of the*. We do not here propose to treat at large of all the local disorders to which the belly is liable, but only to enumerate those of more frequent occurrence, and the operations necessary for their removal. They may be divided into *internal* and *external*. The latter affect the muscles and common integuments chiefly; the former are principally seated among the abdominal viscera. Many diseases, however, are common both to the internal and external parts of the *abdomen*; as INFLAMMATION, SUPPURATION, ULCERS, HÆMORRHAGES, TUMORS, and WOUNDS of various kinds, &c. See each of these articles in their respective places.

The abdomen and its contents are subject to certain diseases, either of a peculiar nature, or requiring peculiar treatment on account of their situation. When the external teguments, from being dilated or ruptured in any part, permit the bowels to force their way through them, an hernia is formed, which must be replaced in their natural position. See HERNIA. When an accumulation of fluid happens within the belly, so as to prove inconvenient or dangerous, the operation of tapping, technically named PARACENTESIS, is required for its evacuation. See DROPSY. Sometimes the intestinal canal is preternaturally contracted, forming a STRICTURE; or is distended with flatus, which constitutes the TYMPANITES; or is reflected within itself, forming the disease called INTUSUSCEPTION. The liver often inflames and suppurates, or becomes indurated and scirrhus. The womb is liable to be ulcerated and cancerous, or may suffer during parturition. See SCIRRHUS and CANCER. The glands of the mesentery will likewise inflame, suppurate, and enlarge to a great degree. Collections of pus may form upon the muscles of the loins; calculi within the kidneys, or the urinary and gall bladder; varicose swellings and aneurisms in the blood-vessels, &c. &c. See PSOAS or LUMBAR ABSCESS, LITHOTOMY, VARICOCELE, and ANEURISM. Several chirurgical operations are also peculiar to the *abdomen* and its contents; for example, GASTROTOMY, GASTROTOMY, LITHOTOMY, and the CÆSAREAN SECTION.

All these several disorders and operations are particularly explained in other parts of this work, under their appropriate denominations, to which we therefore refer our readers.

ABDOMEN of Insects. See INSECTS.

ABDOMINAL Ring, in *Anatomy*, an aperture through which the spermatic vessels pass in men, and the ligamenta rotunda uteri in women. It is formed by the tendinous fibres of the *musculus obliquus externus abdominis*, which are separated from each other near the os pubis. See OBLIQUI, &c.

ABDOMINALES, in the *Linnean System of Ichthyology*, an order of FISH, having the ventral fins placed behind the pectoral in the abdomen, and the branchia ossiculated, and comprehending sixteen genera, and one hundred and ninety-five species.

ABDUCENS labiorum, in *Anatomy*, a name given by Spigelius to a muscle, which he also calls the *secundus ad latera-trahens*. This is the *levator anguli oris* of Albinus, and the *caninus elevator* or *levator labiorum communis* of others.

ABDUCENT, in *Anatomy*. See ABDUCTOR.

ABDUCTION, in *Law*. See FORCIBLE ABDUCTION, KIDNAPPING, and RAVISHMENT.

ABDUCTION, in *Logic*, a kind of argumentation, by the Greeks called *apagoge*; wherein the greater extreme is evidently contained in the medium, but the medium not so evidently in the lesser extreme as not to require some farther medium, or proof, to make it appear.

It is called *abduction*, from *ab*, from, and *ducere*, to

draw; because from the conclusion, it draws us on to prove the proposition assumed.

Thus, in the syllogism, "All whom God absolves are free of sin; but God absolves all who are in Christ: therefore, all who are in Christ are free of sin." The major is evident; but the minor, or assumption, is not so, without some other proposition to prove it; as, "God received satisfaction for sin by the sufferings of Jesus Christ."

ABDUCTION, or **ABRUPTION**, in *Surgery*, denotes a kind of transverse FRACTURE, in which the broken extremities of the bone recede from each other. *Galen* calls this species of fracture *avulsion*; but *Calvus Auchenius*, by the word *Abductio*, means a strain or violent distention of a muscle, and speaks of it as a cause of chronic pains.

ABDUCTOR, or **ABDUCENT**, compounded of *ab*, from, and *ducere*, to draw, in *Anatomy*, a name common to several muscles, whose action is the withdrawing, opening, or pulling back, the parts to which they are fixed. Their antagonists are called ADDUCTORES.

ABDUCTOR auricularis. See ABDUCTOR minimi digiti manus.

ABDUCTOR Auris, or **BICAUDALIS**. See RETRAHENS Auriculam.

ABDUCTOR indicis manus, arises from the os trapezium, and from the superior part and inner side of the metacarpal bone of the thumb, and is inserted by a short tendon into the outer and back part of the first bone of the forefinger. Its use is to bring the forefinger towards the thumb. This is the semi-interosseus of Winslow. Cowper calls it *adductor pollicis*; and Douglas says, that with respect to the thumb, it may be called *adductor*, and to the index *abductor*.

ABDUCTOR indicis pedis, arises tendinous and fleshy, by two origins, from the root of the inside of the metatarsal bone of the foretoe, from the outside of the root of the metatarsal bone of the great toe, and from the os cuneiforme internum; and is inserted tendinous into the inside of the root of the first joint of the foretoe. Its use is to pull the foretoe inwards from the rest of the toes.

ABDUCTOR minimi digiti manus, arises fleshy from the os pisiforme, and from the part of the ligamentum carpi annulare that is next to it; and is inserted tendinous into the inner side of the upper end of the first bone of the little finger. Its use is to draw this finger from the rest. This is the *hypothenar minor* of Winslow, the *extensor tertii inter-nodii minimi digiti* of Douglas, and the *auricularis* of others.

ABDUCTOR minimi digiti pedis, arises tendinous and fleshy from the semicircular edge of a cavity in the inferior part of the protuberance of the os calcis, and from the root of the metatarsal bone of the little toe; and is inserted into the root of the first joint of the little toe externally. Its use is to draw the little toe outwards from the rest. This is the *Parathenar major* and *Abductor* of Winslow.

ABDUCTOR oculi, arises from the bony partition between the foramen opticum and lacerum; and is inserted into the globe of the eye opposite to the outer canthus. Its use is to move the globe outwards. It is also called *Indignatorius*.

ABDUCTOR pollicis manus, arises by a broad tendinous and fleshy beginning, from the ligamentum carpi annulare, and from the os trapezium; and is inserted tendinous into the outer part of the root of the first bone of the thumb. Its use is to draw the thumb from the fingers. Albinus names the inner portion of this muscle, *Abductor brevis alter*, and it is called *Abductor* and *Thenar Riolani* by Douglas.

ABDUCTOR pollicis pedis. See INTEROSSEUS plantaris.

ABDUCTOR pollicis pedis, arises fleshy from the inside of the root of the protuberance of the os calcis, where it forms

of the 4. and 5. and 6. from the femur, where it is as
 much as the 7. and 8. and 9. and 10. and 11. and 12.
 and 13. and 14. and 15. and 16. and 17. and 18. and 19. and 20.
 and 21. and 22. and 23. and 24. and 25. and 26. and 27. and 28. and 29. and 30.
 and 31. and 32. and 33. and 34. and 35. and 36. and 37. and 38. and 39. and 40.
 and 41. and 42. and 43. and 44. and 45. and 46. and 47. and 48. and 49. and 50.
 and 51. and 52. and 53. and 54. and 55. and 56. and 57. and 58. and 59. and 60.
 and 61. and 62. and 63. and 64. and 65. and 66. and 67. and 68. and 69. and 70.
 and 71. and 72. and 73. and 74. and 75. and 76. and 77. and 78. and 79. and 80.
 and 81. and 82. and 83. and 84. and 85. and 86. and 87. and 88. and 89. and 90.
 and 91. and 92. and 93. and 94. and 95. and 96. and 97. and 98. and 99. and 100.

Abel was born July 8th. 1714, and after a classical education
 became a student of theology in 1731, under Meibomius, and
 afterwards at Halle, under Wolf and Baumgarten, where he
 often preached with great applause. He declined the theo-
 logical profession and applied to medicine at Halle, and in
 1743 was admitted to the degree of doctor at Königsberg
 in Prussia. On his return to Halberstadt he practised as a
 physician for half a century, and died Nov. 23, 1794. His
 poetical translation of Juvenal into German, was published
 in 1788. One of his sons, viz. John Abel, a physician of
 Danzig, has distinguished himself as a writer. Gen. Biog.

ABEL, Charles Frederic, an eminent musical composer and
 performer, was a native of Germany, and a disciple of Se-
 bastian Bach. He left Dresden in a destitute condition in
 1758, and travelled through Germany, supplying his neces-
 sities by his talents, till at length he arrived in England in
 1759, where he soon gained notice and recompence,
 both as a public performer and as a private teacher. He
 had a salary of 200l. a year as chamber musician to her
 majesty, and his weekly concert, in conjunction with Bach,
 was liberally supported. He performed on several instru-
 ments; but he was chiefly attached to the viol da gamba.
 Dr. Burney, in the 4th volume of his History of Music, has
 given the following account of his composition and perform-
 ance: "His compositions were easy and elegantly simple;
 for he used to say, 'I do not chuse to be always struggling
 with difficulties, and playing with all my might. I make
 my pieces difficult whenever I please, according to my dis-
 position and that of my audience.' Yet, in nothing was he
 so superior to himself, and to other musicians, as in writing
 and playing an *adagio*; in which the most pleasing, yet
 learned modulation, the richest harmony, and the most elegant
 and polished melody, were all expressed with such feeling,
 taste, and science, that no musical production or perform-
 ance, with which I was then acquainted, seemed to approach
 nearer perfection. The knowledge Abel had acquired in
 Germany, in every part of musical science, rendered him the
 umpire in all musical controversies, and caused him to be con-
 sulted in all difficult points. His concertos and other pieces
 were very popular, and frequently played on public occa-
 sions. The taste and science of Abel were rather greater than
 his invention, so that some of his later productions, compar-
 ed with those of younger composers, appeared somewhat
 languid and monotonous. Yet he preserved a high reputa-
 tion in the profession till his death." Abel was irascible in
 his temper, and apt to be overbearing. He loved his bottle;
 and by excess of drinking, when he was labouring under a
 spitting of blood, he put an end to his complaint and to his
 life. He died in London, June 20, 1787.

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ABEL, Frederick Gottfried, M.D. the son of Cas-
 par Abel, the historian, was assessor of the college of physi-
 cians, and member of the literary society at Halberstadt.

He was born July 8th. 1714, and after a classical education
 became a student of theology in 1731, under Meibomius, and
 afterwards at Halle, under Wolf and Baumgarten, where he
 often preached with great applause. He declined the theo-
 logical profession and applied to medicine at Halle, and in
 1743 was admitted to the degree of doctor at Königsberg
 in Prussia. On his return to Halberstadt he practised as a
 physician for half a century, and died Nov. 23, 1794. His
 poetical translation of Juvenal into German, was published
 in 1788. One of his sons, viz. John Abel, a physician of
 Danzig, has distinguished himself as a writer. Gen. Biog.

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ABEL-Keramis, or of the Vineyards, in Geography, mentioned
 Judges xi. 33. was, according to Eusebius, six miles from Phi-
 ladelphia, otherwise Rabbath, the capital of the Ammonites.
 It was remarkable for its vines, whence the name; and it was
 probably the same with *Abela*, between Jabez and Gadara,
 near Pella; and the *Abila*, mentioned by Polybius, (Hist.
 lib. v. p. 414. ed. Casaub.) among other cities of Galatis.
 See ABILENE.

ABEL-Meholah, the country of Elisha, 1 Kings, xix. 16.
 about sixteen miles south of Scythopolis according to Euse-
 bius. Near this place Gideon obtained a victory over the
 Midianites. Judges, vii. 22.

ABEL-Mizraim, the mourning of the Egyptians in allu-
 sion to the lamentation for Jacob, called also the threshing
 floor of Atad, Gen. l. 11. was thought by Jerome, and
 some others, to be the place afterwards called *Bathagla*, at
 some distance from Jericho and Jordan westward.

ABEL-Shittim, or *Abel-fatim*, was situated in the plains
 of

of Moab, opposite to Jericho, not far from Jordan. Here Moses encamped before the Hivites passed the Jordan under Joshua. Here also, seduced by Balak, they worshipped Balaam, and were punished by the instrumentality of the Levites. Numb. xxv. 1. &c. xxxiii. 49.

ABEL-TREE, or ABEL-TREE, in *Botany*, a species of POPLAR, with large leaves. This tree may be propagated by layers or cuttings, and also by suckers. Many advantages might be derived from planting it in boggy soils, where few other trees will thrive. The wood of it is useful for flooring or wainscoting rooms; and it is preferred for turnery-ware to any other, on account of its peculiar whiteness. The quickness of its growth, inasmuch that it will yield shoots of eighteen or twenty feet long in a year, renders it eligible in plantations that are designed for shade or shelter.

ABELA, *J. de Francis*, in *Biography*, was commander of the order of Malta. His book, intitled *Malta illustrata*, published in 1647, in folio, and containing a description of Malta, and of its principal antiquities, is rare and curious. Biog. Dict.

ABELARD, *Peter*, an eminent scholastic philosopher of the 12th century. He was the son of Berenger, of noble descent, and born at Palais, near Nantes in Brittany, in the year 1079. At the age of 16 he had acquired, under Rosceline, the founder of the sect of the Nominalists, a considerable acquaintance with metaphysics and logic; together with a subtlety of thought and a fluency of expression, which qualified him for the literary contests in which he was afterwards engaged. Ardent in the prosecution of fame, and of that kind of science, which then prevailed, he settled at Paris, in the 20th year of his age, and devoted himself to the study of dialectics under William de Champeaux, called the *venerable doctor*. The master and the pupil were for some time much attached to each other; but when the disciple presumed to contradict his teacher, and to enter into disputations with him, in which, according to the judgment of his fellow students, he was victorious, the vanity of Abelard was inflamed, and the jealousy of Champeaux excited; and a separation became necessary. Thus flattered and encouraged, and possessing superior talents, both by nature and in consequence of sedulous application, Abelard, at the age of 22, determined to open a public school for himself; and the place which he selected was Melun, a town distant from Paris about ten leagues, where the court at that time often resided. Notwithstanding the competition and hostility of Champeaux, the young lecturer's school was thronged with auditors, who were highly gratified by his public performances. Farther emboldened by this success, he approached nearer to Paris, and removed his school to Corbeil, where he had an opportunity of triumphing over his former master, and of compelling him to retire. His application and activity, however, impaired his health, and rendered it necessary for him to withdraw from the public scene of literary contest into his native country. After an absence of two years, he returned to Corbeil; where he renewed his lectures with such reputation, that the scholars of Champeaux deserted him; and where he obtained fresh triumphs over his envy and opposition. In the issue his victory was so complete, that Champeaux, who had assumed the monastic habit among the regular canons in the convent of St. Victor, and who was afterwards preferred to the see of Chalons, was constrained to relinquish the contest and to yield to the acknowledged superiority of his rival. Upon this Abelard quitted the school which he had established at the abbey of St. Genevieve, and directing his views to the study and profession of theology, removed to Laon, and placed himself under the tuition of Anselm. Here again the disciple, by the superiority of his talents and acquirements, excited the jea-

lousy of this celebrated theologian; and after establishing his reputation by the lectures which he delivered, he was compelled to retire from Laon, and to remove to Paris. His lectures in this city, both in theology and philosophy, were attended by a great number of students, who resorted to his school, not only from various parts of France, but from Spain, Italy, Germany, Flanders, and Great Britain. At the age of forty Abelard attained the reputation which he had acquired as an independent and popular preceptor, to the love of pleasure, and disgraced himself by forming and executing a deliberate plan for the seduction of female innocence. During his residence at Paris, where he was acquiring affluence as well as renown, he boarded in the house of Fulbert, a canon of the cathedral church, who had a niece called Heloise, about the age of 18 years, and equally celebrated for her beauty and literary attainments. The avaricious canon, wishing to have his niece instructed without expence, employed Abelard as her preceptor; but instead of improving her in the sciences, he betrayed his trust, taught her to love, and determined to seduce her. From this time Abelard became remiss in the performance of his public functions, and wrote nothing but amorous verses. The canon, deluded by his respect for the preceptor of his niece, remained ignorant of an amour, which became the subject of general conversation. In a little while, however, the pregnancy of Heloise discovered the culpable conduct of her lover, and roused the resentment of the infatuated uncle. She was soon removed to the house of Abelard's sister in Brittany, and there delivered of a son. When the child was born, Abelard made a proposal to Fulbert of privately marrying his niece, to which the canon consented. Heloise, however, hesitated in accepting the offer, partly from a regard to the honour of Abelard, whose profession bound him to celibacy, and partly from a romantic notion, that her passion ought not to submit to ordinary restraints. Abelard at last prevailed, and they were privately married at Paris; though it is said, that she protested to her uncle that she was not married, and that this was one cause of his unkind and severe treatment of her. Abelard made this a plea for removing her from his house to the abbey of Benedictine nuns, in which she had been educated. The uncle meditated revenge, and hired ruffians, who forced their way into his chamber by night, and inflicted on his person a disgraceful and cruel mutilation. Abelard resolved that, as Heloise could no longer be his, she should never be another's, and demanded from her a promise to devote herself to religion. She submitted to the selfish and harsh injunction, and professed herself in the abbey of Argenteuil. On this occasion she exclaimed, in the words of Cornelia:

——— O maxime conjux!

O thalamis indigne meis, hoc juris habebit
In tantum fortuna caput! cur impia nupsi,
Si miserum factura fui? nunc accipe penas,
Sed quas sponte luam.

Lucan Pharsal. l. viii. v. 94, &c. p. 541. Ed. Burman.

" Ah! my once greatest lord! Ah! cruel hour!
Is thy victorious head in fortune's pow'r?
Since miseries my baneful love pursue,
Why did I wed thee, only to undo!
But see, to death my winged neck I bow;
Atone the angry gods by one kind blow." Rowe

Soon after this event Abelard assumed the monastic habit in the abbey of St. Denys. His scholars in Paris, however, intreated him to return to his school; and after some deliberation

born at a small village in the diocese of Laon. But his reputation as a philosopher, and his variety of persecutions, have rendered his name illustrious. The *Trilogia* of Abelard, which was said to contain three heretical treatises, was burnt by the pope. The work was condemned by a council of the French at St. Denis, held in 1121, and Abelard was obliged to throw up the habit of a monk. He was, however, a devoted adherent of faith, the Athanasian creed, and to be confined in the monastery of Melandri. He soon became abbot of the monastery, which received general satisfaction; and Abelard was soon permitted to return to St. Denys. Here he was again persecuted by the monks, and having offered, that the patron of the convent and of the French nation was not Dionysius the Areopagite, but another St. Dionysius, he was obliged to flee to the pope, and the pope, in consequence of the order and an enemy to his country, ordered him to be taken prisoner, and fled to the convent of St. Ayoul at Provins in Champagne, the prior of which was his intimate friend. Hence he soon retired to a retreat in the forest of Champagne, near Nogent upon the Seine, where, in 1122, he erected a small oratory, which he dedicated to the Trinity, and which was afterwards enlarged and consecrated to the third person, the Comforter or Paraclete. His pupils in this retreat soon amounted to 600; but he was compelled to withdraw from this solitude, and, by the interest of the Duke of Brittany, he was elected superior of the monastery of St. Gildas, in the diocese of Vannes, where he remained for several years. The nuns of the convent of Argenteuil being dispersed about this time, Abelard invited Heloise, with her eight companions, to take possession of the Paraclete. Heloise accepted the invitation; was chosen abbess of the new institution that was established; and in 1127, the donation was confirmed by the king. Whilst Abelard resided at St. Gildas, the interesting correspondence occurred between him and Heloise, which is still extant; and he then wrote the memoirs of his life, which came down to the year 1134. The letters of Heloise in this correspondence abound with proofs of genius, learning, and taste, which might have graced a better age. Upon these letters Mr. Pope has formed his "Epistle from Eloisa to Abelard," a piece that has been highly celebrated for its poetical merit, but which deviates in many particulars from the genuine character and story of Heloise, and culpably violates moral propriety, as Mr. Berrington (*Hist. Abelard*, p. 240, &c.) has shewn in his judicious critique. Abelard was, in this situation, accused to pope Innocent II. of noxious errors and mischievous designs. His accuser, the Abbot of St. Thierry, was challenged by Abelard to make good his accusation in a public assembly; and upon his delivering the heads of his accusation, Abelard, probably apprehending a popular tumult, rose up and exclaimed, "I appeal to Rome." The pope, in consequence of some person's intrigues, anticipated his arrival by pronouncing his opinions heretical, and sentencing him to perpetual silence and confinement. Abelard, in his way to Rome, called at Cluni, a monastery on the confines of Burgundy, where he was kindly received by Peter Maurice, the abbot: and here a reconciliation was effected between him and Bernard, abbot of Clairvaux, who had prejudiced the pope against him. Peter interposed with the pope in his favour, and obtained his pardon; and he was permitted to end his days in the monastery of Cluni. In this monastery, the cloistered philosopher was retired, studious, and devout; and his lectures were renewed and heard with applause. But his health and spirits were too feeble to bear the exertions which this service required. Although he was

removed to the pure air of the priory of St. Marcellus, near Chalons, his debility and decay increased, and terminated his life in his 63d year, on the 21st of April 1142. His body was sent to Heloise to be interred in the convent of the Paraclete. Heloise survived her husband 21 years, a pattern of conjugal affection and monastic virtue. Of the character of Abelard, we shall subjoin the following extract from Enfield's account of him in the *General Biography*, vol. i. "The amour, which has given Abelard so much celebrity in the annals of gallantry, will certainly not entitle his name to a place in the tablet of moral merit: it will remain an eternal blot upon his memory. In Heloise, the criminality, though not obliterated, was palliated by youthful ardour and inexperience; and extreme sensibility, romantic attachment, noble generosity, and disinterested invincible constancy, united to throw a veil over human frailty. In Abelard, every circumstance, instead of excusing, aggravated the offence. At forty, 'the hey-day of the blood is tame, and waits upon the judgment.' It was not a juvenile indiscretion of which Abelard was guilty, but, according to his own confession, the seduction of innocence, deliberately planned, and resolutely executed. It was accompanied with breach of confidence, violation of duty, and degradation of character. Except in the grant of the Paraclete as an asylum to Heloise and her sisterhood, an uniform selfishness appears in Abelard's conduct, which admits of no apology: unless we transfer the blame from the man to the profession, and reprobate that system of superstition, which, by the unnatural injunction of clerical celibacy, has given birth to innumerable irregularities and enormities. Viewed apart from this disgraceful affair, Abelard appears with more advantage. His writings, indeed, will not give the reader a high idea of his genius or taste: but it cannot be questioned, that the man, who could foil the first masters of the age at the weapons of logic, could draw round him crowded and admiring auditories, and could collect scholars from different provinces and countries, whenever he chose to form a school, must have possessed extraordinary talents. He must be allowed the credit, not only of having made himself master of the philosophy and theology of the age, such as they were, but of having boldly advanced, beyond the time, into the region of new opinions. Had his love of truth been equal to his thirst of fame, and had his courage in adhering to his principles been equal to his ingenuity in defending them, his sufferings and persecutions might have excited more regret, and his title to honourable remembrance would have been better established. Upon the whole, of Abelard it may, perhaps, with truth be said, that he was too vain to be truly great, and too selfish to be eminently good, and that his character is rather adapted to excite admiration than to command respect." His principal works, written in Latin, are, "An Address to the Paraclete on the Study of the Scriptures," "Problems and Solutions," "Sermons on the Festivals," "A Treatise against Heresies," "An Exposition of the Lord's Prayer," "A Commentary on the Romans," "A System of Theology," and his letters to Heloise and to others. These, with some other pieces, were collected and edited from the MSS. of Amboise, in 4to. at Paris, in 1616. Bayle. Moreri. Berrington's *Hist. of the Lives of Abelard and Heloise*. Gen. Biog.

ABELIANS, ABELONIANS, or ABELITES, in *Ecclesiastical History*, a sect in Africa, not far from Hippo, mentioned by St. Austin, (*Oper. tom. vi. p. 14.*) and supposed to have commenced in the reign of Arcadius and terminated in that of Theodosius. Their distinguishing tenet and practice were to marry, and yet live with their wives in a professed abstinence, without having any carnal commerce together.

together. 1 Cor. vii. 29. The learned have taken great pains to ascertain the principle upon which they acted, and the reason of their denomination, to very little purpose. But, in effect, it is more than probable, they took their name from Abel for no other reason, but because, like that patriarch, they had no issue; not that he lived in continence after marriage; but because he was killed before he had married, or died without issue. In order to perpetuate the sect, St. Austin informs us, (ubi supra,) that when a man and woman entered into this society, they adopted a boy and girl, who were to be their heirs, and to marry under the same obligation of continence, and of adopting two children of different sexes.

ABELICEA, in *Botany*, the name of a very tall tree, growing principally in Crete, called also *fantulus adalarinus*, and *pseudofantulum*.

ABELL, *John*, in *Biography*, an English musician, who belonged to the chapel of Charles II. and continued in it till the revolution, when he was discharged, because he was a papist. After many rambles on the continent, and singular adventures, he returned to England; and, in 1701, published a collection of songs in several languages, which he dedicated to King William. It is said that this artist possessed the secret of preserving the natural tone of his voice to extreme old age. Hawkins's Hist. Mus. vol. iv. p. 455.

ABELLA, in *Ancient Geography*, a municipal town of Campania, near the river Clanis, mentioned by Virgil, lib. vii. v. 740. and by Silius (lib. viii. v. 544.) and inhabited, according to Justin, (lib. xx. cap. i.) by a colony of Chalcidians. The *nux Avellana*, or hazle-nut, takes its name, according to Macrobius, from this town. It is now a heap of ruins, near the town and castle of AVELLA. The ancient walls enclose a circuit of near three miles, and in the middle are the fragments of an amphitheatre; the environs are remarkable for the excellent quality of their fruit and honey. Swinburne's Trav. vol. i. p. 162.

ABELLI, *Lewis*, in *Biography*, bishop and count of Rhodes, was born in the Vexin François, in 1603. Quitting his bishopric soon after his promotion, he retired to St. Lazare, where he died in 1691, at the age of 88 years. His *Medulla Theologica*, in 2 vols. 12mo. is a book which has been often cited by protestants against Bossuet, because it supplied them with weapons against the catholic zeal of making converts. He wrote other books in Latin and French. Gen. Dict.

ABELLINUM, in *Ancient Geography*, a town of the Hirpini, a people of Apulia, near the river Sabbato, between Beneventum and Saleum. Pliny calls the inhabitants *Abellinates Protopi*, in order to distinguish them from the *Abellinates Marfi*. It is now Avellino. E. long. 15° 20'. N. lat. 21°.

ABELMOLUCH, a species of the *ricinus*, or PALMA *Christi*.

ABELMOSCH, or ABELMUSK, the musk seed; a small odoriferous seed brought from Egypt, chiefly used in perfumes. The best comes from MARTINICO. The plant which produces it is the *Hibiscus Abelmoschus* of Linnæus.

ABENAS, in *Geography*, a town in France, in Languedoc, and in the Lower Vivarais, situated on the river Ardefeh, at the foot of the Cevennes. E. long. 4° 43'. N. lat. 44° 40'.

ABENDANA, *Jacob*, in *Biography*, a learned Spanish Jew, prefect of a synagogue in London; known as the author of a Spicilegium of explanations on select passages of Scripture in Hebrew. Amst. 1685. fol. He died in 1685.

ABENEL CAUBY, a fixed star of the second or third magnitude, in the south scale of the constellation LIBRA.

ABENEZRA, *Abraham*, in *Biography*, a celebrated

Rabbi, born at Toledo, in Spain, and called by the Jews, the wise, great, and admirable doctor, was a very able interpreter of the Holy Scriptures, and well skilled in grammar, poetry, philosophy, astronomy, and medicine. He was also a perfect master of the Arabic. His principal work is Commentaries on the Old Testament, which are much esteemed, and printed in Bomberg's and Buxtorf's Hebrew Bibles. His style is clear, elegant, concise, and much like that of the Sacred Writings. He generally adheres to the literal sense, and always manifests genius and judgment; though his sentiments are sometimes erroneous. His *Jesud Mora*, which recommends the study of the Talmud, is the most rare of all his writings. His Poem on the game of Chess was translated by Dr. Hyde. Many other theological, grammatical, mathematical, and astrological works of this author remain in ancient libraries, and have not yet been edited. He died at Rhodes in 1174, or 1190, aged 75. Mafese. Heb. Gram. vol. ii. p. 30.

ABEN-MELEK, a learned Rabbi, whose work, intitled, The Perfection of Beauty, printed at Amsterdam, 1661, fol. in Hebrew, and translated into Latin in 4to. and in 8vo. is a Commentary on the Bible, in which he confines himself to the explanation of the grammatical sense.

ABENOW, in *Geography*, a mountain of Suabia, thirteen miles from Friburg, remarkable as the source of the Danube, and for giving name to a chain of mountains extending from the Rhine to the Neckar, and from the fore-towns to the city of Thorheim.

ABENRAD, a town of Denmark, in Sleswick, in a territory of its own name. It is situated on a spacious bay of the Baltic, surrounded by three high mountains, and has been lately much improved. E. long. 9° 14'. N. lat. 55° 6'.

ABENSBERG, a small town in the circle of Bavaria, on the river Abens, near the Danube. E. long. 11° 55'. N. lat. 48° 46'.

ABER, in *Natural History*, the name given by Adanson to the *Mytilus puniceus* of Linnæus, with a gibbous acuminate shell, 15 furrows, and a dentated margin. It is found on the western shore of Africa.

ABERARTHY. See CARDIGAN Bay.

ABERAVON, a small borough-town in Glamorgan-shire, in Wales, governed by a portreeve. It is now an inconsiderable village, situated at the mouth of the river Avon, whence its name; *Aber*, in the ancient British, denoting such a situation. W. long. 3° 48'. N. lat. 51° 35'.—The copper-works established near this place have given it importance, and increased its population.

At a small distance from this town is the charming seat of Lord Vernon, at Briton ferry, where the Neath river, issuing from the bold hills which enclose its vale, passes between several majestic groves, and precipitates itself into the sea.

ABERBROTHICK, or ARBROATH, one of the Royal Burghs of Scotland, situated in the county of Angus, about forty miles N. N. E. of Edinburgh, at the discharge of the river Brothick into the sea. It is a small well-built town, and is gradually improving. Its manufactures consist of coarse brown linens, sailcloth, and thread. Its export trade consists of these articles, barley, and wheat; and its imports are flax and timber from the Baltic. Coals and lime form its coasting trade. This port is very ancient, and it is famous for the ruins of an abbey, founded by William the Lion, in 1178, and dedicated to Thomas à Becket. The monks were of the Tyronensian order, and the last abbot was Cardinal Beaton. This town has a chalybeate water, containing iron dissolved in fixed air, and used as a diuretic and corroborative. W. long. 2° 29'. N. lat. 56° 36'.

ABERCONWAY. See CONWAY.

ABER-

ABERDEEN, a town of Great Britain, on the River Don, about 10 miles N. W. of Edinburgh. **ABERDEENHURV**, *Zoster*, M.D. is *R. zoster*, was first introduced into the country of Angora in 1679, and since that time has spread to all the islands, which have place for such kind of vegetation. Upon the continent it is said to have been first introduced by the late Mr. J. J. de Meade, who was appointed consul-general of the island of Malta, and was the first to apply it to the cultivation of the island. He died in Edinburgh in 1726, at the age of 60.

ABERDEENHURV, *De la*, a Scotch physician, published a treatise on the Venereal Disease, in 1711, under the title of *De Venere, sive abique Mercurio, et aliis remediis, sive Mercumali, curande Methodo*, &c. This was followed by another book on the same subject, in 1712. He also published, *De Pulvis Venereis*, in 1717; and, in the same year, *Artis expharmacopoeie medicæ facultatis Placitarum, ex solo sapore*. His works however are of little value.

ABERDARON Bay, in *Geography*, is situated within the S. W. point of Caernarvon county in Wales, and N. E. from Bardsey Island.

ABERDAVINE, in *Ornithology*, a name sometimes given to a species of *FRINGILLA*, more generally called *SISKIN*. See *SPINUS*.

ABERDEEN, in *Geography*, the name of two cities in Scotland, called the *Old* and *New Town*, situated on the German ocean. This is a place of great antiquity; as it appears, that privileges were conferred upon it in the reign of Gregory, about the year 893; and a bishoprick founded by Malcolm II. in 1004, at a place in Banffshire, was transferred to old *Aberdeen* by David I.; and, in 1163, a new charter was obtained from Malcolm IV. Another charter was granted by Alexander II. in 1217.

Old Aberdeen lies at the mouth of the river Don, over which is a fine Gothic bridge of a single arch, resting upon two opposite rocks, which has been much admired, and which is said to have been built about the year 1290. The principal building in this town is the King's College, which is built round a square, with cloisters on the south side. This college was founded in 1494, and from the circumstance of King James IV. claiming the patronage of it, it derives its present name. This and the Marischal College in the new town form one university, called the *University of King Charles*. The library is large, but has not many curiosities. The first principal was Hector Boethius, who was sent hither from Paris on an annual salary of 40 Scots marks, at thirteen pence each.

The *New Town* is the capital of the shire of *Aberdeen*, and exceeds in extent, trade, and appearance, any town in the north of Scotland. It is situated about one mile from the old town, on a rising ground, in a small bay formed by the river Dee, deep enough for a ship of 200 tons, and about two miles in circumference. There is an elegant bridge over the river, consisting of seven arches, which is said to have been built by Dunbar, who was bishop about the year 1500. The chief public building in this town is the Marischal College, founded by George Keith, Earl Marischal, in 1594, and augmented since by many additional buildings. In this college there are about 150 students, who are instructed, as well as those of the king's college, by able professors. Besides two parish-churches, and the college kirk, there is an elegant episcopal chapel, with several meeting-houses. The other public buildings are a handsome town-house, a grammar school, Gordon's hospital, and an

infirmary. The harbor is defended by a strong stone pier, lately erected under the direction of Mr. Smeaton. The trade of Aberdeen is now considerable, and capable of improvement by an attention to the white fisheries. Its imports are from the Baltic, and a few merchants trade to the West Indies and North America. Its exports are stockings, thread, salmon, oatmeal, and pickled pork. The two first articles are very important branches of manufacture in this town and neighbourhood. The salmon fisheries on the Dee and Don, and particularly those of the Dee, are very productive; and Mr. Knox observes, that if the merchants would, in addition to the fish supplied by these, export the cargoes of 50 or 60 vessels, constantly employed in the herring and white fisheries, the port of Aberdeen would in a few years become the most celebrated mart of fish now existing. The number of inhabitants in *Old* and *New Aberdeen* is estimated at 25,000. There are two springs near this town, one of pure water, and another of a quality resembling the German Spa. Aberdeen, with Aberbrothick, Brechin, Montrose, and Inverberrie, returns one member to parliament. Aberdeen is 84 miles N. E. of Edinburgh. W. long. 2° 8'. N. lat. 57° 9'.

ABERDEENSHIRE, a county of Scotland, which comprehends the districts of Mar, Garioch, Strathbogie, and the greater part of Buchan. It is washed on the east and north by the German ocean, and abounds in sea-ports, which are convenient for commerce. The rivers are numerous, and the banks exhibit many natural woods and extensive plantations. In the high parts there is much excellent pasture, and in the level tract, called Strathbogie, there are many well cultivated fields. This county sends one member to parliament.

ABERDOVEY, a small sea-port in Merionethshire, at the discharge of the river Dovey into the bay of Cardigan. Its export trade, which is not considerable, consists of flannels, Welch webs, oak bark, and other productions of the vale of Dovey.

ABERDOUR, a small town of Fifeshire, in Scotland, on the Frith of Forth, about ten miles N. W. of Edinburgh.

ABEREMURDER, *ABEREMURDRUM*, in *Ancient Law Books*, denotes murder that has been proved, or made manifest by a judiciary process.

The word is Anglo-Saxon, compounded of *ebere*, *proved* or *clear*, and *morth*, *killing* or *homicide*.

In this sense, *abermurder*, called also *eberemurder*, amounts to the same with *probatum murdrum*, or *murder which needed proof*; and stands opposed to open murder, which was murder sufficiently known by the notoriety of the fact.

Lambard explains *abermurder* by *manifestum murdrum*; and Spelman, by *causes manifesta*: others, by *apertum murdrum*.

Aberemurdrum was one of those crimes which could not be expiated by money, as most others might be.

ABERFORD, in *Geography*, a market-town in the west riding of Yorkshire, 184 miles N. N. W. of London. W. long. 1° 21'. N. lat. 53° 50'.

ABERFRAW, a village in the isle of Anglesey, where the princes of North Wales had formerly a palace. W. long. 4° 36'. N. lat. 33° 53'.

ABERGAVENNY, an irregularly built town of Monmouthshire, beautifully situated in the midst of a range of meadows, at the confluence of the rivers Usk and Gavenney, and surrounded by several projecting hills. It contains about 500 houses. Its public buildings consist chiefly of a long Gothic bridge, the imperfect fragments of a castle, and an ancient church adjoining to the priory. It is a place of resort in summer for goats' whey, and is a great thoroughfare to the western parts of South Wales. It is about 143 miles W. by N. of London. W. long. 3° 5'. N. lat. 51° 50'.

ABER-

Abergavenny seems to have been the *Gibbanium* of Antoninus, and *Usk* his *Burrium*. At the distance of a few miles from this town are the ruins of Llantony Abbey, situate in one of the deepest recesses of the black mountains, founded on the site of a chapel, supposed to be the residence of St. David, the tutelary saint of Wales. It was rebuilt, and the monastery formed for Augustine monks by Sir William de Lacy, in 1108.

ABERNETHY, a town in Strathern, a district of Perthshire, in Scotland. It is situated on the river Tay, and said to have been the residence of the Pictish kings, and the see of an archbishop, since transferred to St. Andrews. It is now much decayed.

ABERNETHY, John, in *Biography*, an eminent presbyterian divine, was born at Coleraine, in Londonderry, on the 19th of October 1680. His father was a dissenting minister in that town. After continuing under the care of his parents for nine years, he was separated from them by a concurrence of circumstances, which in the event proved favourable. His father had business in London, and his mother removed to Derry. Their son accompanied a relation to Scotland, who removed thither to avoid the troubles occasioned by the insurrection in Ireland; and he thus escaped the danger attending the siege of Derry, in which Mrs. Abernethy lost all her other children. At the early age of thirteen he was sent to the college at Glasgow, where he remained till he had taken the degree of Master of Arts. In conformity to the advice of his friends, he declined the profession of physic, to which his views were at first directed, and devoted himself to the study of divinity under Professor Campbell at Edinburgh. Such was his success in the prosecution of this object, that he was licensed to preach by the Presbytery of Route before he was twenty-one years of age. In 1703, after having been for some years at Dublin with a view to farther improvement, he was ordained at Antrim; where his public performances were much admired, and where his general conduct and distinguished attainments recommended him to the esteem of all who knew him. He was much respected not only by his brethren in the ministry, but by many of the laity, who were pleased with the vivacity of his disposition, and the urbanity of his manners. His talents and virtues gave him a considerable ascendancy in the Synod, so that he had a large share in the management of public affairs. As a speaker, he was considered as their chief ornament; and he maintained his character in these respects, and his interest in their esteem, to the last, even when a change of his religious sentiments had excited the opposition of many violent antagonists. In 1716 he attempted to remove the prejudices of the native Irish in the neighbourhood of Antrim, who were of the popish persuasion, and to engage them to embrace the protestant religion. His labours in this laudable design were not without success. Several of them were induced to renounce popery, and continued firm in their attachment to protestant principles; though others, to his great discouragement, reverted to their former persuasion. In the following year he received two invitations, one from Dublin, and another from Belfast; and the Synod, whose authority was very great, advised his removal to Dublin. Such, however, was his attachment to his congregation at Antrim, that he determined to continue there, at the risk of incurring the displeasure of the Synod. The interference of this assembly was repugnant to those sentiments of religious freedom which Mr. Abernethy had been led to entertain, by the exercise of his own vigorous faculties, and by an attention to the *BANGORIAN controversy*, which prevailed in England about this time. Many other ministers in the north of Ireland formed more enlarged ideas of christian

liberty and charity than they had been accustomed to do, by means of the writings of Dr. Hooadly and his associates. With a view to the improvement of useful knowledge, they initiated a society, whose professed aim was to bring things to the test of reason and scripture. This laudable design was probably suggested by Mr. Abernethy. However he was very active in promoting it. As the gentlemen who concurred in this scheme met at Belfast, the society derived its appellation from the place in which they assembled. In the progress of this business, and in consequence of the debates and dissensions that were occasioned by it, several persons withdrew from the society; and those who adhered to it were distinguished by the title of non-subscribers. Their avowed principles were these:—"First, That our Lord Jesus Christ both in the New Testament determined and fixed the terms of communion in his church: that all christians who comply with these have a right to communion; and that no man, or set of men, have power to add any other terms to those settled in the gospel. Secondly, That it is not necessary as an evidence of soundness in the faith, that candidates for the ministry should subscribe the Westminster Confession, or any uninspired form of articles, or confession of faith, as the term upon which they shall be admitted; and that no church has a right to impose such a subscription upon them. Thirdly, That to call upon men to make declarations concerning their faith, upon the penalty of cutting them off from communion, if they should refuse it, and this merely upon suspicion and jealousies, while the persons required to purge themselves by such declarations, cannot be fairly convicted upon evidence of any error or heresy, is to exercise an exorbitant and arbitrary power, and is really an inquisition." Mr. Abernethy was justly considered as the head of the non-subscribers, and he became of course a principal object of reproach and persecution. In an early period of this controversy, viz. in 1719, he published a sermon from Romans, xiv. 5. in which he explained the rights of private judgment, and the foundations of christian liberty. He afterwards published a small piece, intitled, "Seasonable Advice to the contending Parties in the North," which was accompanied with a Preface by the Reverend Messrs. Weld, Boyse, and Chappin, of Dublin. The design of this publication was to prove, that there ought to be no breach of communion among the Protestant Dissenters on account of their different sentiments and practices concerning subscription to the Westminster Confession. The Synod, however, determined, in 1726, that the non-subscribers should no longer be of their body, and revived, with additional force, the act of 1705, requiring the candidates for the ministry to subscribe the Westminster Confession. From that time the excluded members formed themselves into a separate Presbytery, and prepared to encounter many difficulties and hardships. Mr. Abernethy found that his justly acquired reputation, which he had uniformly maintained by a most exemplary life, was no security to him against these evils. Some of his congregation deserted him, and under the influence of the Synod formed themselves into a distinct society; and though most of his old friends adhered to him, he thought it most advisable to accept an invitation which he received from the congregation of Woodstreet, in Dublin; and accordingly he removed thither in 1730. At Dublin he prosecuted his studies with renewed diligence; and deviated from a practice which he had pursued in the north, by writing his sermons at full length, and constantly using his notes in the pulpit. The dissenters in Ireland being at this time desirous of emancipating themselves from the incapacities devolved upon them by the Test

A. A. M. Abernethy, in 1731, wrote a paper, in subscription to the dissent, with a view of showing the unreasonableness and injustice of all those laws, which upon account of religious differences in religious opinions and forms of worship, excluded many of integrity and ability from serving their country, and deprived them of those privileges and advantages to which they had a natural and just title as free-born subjects. He particularly insisted that, considering the state of Ireland, it was a great error, in point of policy, to continue restraints which weakened the protestant interest, and were prejudicial to the government. In 1733 the Irish dissenters made an attempt for obtaining the repeal of the obnoxious act, and Mr. Abernethy again appeared from the press in favour of the scheme; but the design miscarried. He continued his labours in Wood-street for ten years, and enjoyed great satisfaction in the society and esteem of his friends. From the strength of his constitution, the vigour of his spirit, and the uniform temperance of his life, there was reason to hope, that his usefulness would have been prolonged. But a sudden attack of the gout in the head, to which disorder he had been subject, frustrated the expectations of his friends, and he died, December 1740, in the 60th year of his age. For this event he was fully prepared, and he met it with great composure and firmness of mind, with a cheerful acquiescence in the will, and a fixed trust in the power and goodness of the Almighty. Mr. Abernethy was twice married; first, soon after his settlement at Antrim, to a lady of excellent character, of whom he was deprived in 1712; and again, after his removal to Dublin, to another lady, with whom he lived, in all the tenderness of conjugal affection, to his death. The most celebrated of Mr. Abernethy's writings were his two volumes of Discourses on the Divine Attributes, which were much admired at the time of their publication, and honourably recommended by the late excellent Archbishop Herring; and are still held in the highest esteem by those who are disposed to approve the most liberal or manly sentiments on the great subjects of natural religion. Four volumes of posthumous Sermons were likewise published, the two first in 1748, and the others in 1757; to which is prefixed the Life of the Author, written, as is generally understood, by Dr. Ditchel. A volume, intitled, "Scarce and valuable Tracts and Sermons, &c." was published in 1751. He also left behind him a Diary of his Life, consisting of six large volumes in 4to. of which the author of his Life has given a large account, and from which he has made many valuable extracts, which bear ample testimony to the singular excellence of his disposition and character. Biog. Brit.

ABERRATION, in *Astronomy*, an apparent motion in the celestial bodies, occasioned by the progressive motion of light, and the earth's annual motion in its orbit: the theory of which is explained by Dr. Bradley: for an account of which, see LIGHT and STAR.

This theory may be illustrated and applied in the following manner. If light be supposed to have a progressive motion, the position of the telescope, through which any celestial object is viewed, must be different from that which it would have been, if light had been instantaneous; and therefore the place measured in the heavens will be different from the true place. Thus, if S' be a fixed star (ASTRONOMY, plate i. fig. 1.), VF the direction of the earth's motion, $S'F$ the direction of a particle of light, entering the axis ac of a telescope at a , and moving through aF whilst the earth moves from c to F , and if the telescope be kept parallel to itself, the light will descend in the axis. For, let the axis nm , Fw , continue parallel to ac ; and if each motion be considered as uniform, that of the spectator, occasioned by

the earth's rotation, being disregarded, because it is so small as to produce no effect, the spaces described in the same time will preserve the same proportion; but cF and aF being described in the same time, and as we have $cF : aF :: cn : am$, cn and am will be described in the same time; and therefore when the telescope is in the situation nm , the particle of light will be at w in the telescope; and the case being the same in every moment of its descent, the place measured by the telescope at F is s' and the angle $S'F'$ is the *aberration*, or the difference between the true place of the star, and the place measured by the instrument. Hence it appears, that if we take $FS : Ft ::$ the velocity of light : the velocity of the earth, join $S't$ and complete the parallelogram $FtSs'$, the *aberration* will be equal to FSs' , S will be the true place of the star, and s the place measured by the instrument: and this latter is the same with the apparent place of the object, as it would be seen by the naked eye. In order to prove this, let it be considered, that if a particle of light fall upon the eye in motion, its relative motion with regard to the eye will be the same as if equal motions, in the same direction, were impressed upon each at the moment of contact; for it is well known to be a principle in mechanics, that equal motions in the same direction, impressed upon two bodies, will not affect their relative motions, and consequently the effect of one upon the other will not be altered. Let VF then be a tangent to the earth's orbit at F , and represent the direction of the earth's motion at F , and S' a star; join $S'F$, and produce it to G , and take $FG : Fn ::$ the velocity of light : the velocity of the earth in its orbit; complete the parallelogram $FGHn$, and draw the diagonal FH . Since FG and nF represent the motions of light and of the earth, if we conceive a motion Fn equal and opposite to nF to be impressed upon the eye at F , and upon the particle of light, then the eye will be at rest, and the particle of light, by two motions FG and Fn , will describe the diagonal FH , which is its relative motion with respect to the eye itself. Hence it follows, that the object appears in the direction HF , and consequently that its apparent place differs from its true place by the angle $G'FH = FSs'$.

But by trigonometry, sine $FSs' : \sin. FtS :: Ft : FS ::$ the velocity of the earth : the velocity of light, and therefore the sine of aberration $= \sin. FtS \times \frac{\text{vel. of earth}}{\text{vel. of light}}$; and if these

velocities be considered as constant, the sine of aberration, or the aberration itself, which never exceeds $20''$, varies as the sine of FtS , and is therefore greatest when FtS is a right angle. Let s then express the sine of FtS , and we shall have 1 (radius) : $s :: 20'' : s \times 20''$, the aberration. Hence when Ft coincides with FS' , or the earth is moving directly to or from a star, there is no aberration. And since $FS = 20''$ when $FtS = 90^\circ$, we shall have the velocity of the earth : the velocity of light :: $\sin. 20'' : \text{radius} :: 1 : 10314$. It appears that the aberration $S's'$ lies from the true place of a star in a direction parallel to that of the earth's motion, and towards the same part.

M. de Maupertuis, in his Elements of Geography, familiarly illustrates the aberration by the direction in which a gun must be pointed in order to shoot a bird in its flight. Instead of pointing straight to the bird, the fowler directs the gun a little before it in the path of its flight; and so much the more as the flight of the bird is more rapid with respect to that of the shot. M. Clairaut too, in the Mem. of the Acad. Scienc. for 1746, explains the aberration by supposing drops of rain to fall quickly and rapidly after each other from a cloud, under which a person moves with a very narrow tube; in which case it is evident that the tube must have a certain inclination, in order to admit a drop which enters

enters at the top, to fall freely through the axis of the tube, without touching the sides of it: and this inclination must be greater or less according to the velocity of the drops in respect to that of the tube. In this case the angle made by the direction of the tube, and that of the falling drops, is the *aberration* arising from the combination of these two motions.

To find the *aberration* in latitude and longitude. Let ABCD (ASTRON. pl. i. fig. 2.) be the earth's orbit, supposed to be a circle, with the sun in the centre at *s*, let P be in a line drawn from *s* perpendicular to ABCD, and represent the pole of the ecliptic; let S be the true place of a star, and *apcq* be the circle of *aberration* parallel to the ecliptic, and *abcd* the ellipse into which it is projected; let *qT* be an arc of the ecliptic, and PSG a secondary to it, which will coincide with the lesser axis *bd*, into which the diameter *pq* is projected; draw GCx*A*, which is parallel to *pq*, and Bx*D* perpendicular to it must be parallel to the greater axis *ac*: then, when the earth is at A, the star is in conjunction, and in opposition when the earth is at C. But as the place of the star in the circle of *aberration* is always 90° before the earth in its orbit, when the earth is at A, B, C, D, the apparent places of the star in the circle will be at *a*, *b*, *c*, *q*, or in the ellipse at *a*, *b*, *c*, *d*: and to find the place of the star in the circle, when the earth is at any point E, take the angle *pSs* = *E*x*B*, and *s* will be the corresponding place of the star in the circle; and to find the projected place in the ellipse, draw *sv* perpendicular to *Sc*, and *vt* perpendicular to *Sc* in the plane of the ellipse, and *t* will be the apparent place of the star in the ellipse; join *s* and *t*, and *st* will be perpendicular to *vt*, because the projection of the circle into the ellipse is in lines perpendicular to the ellipse; draw the secondary P*vt*K, which will, as to sense, coincide with *vt*, unless the star be very near to the pole of the ecliptic. Now as *cvS* is parallel to the ecliptic, S and *v* must have the same latitude; hence *vt* is the *aberration* in latitude; and as G is the true, and K the apparent place of the star in the ecliptic, GK is the *aberration* in longitude. To find these, put *m* and *n* for the sine and cosine of the angle *sSc*, or Cx*E* the distance of the earth from syzygies, radius being 1; and as the angle *svt* = the complement of the star's latitude, the angle *vst* = the star's latitude, for the sine and cosine of which put *v* and *w*, and put *r* = *Sa*, or *Ss*: then in the right angled triangle *Ssv*, 1 : *m* :: *r* : *sv* = *rm*; and therefore in the triangle *vtS*, 1 : *v* :: *rm* : *tv* = *rvm*, the *aberration* in latitude. Also, in the triangle *Ssv*, 1 : *n* :: *r* : *vS* = *rn*; hence *w* : 1 :: *rn* : GK = $\frac{rn}{w}$, the *aberration* in longitude. When the earth is in syzygies, *m* = 0, therefore there is no *aberration* in latitude; and as *n* is then greatest, there is the greatest *aberration* in longitude. If the earth be at A, or the star in conjunction, the apparent place of the star is at *a*, and reduced to the ecliptic at H; therefore GH is the *aberration*, which diminishes the longitude of the star, the order of the signs being *qT*. In this case the

angle Ax*E* described by the earth from conjunction, or the angle *sSa*, shews the elongation of the star from the sun. But when the earth is at C, or the star in opposition, the apparent place *c* reduced to the ecliptic is at F, and the *aberration* GF increases the longitude: hence the longitude is the greatest when the star is in opposition, and least when in conjunction. When the earth is in quadratures at D or B, then *n* = 0, and *m* is greatest, therefore there is no *aberration* in longitude, but the greatest in latitude; when the earth is at D, the apparent place of the star is at *d*, and the latitude is there increased; but when the earth is at B, the apparent place of the star is at *b*, and the latitude is diminished; hence the latitude is least in the quadratures before opposition, and greatest in quadratures after opposition. From the mean of a great number of observations, Dr. Bradley determined the value of *r* to be 20".

From the principles above stated and explained it appears, that the greatest *aberration* in latitude is equal to 20" multiplied by the sine of the star's latitude; and that the *aberration* in latitude for any time is equal to 20" multiplied by the sine of the star's latitude, and multiplied also by the sine of the elongation found for the same time. The *aberration* is subtractive before the opposition, and additive after it. The greatest *aberration* in longitude is equal to 20" divided by the cosine of its latitude; and the *aberration* for any time is equal to 20" multiplied by the cosine of the elongation of the star, and divided by the cosine of its latitude. This *aberration* is subtractive in the first and last quadrant of the argument, or of the difference between the longitudes of the sun and star, and additive in the second and third quadrants. The application of these rules will be seen in the following examples:

1. To find the greatest *aberration* of *γ Urse minoris*, whose latitude is 75° 13'. Here *m* = 1, *v* = ,9669 the sin. 75° 13'; consequently 20" × ,9669 = 19", 34 the greatest *aberration* in latitude. Also, *n* = 1, *w* = ,2551; and therefore $\frac{20''}{,2551} = 78''$, 4 the greatest *aberration* in longitude.

2. To find the *aberration* of the same star, when the earth is 30° from syzygies. Here *m* = ,5, and therefore 19", 34 × ,5 = 9", 67 the *aberration* in latitude. If the earth be 30° beyond conjunction or before opposition, the latitude is diminished; but if it be 30° after opposition or before conjunction, the latitude is increased. Also, *n* = ,866; consequently 78", 4 × ,866 = 67", 89 the *aberration* in longitude. If the earth be 30° from conjunction, the longitude is diminished; but if it be 30° from opposition, it is increased.

3. For the sun, *m* = 0, *n* = 1, and *w* = 1: hence it has no *aberration* in latitude, and the *aberration* in longitude = *r* = 20" constantly; and this quantity of *aberration* answers to the sun's mean motion in 8' 7" 30'', which is therefore the time which the light takes to move from the sun to us at its mean distance. Hence the sun always appears 20" more backward than its true place.—The following table will expedite the calculations:

The Argument for the Longitude is, Long. Sun—
 Argument for the Latitude is, Long.
 Sun—3 10

	O. VI.	I. VII.	II. VIII.	Deg.
	- +	- +	- +	
0	19, 0	17, 32	10, 0	30
1	19, 0	17, 14	9, 70	29
2	19, 0	16, 56	9, 39	28
3	19, 0	16, 42	9, 8	27
4	19, 0	16, 28	8, 77	26
5	19, 0	16, 14	8, 45	25
6	19, 89	16, 18	8, 13	24
7	19, 85	15, 97	7, 81	23
8	19, 81	15, 76	7, 49	22
9	19, 75	15, 54	7, 17	21
10	19, 70	15, 32	6, 84	20
11	19, 63	15, 9	6, 51	19
12	19, 56	14, 86	6, 18	18
13	19, 49	14, 63	5, 85	17
14	19, 41	14, 39	5, 51	16
15	19, 32	14, 14	5, 18	15
16	19, 23	13, 89	4, 84	14
17	19, 13	13, 64	4, 50	13
18	19, 2	13, 38	4, 16	12
19	18, 91	13, 12	3, 81	11
20	18, 80	12, 86	3, 47	10
21	18, 67	12, 59	3, 12	9
22	18, 54	12, 21	2, 78	8
23	18, 41	12, 4	2, 44	7
24	18, 27	11, 76	2, 9	6
25	18, 13	11, 47	1, 74	5
26	17, 98	11, 18	1, 40	4
27	17, 82	10, 89	1, 5	3
28	17, 66	10, 60	0, 70	2
29	17, 49	10, 30	0, 35	1
30	17, 32	10, 0	0, 0	0
	- +	- +	- +	
	XI. V.	X. IV.	IX. III.	

To find the aberration in $\left\{ \begin{smallmatrix} \text{longitude} \\ \text{latitude} \end{smallmatrix} \right\}$, multiply the quantities taken from this table by $\left\{ \begin{smallmatrix} \text{secant} \\ \text{fine} \end{smallmatrix} \right\}$ of the star's latitude.

Ex. Let the longitude of the sun be $7^{\circ} 5' 18''$, the long. of a star $5^{\circ} 18' 14''$, and its latitude $31^{\circ} 10'$.

$7^{\circ} 5' 18''$
 $5^{\circ} 18' 14''$

$1^{\circ} 17' 4''$ - - - $13''$, 62
 $31^{\circ} 10'$ Sec. - - - 1, 169

Aberration in longitude - - 15 , 92 Product.

$1^{\circ} 17^{\circ} 4' - 3' = 10^{\circ} 17' 4'$ - $14''$, 65
 $31^{\circ} 10'$ Sine - - - 0,5175

Aberration in latitude - - $7,58$ Product.

To find the Aberration in declination and right ascension. Dr. Bradley has annexed to his theory the rules or formulæ for this purpose; and these rules have been variously de-

monstrated, and reduced to other practical forms by M. Clairaut, in the Mem. of the Acad. of Sciences for 1737; by Mr. Simpson in his Essays in 1740; by M. Fontaine des Crutes in 1744; by M. Euler, Mem. Acad. Berlin, tom. ii. p. 14. &c.; and by several other persons. The results of them are as follow:—The greatest aberration in declination is equal to $20''$, multiplied by the sine of the angle of position A at the star, and divided by the sine of B, the difference of longitude between the sun and star, when the aberration in declination is nothing. And the aberration in declination at any other time will be equal to the greatest aberration multiplied by the sine of the difference between the sun's place at the given time, and his place when the aberration is nothing. Also the sine of the latitude of the star is to radius, as the tangent of A is to the tangent of B. The greatest aberration in right ascension is equal to $20''$ multiplied by the cosine of A, the angle of position, and divided by the sine of C, the difference in longitude between the sun and star, when the aberration in right ascension is nothing. And the aberration in right ascension at any other time, is equal to the greatest aberration multiplied by the sine of the difference between the sun's place at the given time, and his place when the aberration is nothing. Also, the sine of the latitude of the star is to radius as the cotangent of A to the tangent of C. Hutton's Mathem. Dict. Art. ABERRATION.

Mr. Vince has pursued the method given by M. Cagnoli in his Trigonometry, as the most convenient in practice, and subjoined the tables computed by M. de Lambre in this way.

We shall here annex the tables, referring to Mr. Vince's Astronomy, (*ubi infra*), for the processes, whence the expressions for the aberration in right ascension and declination on which they are formed have been deduced.

General Tables for the Aberration of the Fixed Stars.

TABLE I. Arg. A—S.					TABLE II. Arg. A+S.					TABLE III. Arg. S+D&S—L.				
S.	O. VI.	I. VII.	II. VIII.	S.	S.	O. VI.	I. VII.	II. VIII.	S.	S.	O. VI.	I. VII.	II. VIII.	S.
D	- +	- +	- +	D	D	- +	- +	- +	D	D	- +	- +	- +	D
0	19,17	16,60	9,59	30	0	0,83	0,72	0,41	30	0	3,98	3,45	1,99	30
1	19,17	16,43	9,30	29	1	0,83	0,71	0,40	29	1	3,98	3,42	1,93	29
2	19,16	16,26	9,00	28	2	0,82	0,70	0,39	28	2	3,98	3,38	1,87	28
3	19,15	16,08	8,70	27	3	0,82	0,69	0,38	27	3	3,98	3,34	1,81	27
4	19,13	15,89	8,40	26	4	0,82	0,68	0,37	26	4	3,97	3,30	1,75	26
5	19,10	15,71	8,10	25	5	0,82	0,67	0,35	25	5	3,97	3,26	1,68	25
6	19,07	15,51	7,80	24	6	0,82	0,67	0,33	24	6	3,96	3,22	1,62	24
7	19,03	15,31	7,49	23	7	0,82	0,66	0,32	23	7	3,95	3,18	1,56	23
8	18,99	15,11	7,19	22	8	0,82	0,65	0,30	22	8	3,94	3,14	1,49	22
9	18,94	14,90	6,87	21	9	0,82	0,64	0,29	21	9	3,93	3,10	1,43	21
10	18,88	14,69	6,56	20	10	0,82	0,63	0,28	20	10	3,92	3,05	1,36	20
11	18,82	14,47	6,24	19	11	0,82	0,62	0,27	19	11	3,91	3,01	1,30	19
12	18,75	14,25	5,93	18	12	0,82	0,61	0,25	18	12	3,90	2,97	1,23	18
13	18,68	14,02	5,61	17	13	0,81	0,61	0,24	17	13	3,89	2,92	1,17	17
14	18,60	13,79	5,28	16	14	0,81	0,60	0,23	16	14	3,87	2,87	1,10	16
15	18,52	13,56	4,96	15	15	0,80	0,58	0,22	15	15	3,85	2,82	1,03	15
16	18,43	13,32	4,64	14	16	0,80	0,57	0,20	14	16	3,83	2,77	0,97	14
17	18,33	13,08	4,31	13	17	0,80	0,56	0,19	13	17	3,81	2,72	0,90	13
18	18,23	12,83	3,99	12	18	0,79	0,55	0,17	12	18	3,79	2,67	0,83	12
19	18,13	12,58	3,66	11	19	0,78	0,54	0,15	11	19	3,77	2,62	0,76	11
20	18,02	12,32	3,33	10	20	0,78	0,53	0,14	10	20	3,74	2,56	0,69	10
21	17,90	12,07	3,00	9	21	0,77	0,52	0,12	9	21	3,72	2,51	0,63	9
22	17,78	11,80	2,67	8	22	0,76	0,51	0,11	8	22	3,70	2,46	0,56	8
23	17,65	11,54	2,34	7	23	0,76	0,50	0,10	7	23	3,67	2,40	0,49	7
24	17,52	11,27	2,00	6	24	0,75	0,49	0,09	6	24	3,64	2,34	0,42	6
25	17,38	11,00	1,67	5	25	0,75	0,47	0,07	5	25	3,61	2,28	0,35	5
26	17,23	10,72	1,34	4	26	0,75	0,46	0,06	4	26	3,58	2,23	0,28	4
27	17,08	10,44	1,00	3	27	0,74	0,45	0,05	3	27	3,55	2,17	0,21	3
28	16,93	10,16	0,67	2	28	0,73	0,44	0,03	2	28	3,52	2,11	0,14	2
29	16,77	9,87	0,33	1	29	0,72	0,43	0,02	1	29	3,49	2,05	0,07	1
30	16,60	9,59	0,00	0	30	0,72	0,41	0,00	0	30	3,45	1,99	0,00	0
D	- +	- +	- +	D	D	- +	- +	- +	D	D	- +	- +	- +	D
	XI. V.	X. IV.	IX. III.	S	S	XI. V.	X. IV.	IX. III.	S	S	XI. V.	X. IV.	IX. III.	S

USE OF THE TABLES.

A = the right ascension } of the star.
 D = the declination }
 S = the longitude of the sun.

Enter Table I. with the argument $A-S$, and Table II. with $A+S$, and the sum of the two corresponding numbers multiplied by the secant of D will be the *aberration in Right Ascension*.

Enter Table I. with the argument $A-S+3$ signs, and Table II. with $A+S+3$ signs, and the sum of the two corresponding numbers multiplied by the sine of D will be the first part of the *aberration in declination*.

Enter Table III. with the arguments $S+D$ and $S-D$, and you will have two other parts of the *aberration in declination*; and the sum of these three parts will give the whole *aberration in Declination*.

If the declination of the star be south, add six signs to $S+D$ and $S-D$.

Ex. To find the *aberration* of α *Aquila*, on May 10, 1795, at 12 o'clock in the evening.

$A=9^{\circ} 25' 12''$
 $S=1. 20. 12$

$A-S=8. 5. 0$	Table I.	-	$+8^{\circ}, 1$
$A+S=11. 15. 24$	Table II.	-	$+0, 8$
			$+8, 9$
$D=8^{\circ}. 20'$	secant	-	$1, 011$
<i>Aberration in Right Ascension</i>		-	$+8, 998$ Product.

$A-S+3$ signs $11^{\circ}. 5^{\circ}. 0'$ Table I. $-17^{\circ}, 38$
 $A+S+3$ signs $2. 15. 24$ Table II. $+0, 21$

			$-17, 17$
$D=0^{\circ}. 8^{\circ}. 20'$	sine	-	$0, 145$
$S=1. 20. 12$			
			$-2, 49$ Product.
$S+D=1^{\circ}. 28^{\circ}. 32'$	Table III.	-	$-2, 08$
$S-D=1. 11. 52$	Table III.	-	$-2, 97$
<i>Aberration in Declination</i>		-	$-7, 54$

If the star's declination had been south, then

$S+D+6$ signs $=7^{\circ}. 28^{\circ}. 32'$	Table III.	-	$+2^{\circ}, 08$
$S-D+6$ signs $=7. 11. 52$	Table III.	-	$+2, 97$
First Part		-	$-2, 49$
<i>Aberration in Declination</i>		-	$+2, 56$

The *aberration* of a star applied to its apparent place gives the true place. On the subject of this article, see Dr. Maskelyne's rules for finding the *aberration* of a star, and Vince's Astron. vol. i. chap. 22. p. 311—330.

ABERRATION of a planet, in Astronomy, is its geocentric motion, or the space through which it appears to move as seen from the earth, during the time of light's passing from the planet to the earth. Let S (ASTRON. pl. i. fig. 4.) be the sun, T the earth, P the corresponding place of the planet; and let the earth be supposed to move in the direction T_1 parallel to which draw PQ , and let it be equal to the space through which the earth has moved, whilst light passes from P to T , and Q will be the apparent place of the planet. If Pp represent the motion of the planet in the same time, Q being the apparent, and p the corresponding true place, the angle QTP will be the *aberration* arising

from the progressive motion of light and the motion of the planet. Since PQ and Pp represent the motions of the earth and planet, Qp will represent their relative motions; and hence the motion of the planet about the earth in the time which light takes to pass from the planet to the earth in the *aberration*. With respect to the sun, the *aberration* in longitude is constantly $20''$, that being the space moved through by the sun, or by the earth in the time of $8^{\circ} 7' 1''$, which is the time in which light passes from the sun to the earth. In like manner, if we know the distance of any planet from the earth, we shall obtain its *aberration*. For let $ST=1$, $PT=d$, and m = the angle described by the planet about the earth, or its geocentric motion, in latitude, longitude, right ascension or declination, in 24 hours: then $1:d::8^{\circ} 7' 1'' : 5 : 8^{\circ} 7' 1'' : 5d$, the time in which light moves from P to T ; consequently $24h:8^{\circ} 7' 1'' : 5d::m$: the *aberration* = $8^{\circ} 7' 1'' : 5d$

$\frac{24h}{24h} = 0,00564dm$. Thus by taking the geocentric motion from the Nautical Almanac, and estimating the distance, in doing which no great accuracy is required, we shall find the *aberration* of a planet in latitude, longitude, right ascension or declination. When m is = 0, or the planet is stationary, the *aberration* is evidently equal to nothing.

Ex. 1. On May 1, 1791, at noon, What is the *aberration* in longitude of Mars? Here $SP=1,5237$ the mean distance, the longitude of the sun is $1^{\circ} 11'$, and the geocentric longitude of Mars is $0^{\circ} 29' 19''$; and therefore the angle $PTS=11^{\circ} 41'$, and consequently $PT=2,489=d$; and $m=44' 50''=2690''$, taken from the Nautical Almanac; hence $0,00564dm=37\frac{2}{3}''$ the *aberration* in longitude.

Ex. 2. For the Moon, $d=0,00253$ the mean distance, $m=13^{\circ} 10' 35''=47435''$ the mean diurnal motion: hence $0,00564dm=0^{\circ}, 67$ the *aberration*, which is so small that it may be neglected.

It is evident that the *aberration* will be greatest in the longitude, and very small in latitude, because the planets deviate very little from the plane of the ecliptic, so that this *aberration* is almost insensible and disregarded: the greatest in Mercury being only about $4\frac{1}{3}''$, and much less in the other planets. As to the *aberrations* in declination and right ascension, they must depend upon the situation of the planet in the zodiac. The *aberration* in longitude being equal to the geocentric motion, will be greater or less according to this motion. It will be greatest in the superior planets Mars, Jupiter, Saturn, &c. when they are in opposition to the sun; but in the inferior planets Venus and Mercury, the *aberration* is greatest at the time of their superior conjunction. The maxima of *aberration* for the several planets, when their distance from the sun is least, are as follow, viz. Georgian or Herschell $25''$, Saturn $27''$, Jupiter $20''$, Mars $36''$, Venus $43'' 5$, Mercury $59'' 5$, and the Moon $\frac{1}{2}$. Between these numbers and nothing the *aberrations* in longitude vary according to the situation of the planets. That of the Sun, however, is invariable, being constantly $20''$: and this may alter his declination by a quantity which varies from 0 to near $8''$, being the greatest, or $8''$, about the equinoxes, and vanishing in the solstices. The methods and formulæ of computation are given by M. Clairaut in the Mem. Acad. Scienc. for 1746, and by Mr. Euler in the Berlin Mem. vol. ii. for 1746. M. de la Lande has calculated a table shewing the *aberrations* of the planets at various degrees of elongation from the sun, by means of which the apparent place may be determined from the true place. When the planet is stationary, there is no *aberration*; when the planet's motion is direct, the *aberration* is negative, and when retrograde, positive. This table is published by Mr. Vince. It has been already stated, that the

the aberration is $\frac{1}{3}$ of the distance of the comet from the focus of the parabola. If the distance be 10, the aberration will be 3.33. If the distance be 20, the aberration will be 6.66. If the distance be 30, the aberration will be 10. If the distance be 40, the aberration will be 13.33. If the distance be 50, the aberration will be 16.66. If the distance be 60, the aberration will be 20. If the distance be 70, the aberration will be 23.33. If the distance be 80, the aberration will be 26.66. If the distance be 90, the aberration will be 30. If the distance be 100, the aberration will be 33.33.

A T A B L E

To find the Aberration of a Planet or Comet, in Longitude, Latitude, Right Ascension, or Declination.

To find the Aberration of a Planet or Comet, in Longitude, Latitude, Right Ascension, or Declination.									
The distance of the Earth from the Sun, in Astronomical Units.									
D. M.	1	2	3	4	5	6	7	8	9
Sec.	Sec.	Sec.	Sec.	Sec.	Sec.	Sec.	Sec.	Sec.	Sec.
0. 8	0.8	1.1	1.1	1.0	1.9	2.2	2.4	2.7	
1. 1	1.1	1.4	2.2	2.2	3.3	3.8	4.3	4.9	5.4
0. 24	1.5	2.4	3.3	4.1	4.9	5.7	6.5	7.3	8.1
1. 32	2.2	3.3	4.3	5.4	6.5	7.6	8.7	9.7	10.8
1. 47	2.7	4.1	5.4	6.5	8.1	9.5	10.8	12.2	13.5
0. 48	3.3	4.9	6.5	8.1	9.5	11.4	13.0	14.6	16.2
1. 56	3.8	5.7	7.6	9.5	11.4	13.0	15.2	17.1	18.9
1. 1	4.3	6.5	8.7	10.8	13.0	15.2	17.3	19.5	21.6
1. 17	4.9	7.3	9.5	12.2	14.6	17.1	19.5	21.9	24.3
1. 20	5.4	8.1	10.8	13.5	16.2	19.0	21.7	24.4	27.0
1. 28	6.0	8.9	11.9	14.9	17.9	20.8	23.8	26.8	29.7
1. 36	6.5	9.8	13.0	16.2	19.5	22.7	26.0	29.2	32.4
1. 44	7.1	10.9	14.1	17.6	21.1	24.6	28.2	31.7	35.1
1. 52	7.6	11.4	15.2	19.0	22.7	26.5	30.3	34.1	37.9
2. 0	8.1	12.2	16.2	20.3	24.4	28.4	32.5	36.6	40.6
2. 8	8.7	13.0	17.3	21.7	26.0	30.3	34.7	39.0	43.3
2. 16	9.2	13.8	18.4	23.0	27.6	32.2	36.8	41.4	46.0
2. 24	9.8	14.6	19.5	24.4	29.2	34.1	39.0	43.9	48.7
2. 32	10.3	15.4	20.6	25.7	30.9	36.0	41.2	46.3	51.4
2. 40	10.8	16.3	21.7	27.1	32.5	37.9	43.3	48.7	54.1
2. 48	11.4	17.1	22.8	28.4	34.1	39.8	45.5	51.2	56.8
2. 56	11.9	17.9	23.9	29.8	35.7	41.7	47.6	53.6	59.5
3. 0	12.2	18.7	24.4	30.5	36.5	42.6	48.7	54.8	60.9

Suppose the distance of a comet to be 43, and its apparent motion in 24 hours to be $2^{\circ} 15'$ in longitude, and it be required to find the aberration in longitude. If we enter the table with the distance 10 and daily motion $2^{\circ} 15'$, we thus get 45.7, which multiplied by 4, gives $182^{\circ} 7'$, and by entering with the distance 3, we obtain $13^{\circ} 7'$; and therefore the aberration is $13^{\circ} 6' 4''$.

For reducing the place of the body computed from the table, to the apparent place, add the aberration, if the latitude, longitude, right ascension, or declination of the body decrease, but subtract, if it increase; and the contrary, to reduce the apparent to the true place. See Vince's Astronomy, vol. i. p. 332—338. See remarks on the effects of aberration on the transit of Venus over the sun by Dr. Price in Phil. Transf. vol. lx. art. 47. p. 536.

ABERRATION, in Medicine, signifies a deviation from the ordinary course of nature.

ABERRATION, in Optics, is used to denote that error or deviation of the rays of light, when inflected by a lens or speculum, whereby they are hindered from meeting or uniting in the same point, called the geometrical focus. It is either lateral or longitudinal. The lateral aberration is measured by a perpendicular to the axis of the speculum, pro-

duced from the focus, to meet the reflected or refracted ray: the longest dual aberration is the distance of the focus from the point in which the same ray intersects the axis. If the focal distance of any lenses be given, their apertures be small, and the incident rays homogeneous and parallel, the longitudinal aberrations will be as the squares, and the lateral aberrations as the cubes of the linear apertures.

There are two species of aberration, distinguished by their different causes: one arising from the figure of the glass or speculum; the other from the unequal refrangibility of the rays of light. The former species of aberration is sometimes called the Newtonian, from its having been discovered by Sir I. Newton. With regard to the former species of aberration we may observe, that if rays proceed from a point at a given distance, they will be reflected into the other focus of an ellipse when the luminous point is in one focus, or directly from the other focus of an hyperbola; and if the luminous point be infinitely distant, so that the rays are parallel, they will be reflected by a parabola into its focus: but in both cases they will be dispersed by lenses of all other figures. Specula of the former kind are made with difficulty; and therefore curved specula are commonly of a spherical figure, which have no accurate geometrical focus. Let BVE (OPTICS Pl. i. fig. 1.) represent a concave spherical speculum, whose centre is C; and let AB, EF be two incident rays parallel to the axis CV. At the angle of reflection is equal to the angle of incidence, if CB and CF be drawn to the points of incidence, and the lines BD and FG be drawn so as to make the angles CBD and CFG respectively equal to CBA and CFE, BD and FG will be the reflected rays, and D and G the points in which they meet the axis. Because the triangles CBD and CFG are isosceles, the angles at the base being equal, the sides CD, DB, and CG, GF, are respectively equal, and therefore the points of coincidence with the axis are equally distant from the point of incidence and the centre. Hence it appears, that if B be indefinitely near the vertex V, D will be in the middle of the radius CV; and the nearer the incident rays are to the axis, so much the nearer will the reflected ray be to the middle of the radius, and vice versa. So that the aberration of any incident ray increases, as it is farther removed from the axis, till the distance VI become 60 degrees; in which case the reflected ray is equal to the radius, its point of intersection coincides with the vertex, and the aberration is equal to the radius. This illustration shews us why specula are made of very small segments of spheres, viz. that all their reflected rays may intersect the axis near the middle point of the radius, and thus suffer the least aberration, and render the image more distinct. The case is the same with regard to rays refracted through lenses.

In different spherical lenses M. Huygens has demonstrated that the aberration from the figure is as follows: 1. In all plano-convex lenses, having their plane surface exposed to parallel rays, the longitudinal aberration of the extreme ray, or that remotest from the axis, is equal to $\frac{1}{2}$ of the thickness of the lens.

2. In all plano-convex lenses, having their convex surface exposed to parallel rays, the longitudinal aberration of the extreme ray is equal to $\frac{1}{2}$ of the thickness of the lens: the aberration in this case being about $\frac{1}{4}$ th of that in the former, or in proportion to it, as 7 to 27.

3. In all double convex lenses of equal spheres, the aberration of the extreme rays is equal to $\frac{1}{3}$ of the thickness of the lens.

4. In a double convex lens; the radii of whose spheres are as 1 to 6, if the more convex surface be exposed to parallel rays, the aberration from the figure is less than in any other spherical lens, being no more than $\frac{1}{12}$ of its thickness.

M. Huygens has also shewn, that the same *aberration* is produced by concave lenses as by similar convex ones.

However this species of *aberration* is altogether inconsiderable, compared with the latter; inasmuch that if the object-glass of a telescope be plano-convex, and the plane side be turned towards the object, and the diameter of the sphere to which the convex side of the glass is ground, be 100 feet, the semidiameter of the aperture be two inches, and the ratio of the sine of incidence out of glass into air be to that of refraction as 20 to 31; the diameter of the circle

of *aberrations* will in this case be only $\frac{961}{72000000}$ parts of

an inch. But the diameter of the little circle, through which the same rays are scattered by unequal refrangibility, will be about the 55th part of the breadth of the aperture of the object-glass, which is here four inches; and therefore the error arising from the spherical figure of the glass is to the error arising from the different refrangibility of the rays,

as $\frac{961}{72000000}$ to $\frac{4}{55}$, that is, as 1 to 5449. See Newton's

Optics, p. 83. 8vo. (apud oper. tom. iii. 347. tom. iv. p. 56. Ed. Horstl.) or Smith's Optics, book ii. chap. 6. (vol. i. p. 39.) where this proposition is demonstrated. That objects should appear through telescopes so distinct as they do may seem surprising. Newton accounts for the fact by observing, that the rays are not uniformly dispersed over the whole circular space; in the centre they are more dense, and they become more and more rare towards the circumference, and on this account they are not visible, except those of them that are in or near the centre.

In consequence of the discovery of the unequal refrangibility of light, and the apprehension, that equal refractions must produce equal divergencies in every sort of medium, it was imagined, that all spherical object-glasses of telescopes would be equally affected by the different refrangibility of light, in proportion to their aperture, of whatever materials they might be constructed; and therefore, that the only improvement of which refracting telescopes were capable, was that of increasing their length. On this account Sir Isaac Newton, and others after him, despairing of success in the manufacture and use of refracting lenses, directed their chief attention to the construction of reflecting telescopes. However, about the year 1747, M. Euler applied himself to the subject of refraction, and pursuing a hint suggested by Sir Isaac Newton, formed a scheme of making object-glasses with two lenses of glass, inclosing water between them; hoping, that by constructing them of different materials, the refractions would balance one another, and prevent the usual *aberration*. Mr. J. Dollond, an ingenious optician of London, examined this scheme, and found that M. Euler's principles were unsatisfactory. M. Clairaut likewise concurred in opinion, that his speculations were more ingenious than useful.

This controversy, which promised to be of great importance in the science of optics, engaged the attention of M. Klingenshierna of Sweden, and induced him carefully to examine the eighth experiment in the second part of Newton's Optics, with the conclusions which he draws from it. He found, that the rays of light, in the circumstances there supposed, did not lose their colour, as Sir Isaac imagined. This hint of the Swedish philosopher, led Mr. Dollond to re-examine the same experiment; and it appeared, after accurate trials, that different substances made the light to diverge very differently, in proportion to their general refractive power: therefore, in the year 1757, he procured wedges of different kinds of glass, and applied them together, so that the refractions might be made in contrary directions, in order to discover, whether the refractions and divergency of colours would vanish together. The result of his first trials

encouraged him to persevere; for he discovered a difference far beyond his hopes, in the refractive qualities of different kinds of glass, with respect to their divergency of colours. The Venice glass and the English crown glass were found to be nearly allied in this respect; the common English plate glass made the light diverge more, and the English flint glass most of all. Without enquiring into the cause of this difference, he proceeded to adapt wedges of crown glass, and of white flint glass, ground to different angles, to each other, so as to refract in different directions, till the refracted light was entirely free from colours. Having measured the refractions of each wedge, he found that of the white glass to be to that of the crown glass nearly as *two to three*; and he deduced this general conclusion, that any two wedges, made in this proportion, and applied together so as to refract in contrary directions, would refract the light without any *aberration* of the rays. Mr. Dollond's next object was to make similar trials with spherical glasses of different materials; and he found that, in order to obtain a refraction of light in contrary directions, one must be concave, and the other convex; the latter, which was to refract the most, that the rays might converge to a real focus, was made of crown glass, and the former of white flint glass; and, the refractions of spherical glasses being in an inverse ratio of their focal distances, it was necessary that the focal distances of the two glasses should be inversely as the ratios of the refractions of the wedges; for being thus proportioned, every ray of light that passes through this combined glass, at any distance from its axis, will constantly be refracted by the difference between two contrary refractions, in the proportion required; and therefore the different refrangibility of the light will be entirely removed.

But in the applications of this admirable discovery to practice, many difficulties occurred. At length, however, by repeated trials, and resolute perseverance, Mr. Dollond succeeded so far as to construct refracting telescopes much superior to any that had before been used; representing objects with great distinctness, and in their true colours.

M. Clairaut, who interested himself betimes in this discovery, endeavoured to ascertain the principles of Mr. Dollond's theory, and to lay down rules for facilitating the construction of these new telescopes. With this view he made several experiments, in order to determine the refractive powers of different kinds of glass, and the proportion in which they separated the rays of light; and from these experiments he deduced several theorems and problems of general use. M. D'Alembert likewise made a great variety of calculations to the same purpose; and shewed how to correct the errors to which these telescopes are subject, by placing the object-glasses, in some cases, at a small distance from one another, and sometimes by using eye-glasses of different refractive powers. But though foreigners were hereby supplied with the most accurate calculations, they were very defective in practice. The English telescopes, made, as they imagined, without any exact rule, were greatly superior to the best of their construction.

M. Euler, who first gave occasion to this important and useful inquiry, was very reluctant in admitting Mr. Dollond's improvements, because they militated against a preconceived theory of his own. At last, however, convinced of their reality and importance by M. Clairaut, he assented; and soon after received farther satisfaction from the experiments of M. Zeiher, of Peterburgh.

M. Zeiher demonstrated, that it is the *lead*, in the composition of glass, which gives it this remarkable property; so that, while the refraction of the mean rays is nearly the same, that of the extreme rays considerably differs; and by increasing the lead, he produced a kind of glass, which occasioned

refracted a much greater quantity of the extreme rays than the mean rays, so that the blue and violet rays are on the outside of the spectrum, and the red rays are on the inside. M. Zoller, in the course of his experiment, made glass of common and flint, with a mixture of alkaline salts, and found that the mixture greatly diminished the mean refraction, without making any great change in the dispersion; and hence the crown and flint glasses greatly resemble to the flint glass of Mr. Dollond for the construction of telescopes; more is refracted than in a great a dispersion of the rays as the common glass, whilst the mean refraction was only as 1.61 to 1.

Other kinds of metallic glass, as well as that of lead, possess the same useful property of dispersion. Some philosophers have, indeed, imagined, that there is a constant relation between the specific gravity of glass and its dispersion; but it ought to be considered, that the dispersion in ether and spirit of wine is stronger than that produced in water, which is a much heavier fluid. The object which opticians have generally proposed by using flint and common glass in the construction of achromatic telescopes, might be attained by means of other transparent substances, both solid and fluid. Dr. Blair of Edinburgh has lately evinced this fact. That glass was found to reflect the green light considerably less than crown glass, in proportion to the whole refraction of red and violet light; so that when the divergency of the red and that of the violet light, caused by the refraction of the two mediums, are equal, the divergency of the red and green light is always greater in the crown than in the flint glass, and the divergency of the violet and green is always less in the crown than in the flint glass. After a variety of experiments, Dr. Blair discovered that the muriatic and nitric acids, which are disperse fluids of considerable strength, instead of refracting the green light less than crown glass, in proportion to the whole refraction of the red and violet light, refracted the green light more than crown glass, in proportion to the whole refraction of red and violet light. He, therefore, mixed these two kinds of disperse mediums, and thus obtained a medium, which disperses the rays much more than crown glass, and yet causes them all to diverge accurately in the same proportion in which they are made to diverge by the refraction of crown glass; which entirely removes the *aberration* from the unequal refrangibility of light.

In 1758, Mr. Dollond made a farther improvement in telescopes, by introducing *two* object-glasses of crown glass, and one of flint. For various papers on the subject of this article, see Phil. Transf. vols. 35. 48. 50. 51. 52. 55. 60. Hist. Ac. Par. for 1737—46—52—55—56—57—62—64—65—67—70. Swed. Mem. vol. xvi. Ac. Berl. 1746, 1762, and 1766. Com. Nov. Petrop. 1762. Euler's Dioptrics. M. D'Alembert's Opus. Mathem. Edinburgh Transactions, vol. iii. pt. 2. p. 1.—76.

For a farther account of Mr. Dollond's and other new refracting telescopes of the achromatic or aplanatic kind, see TELESCOPE.

ABERRATION, crown of, is a luminous circle surrounding the real disk of the sun, and depending on the *aberration* of the solar rays, whereby his apparent diameter is enlarged.

ABERSPERG, in *Geography*, anciently *Abusina* or *Aventinum*, a small town and castle in Upper Bavaria, seated on the river Umbs, and containing a convent of Carmelites. It is famous as the birth-place of Johannes Aventinus.

ABERYSTWITH, in *Geography*, a market town of Cardiganshire in Wales, on the Rhydol, near its confluence with the Ystwith, where it falls into the sea. It is situate on a bold eminence overhanging the sea, or bay of Cardigan. The streets are steep and ill-paved, and the houses are covered with the black slate of the country. It carries on a

trade in lead, calstion, and fish, particularly herrings, which last branch has lately declined; and a few manufactured goods, such as webs, flannels, and stockings. Of late it has been improving, and is become a place of resort for sea-bathing. Its walls and castle are in ruins. The castle was built by Gilbert de Strongbow, in the reign of Henry I. and commands the whole coast with the contiguous mouths of the Ystwith and Rhydol on one side, and a beautiful view of the vale which descends with the river on the other. A mint for the coinage of silver was established in this place by king Charles in 1637, and the coin was to be stamped on both sides with the *Feathers*, in order to shew that it was coined in Wales. It is 203 miles W. N. W. of London. W. long. 4°. N. lat. 52° 5'.

ABERMENAI, a passage at the S. W. end of the Menai Straits, separating Carnarvonshire from Anglesea.

ABERVILLE river, a branch of the Mississippi, in New Orleans, communicating with the lakes which fall into St. Louis bay.

ABESTA, or **AVESTA**, the name of one of the sacred books of the Persian Magi; which they attribute to their great founder Zoroaster, or Zerdusht.

The *Abesta* is a commentary or exposition of two other of their religious books, called *Zend* and *Pazend*; the three together include the whole system of the *ignicola*, or worshippers of fire. D'Herbel. Bibl. Orient. p. 11. Hyde de Rel. vet. Pers. c. 2.

According to Du Perron, the *Avesta* signifies the language of the Oriental text of Zoroaster's works. Hist. Ac. Sc. Par. 1762. See SHANSKRIT and SHASTAH.

ABESTON. See ASBESTOS.

ABETHANCOURT, *Jacques*, in *Biography*, a physician at Rouen, published *Nova penitentialia quadragesima, et Purgatorium in Morbum Gallicum, five venereum, una cum Dialogo Aquæ Argenti, ac Ligni Guaiaci colluctantium super dicti Morbi Curationis prelatura. Opus fructiferum, Parisiis, 1527, in 8vo.*

He is the first French physician who wrote on the venereal disease. Perhaps, M. Eloy says, because the disease appeared at Rouen before it was communicated to other parts of the kingdom.

ABETTOR, or **ABBETTOR**, in *Law*, one who incites or encourages another to perform something criminal; or by some way assists him in the performance itself. It is the same with *art* and *part* in the Scots law.

Thus those who procure others to sue out false appeals of felony, or murder, against men, to render them infamous, are particularly denominated *abettors*.

So *abettors* in **MURDER**, are such as advise or procure a murder to be committed, or are accessory thereto.

There are *abettors* in **FELONY**, but not in **TREASON**; the law looking on all those concerned in treason as principals.

ABEVACUATION, in *Medicine*, denotes a partial evacuation of the peccant humours, either by nature or art.

ABEX, or **ABESH**, in *Geography*, a country of Ethiopia in Africa, bordering on the Red Sea, which bounds it on the east. It has Nubia on the north, Abyssinia on the west and south. Its principal towns are Suaquem and Arkeko. It has the name of Beglerbeg of Habeleth, and is subject to the Turks. It is a sandy, barren, unhealthy country, about 500 miles in length, and 100 in breadth. Being very mountainous, it abounds with wild beasts; and in its forests there are many ebony-trees. See ANIAN.

ABEYANCE, **ABEIANCE**, or **ABBAYANCE**, in *Law-books*, something that only exists in expectation, or in the intendment, or remembrance of the law.

Abeyance, in our law, amounts to much the same with *hereditas*

reditas jacens, among the Romans, and *κληρονομία*, or *κληρονομία*, among the Greeks; i. e. *hereditas sperata* or *expectata*, or rather *novum dominium expectans*. As civilians say lands and goods *vacant*: so common lawyers say, that things in like condition are in *abeyance*.

It is a maxim in law, that of every land, either there is a fee simple in somebody, or it is in *abeyance*. If a church become vacant by the death of a parson, the freehold is said to be in *abeyance*, till a new parson be inducted, for the patron has not the fee, but only the right of presenting to it, the freehold itself being in the incumbent thus presented, and therefore till such presentation, in nobody.

ABGARUS, in *Biography*, a name given to several of the kings of Edessa; one of whom is said to have been contemporary with Christ; who, hearing of his miracles, and labouring under a grievous distemper, incurable by human skill, applied to him, by letter, for relief. It is also said, that our Saviour returned him a written answer, promising to send one of his disciples to cure him, and that Thaddeus was commissioned for that purpose. Eusebius (Eccl. Hist. lib. i. cap. 13.) relates this story, and says, that the evidence of it existed in the records of the city of Edessa. *Abgarus's* letter, which was sent to our Saviour at Jerusalem by the courier Ananias, is as follows:

"*Abgarus*, toparch (or prince) of Edessa, to Jesus the good Saviour, who has appeared at Jerusalem, sendeth greeting: I have heard of thee, and of thy cures, performed without herbs or other medicines. For it is reported that thou makest the blind to see, and the lame to walk; that thou cleanest lepers, and castest out unclean spirits and demons, and healest those who are tormented with diseases of a long standing, and raisest the dead. Having heard of all these things concerning thee, I concluded in my mind one of these two things:—either that thou art God come down from heaven to do these things, or else thou art the Son of God, and so performest them. Wherefore I now write unto thee, intreating thee to come to me, and to heal my distemper. Moreover, I hear that the Jews murmur against thee, and plot to do thee mischief. I have a city, small indeed, but neat, which may suffice for us both." The following is our Lord's answer, returned by the same courier: "*Abgarus*, thou art happy, so far as thou hast believed in me, though thou hast not seen me." John, xx. 29. "For it is written concerning me, that they who have seen me should not believe in me, that they who have not seen me might believe and live. As for what thou hast written to me, desiring me to come to thee, it is necessary that all those things, for which I am sent, should be fulfilled by me, and that after fulfilling them, I should be received up to him that sent me. When, therefore, I shall be received up, I will send to thee one of my disciples, that he may heal thy distemper, and give life to thee, and to those who are with thee." To these epistles are subjoined many particulars recited by Eusebius: After the ascension of Christ, Thomas, one of the apostles, he says, moved by a divine impulse, sent Thaddeus, one of Christ's 70 disciples, to Edessa to be a preacher and an evangelist of Christ's doctrine, by whom all things promised by our Saviour were fulfilled. This was done, A. D. 43. The authenticity of these letters, and of the history to which they relate, has been allowed by Parker, Cave, Grabe, Wake, Tillemont, Addison, and others; but rejected as false and fabulous by the Basnages, Spanheim, Le Clerc, Fabricius, Dupin, Jones, Lardner, &c. The two last writers have produced reasons to prove the whole story to be fictitious, which are unanswerable. Allowing that the particulars recited by Eusebius, who flourished at the beginning of the 4th century,

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or before, were recorded in the archives of Edessa, it does not appear that Eusebius was ever at this city and took the account from the archives himself. Besides, it is remarkable, that this story is not mentioned by any writer before Eusebius; that it is not much taken notice of by succeeding writers; that the whole affair was unknown to Christ's apostles, and to the christians their contemporaries, as is manifest from the early disputes about the method of receiving Gentile converts into the church; which this story, had it been true, must have entirely decided. As to the letters, no doubt can be made of their spuriousness, since, if Christ had written a letter to *Abgarus*, it would have been a part of sacred scripture, and placed at the head of all the books of the New Testament. Dr. Lardner has also pointed out several passages, both in the epistle to *Abgarus*, and in the history, which are liable to exception. Not to add, that it was the opinion of many of the most learned and ancient christians, that our Lord never wrote any thing. See Jones's Canon of the New Test. vol. ii. p. 1. and Lardner's Works, vol. vii. p. 222. 231.

ABGILLUS, *John*, surnamed *Prester John*, was son to a king of the Frisii, and from the austerity of his life obtained the name of *Prester*, or priest. He attended Charlemagne in his expedition to the Holy Land; but instead of returning with that monarch to Europe, it is pretended that he gained mighty conquests, and founded the empire of the Abyssines, called from his name the empire of Prester John. He is said to have written the history of Charlemagne's journey into the Holy Land, and of his own into the Indies; but they are more probably trifling romances, written in the ages of ignorance.

ABHEL, in *Botany*, a name given by some to *lavina*, an ever-green garden-shrub, well known in physic in many intentions.

ABHER, in *Geography*, a town of the Persian Irak, or ancient Parthia, in Asia, delightfully situated, and adorned with fine gardens and elegant public buildings. It is about 26 miles S. E. from Sultania.

ABHORRERS, in *English History*, a denomination given to a party about the year 1680, formed in opposition to those called *Petitioners*. In order to restrain the prevailing practice of petitioning against grievances, the church and court party framed addresses, containing the highest expressions of regard to the king, the most entire acquiescence in his wisdom, the most dutiful submission to his prerogative, and the deepest abhorrence of those who endeavoured to encroach upon it by prescribing to him any time for assembling the parliament. Thus the nation came to be distinguished into *petitioners* and *abhorrrers*. But these appellations were soon forgotten, though, when the parliament assembled, great numbers of the *abhorrrers*, says Hume, (Hist. vol. viii. p. 130.) from all parts of England, were seized by order of the commons and committed to custody.

ABI, in *Biography*, a learned rabbi of Alexandria, who wrote a treatise on the intelligences which move the heavens, and on the influence of the planets. He flourished in Egypt about the year 1150.

ABIAD, in *Geography*, a town of Africa, on the borders of Abex, situated on a high mountain, and remarkable for its trade in ebony and aromatic plants.

ABIAD, or *white river*, flows into the Nile, and is supposed, by some, to be the Nile itself.

ABIAGRASSO, a small town of Italy, seated on a canal, in the duchy of Milan. E. long. 9° 24'. N. lat. 45° 20'.

ABIANS, in *Ancient History*, a people of Thrace, or, as others say, of Scythia, who derived their name from the negative particle *a*, and *bios*, life, probably because they had no settled

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settled

5000, which he ascribes to the women's destroying their infants, in order to prevent the infidelity of their husbands during the long time of their keeping them at the breast, which is not less than two years. They are naturally white, but acquire a brown colour by exposure to the air and smoke. They are strong and hardy, which, as this writer says, is owing to their not marrying before 30 years of age; and they are much celebrated for their chastity and other virtues, though, according to our author, they have no knowledge of a deity; and yet they admit the existence of an evil spirit, and believe that the soul exists for ever. They consider their diseases as the effects of sorcery and witchcraft; and this superstitious notion gives rise to frequent murders. They are ranged into distinct bodies, under their respective chiefs, and, by means of their wild horses, they make frequent and formidable incursions into the territories of the Spaniards; against whom they have conceived an invincible hatred. Their use of horses commenced in 1641; and they manage them with great agility, without stirrups, saddle, or spurs. The fraud and cruelty practised among them by the Spaniards, have induced the Jesuit missionaries to prohibit any of them from coming, without a formal permission, into any of their colonies. The success of these missionaries, in their endeavours to convert them to the christian faith, has been very inconsiderable. They are still so ignorant and uncivilized, that they can proceed in reckoning no farther than the number three; and the Jesuits have failed in teaching them the simplest use and expression of numbers.

ABIRAM, in *Scripture History*, a seditious Levite, who rebelled against MOSES and AARON, with a view of obtaining a share in the government, and who, with Korah and Dathan, concerned with them, were swallowed up alive by the opening earth. Numb. xvi.

ABISHAI, in *Scripture History*, the son of Zeruiah, and brother of Joab, was one of the most valiant warriors of his time, and principal general in the armies of David. His military exploits are recorded in 2 Sam. xxi. 17. xxiii. 18.; but the time and manner of his death are not known.

ABISHERING, an *ancient law term*, denoting a being free, or exempt from all AMERCIAMENTS for transgressions of any kind.

The word in a charter or grant, is said not only to give the proprietor the forfeitures and amerciaments of all others for transgressions committed within his fee, but also to exempt him from all such controul by any within that compass.

ABITIBBI, in *Geography*, the name of a small lake in Upper Canada, to the S. of which is a settlement called Frederick, in N. lat. 49°. W. long. 79° 40'. It is also the name of a river, which runs N. and joins Moofe river, near its mouth at James's bay.

ABITIBIS, a lake to the N. of Nipissing lake, on the N. E. boundary of Canada in New South Wales, which communicates with James's bay, near Moofe fort. W. long. 78° 5'. N. lat. 59° 3'.

ABUEL, a small town of Beira in Portugal. W. long. 7° 10'. N. lat. 40° 20'.

ABJURATION, compounded of *ab*, from or against, and *jurare*, to swear, in a general sense, the act of denying, or renouncing a thing in a solemn manner, and even with an oath.

Among the Romans, *abjuration* signified the denying a debt, pledge, deposit, or the like trust, by a false oath. In which sense, *abjuration* coincides with *perjuration*; and hence distinguished from *expiation*, where the oath is supposed just.

Abjuration, more particularly, is used for a solemn re-

novation, or renunciation of some doctrine, or opinion, as false and pernicious. Thus it is used in the phrase, *abjuration of heresy*.

In our own laws, to *abjure* a person, is to renounce all authority or dominion of such a person. By the *oath of abjuration*, a person binds himself not to own any regal authority in the person called the Pretender, or ever to pay him the obediency of a subject. 1 W. and M. 13 W. III. c. 1. The violators of the oath enjoined by this act are liable to sundry penalties, forfeitures, &c. The oath of *abjuration* by the 6th G. III. cap. 53. "I A. G. do solemnly and sincerely acknowledge, profess, testify, and declare in my conscience, before God and the world, that our sovereign lord king George is our lawful and sole king of Great Britain, and all other his majesty's dominions thereunto belonging. And I do solemnly and sincerely declare, that I do believe in my conscience, that not any of the descendants of the person who pretended to be Prince of Wales during the life of the late king James the Second, and since his decease pretended to be, and took upon himself the style and title of king of England, by the name of James the Third, or of Scotland, by the name of James the Eighth, or the style and title of king of Great Britain, hath any right or title whatsoever, to the crown of this realm, or any other the dominions thereunto belonging. And I do renounce, refuse, and abjure any allegiance or obedience to any of them. And I do swear, that I will bear faith and true allegiance to his majesty king George, and him will defend, to the utmost of my power, against all traitorous conspiracies, and attempts whatsoever, which shall be made against his person, crown, and dignity. And I will do my utmost endeavour to disclose and make known to his majesty, and his successors, all treasons and traitorous conspiracies which I shall know to be against him or any of them. And I do faithfully promise, to the utmost of my power, to support, maintain, and defend the succession of the crown against the descendants of the said James, and against all other persons whatsoever; which succession, by an act, intitled, *An act for the further limitation of the crown, and better securing the rights and liberties of the subjects*, is and stands limited to the princess Sophia, electress and duchess dowager of Hanover, and the heirs of her body, being protestants. And all these things I do plainly and sincerely acknowledge and swear, according to these express words by me spoken, and according to the plain and common sense and understanding of the same words, without any equivocation, mental evasion, or secret reservation whatsoever. And I do make this recognition, acknowledgment, *abjuration*, renunciation, and promise heartily, willingly, and truly, upon the true faith of a Christian. So help me God."

ABJURATION is also used in our *Ancient Customs*, for an oath taken by a person guilty of felony; who, trying to a place of sanctuary, would swear to forsake the realm for ever, in lieu of other punishment. We also find instances of temporary *abjuration*, viz. for three years, for one year and a day, and the like. This, in some case, was admitted from criminals in lieu of death. The devotion for the church was so warm, from the time of Edward the Confessor to the Reformation, that if a man, having committed felony, could recover a church or church-yard before he was apprehended, it was an asylum from which he could not be brought to take his trial at law; but confessing his crime to the justices, or coroner, and *abjuring* the kingdom, he was at liberty.

By stat. 21 Jac. I. all use of sanctuaries, and consequently of *abjuration*, is taken away.

ABKIAS, in *History*, one of the seven nations in the countries

countries comprehended between the Black Sea and the Caspian. The principal and most ancient inhabitants are the Gypsies, the majority of the population that lies between the river Cuban and the Black Sea. They are tributary to the Turks, and are divided into two communities, the eastern and western; each of which is subject to a bey. The eastern is Asiatic, formerly Naxos. They took a long passage to themselves, but bearing an affinity to that of the Gypsies. Some have supposed that it is a dialect of the Celtic. They have little religion, though they preserve some traces of christianity. See *ALASSA* and *ALASSIA*.

ABLACTATION, the weaning of a child from the breast. The proper time for weaning a child must be determined by the state of health of the child, and of the parent, but particularly of the latter. The helplessness of infants, and the late period at which they get their teeth, seem to indicate that nature intended they should derive the greater part of their food, for the first two years, from the breast. This, doubtless, was universally the case in the early periods of the world; as before the culinary art had obtained some degree of perfection, it must have been difficult to have found a sufficient quantity of such kinds of food as the children could properly masticate or digest, without the assistance of the breast. And even now we know this to be the practice in rude and uncivilized countries. The negroes, Mr. Park says in his Travels in the interior Parts of Africa, suckle their children three years. A similar practice prevails among the poorer part of the inhabitants of this, and, perhaps, of every other country in Europe. These people also, previous to weaning their children, and for some time after, chew for them, such parts of their food as they are incapable of masticating. In families better circumstanced, and who are capable of providing for their children proper nourishment, they are usually weaned when they have attained eight or nine months, although they have then rarely more than the eight first teeth, the incisores, or fore teeth. They are therefore necessarily fed for some months after with bread or biscuit softened with milk, or with broth made of beef, mutton, or veal. Pieces of crust of bread, or of flesh, are also given them to chew, which is supposed not only to accelerate the cutting the remainder of their teeth, but by exciting a flow of saliva, to assist in digesting the new kind of food they are now gradually to be accustomed to take. See *WEANING*.

ABLACTATION, in the *Ancient Agriculture*, is a method of engrafting; wherein the cyon of one tree, being united for some time to the stock of another, is afterwards cut off, and, as it were, weaned from its mother-tree.

Among the modern writers *ablactation* is more usually called **INARCHING**, or **GRAFTING by approach**.

ABLANCOURT. See *PIRROT*.

ATLANTA, in *Botany*. See *TRICHOCARPUS*.

ABLAQUEATION, a name used by the ancient writers of *Agriculture* for an operation in gardening, whereby the earth is dug from about a vine, or other fruit-tree, and its roots are laid bare, to expose them more to the sun, rain, and air, in order to promote its fecundity.—The proper season for *ablaqueation* is autumn, for the benefit of the winter rain, and snow water. Bradley fixes it in January. But experience having shewn the practice to be dangerous, it is now generally laid aside.

ABLATION, formed from *aufero*, to take away, in *Surgery*, the removal of whatever might be injurious or useless to the animal body.

ABLATIVE, in *Grammar*, the sixth case of Latin nouns. The word is formed from *aufero*, to take away.

Priscian also calls it the *comparative case*; as it served among the Latins, for comparing, as well as taking away.

The **ABLATIVE** is opposite to the **DATIVE**; the first expressing the action of taking away, and the latter that of giving.

The ablative hardly answers to the just idea of a case; at least it is more vague than any other. It will be shewn in its place that the English, and other modern tongues, have properly no such thing as cases; unless we except the nominative and genitive or possessive, which are the only cases that admit of different terminations. But even in the ancient languages, from which the notion of cases is borrowed, it is suggested, that the ablative is only a sort of supernumerary, or supplement to the rest. The five proper cases not being found sufficient to express all the relations of things to each other, recourse was had to an expedient: viz. the putting a preposition before some of the other cases; and this made the ablative.

It may be added, that in the plural number the ablative is still more obscure, as being only the **DATIVE** repeated. In English, French, &c. there is no precise mark whereby to distinguish the ablative from other cases; and we only use the term in analogy to the Latin. Thus, in the two phrases, *the magnitude of the city*, and *he spoke much of the city*; we say, that of the city in the first is *genitive*, and in the latter *ablative*: because it would be so, if the two phrases were expressed in Latin.

The question concerning the Greek ablative has been the subject of a famous literary war between two great grammarians Frischlin and Crusius; the former of whom maintained, and the latter opposed the reality of it.

The dispute is not yet decided. Sanctius, and the Port-royalists, maintained the affirmative; Perizonius the negative. The chief reason alleged by Sanctius is, that the Roman writers often joined Greek words with the Latin prepositions, which govern ablative cases, as well as with nouns of the same case. To which Perizonius answers, that the Latins anciently had no ablative themselves; but instead thereof, made use, like the Greeks, of the dative case; till at length they formed an ablative, governed by prepositions, which were not put before the dative: that, at first, the two cases had always the same termination, as they still have in many instances: but that this was afterwards changed in certain words. It is no wonder then, that the Latins sometimes join prepositions which govern an ablative case, or nouns in the ablative case, with Greek datives, since they were originally the same; and that the Greek dative has the same effect as the Latin ablative. See *CASES*.

ABLATIVE ABSOLUTE, in *Grammar*, is a word or phrase detached and independent of the rest of the discourse; neither governing, nor being governed of any other thing. This is frequent among the Latins; in imitation of whom the modern languages have likewise adopted it.

ABLAY, in *Geography*, a country in Great Tartary, the inhabitants of which, called *Buchar's* or *Bachares*, are subject to Russia, for the sake of obtaining its protection, but their chief is a Calmuck. It lies east of the river Irtysh, and extends 500 leagues along the southern frontiers of Siberia. E. long. from 72° to 83°. N. lat. from 51° to 54°.

ABLE, or **ABEL**, *Thomas*, in *Biography*, chaplain to queen Catharine, consort of king Henry VIII., who distinguished himself by his zeal in opposing the proceedings of the king, and particularly the divorce of his royal mistress. For this purpose he wrote a treatise, intitled, *Traictatus de non dissolvendo Henrici & Catherine Matrimonio*, or, according to Tanner, *Inviola Veritas*; though some suppose these are the titles of different works. He took his degree of A. B. at

Oxford

Oxford in 1513, and that of A. M. in 1516. In 1534 he was prosecuted for his concern in the affair of Elizabeth Barton, called, *The Holy Maid of Kent*, who was suborned by the monks to use strange gesticulations, to exhibit a variety of fictitious miracles, and to feign the gift of prophecy, by which means she attached many respectable persons to her interest; but she was afterwards attainted of treason in parliament, condemned and executed, together with her chief accomplices, whose names she disclosed. *Able* was also adjudged guilty of misprison of treason, by stat. 25 Henry VIII. He was also one of those who denied the king's supremacy over the church, for which he was apprehended and imprisoned, and afterwards hanged, drawn, and quartered, in Smithfield, on the 30th of July, 1540. Boucher gives him the character of a very learned man, and tells us, that he taught the queen music and the languages. Biog. Brit.

ABLECTI, in *Antiquity*, a choice and select part of the soldiery in the Roman armies, picked out of those called EXTRAORDINARIII.

ABLEGMINA, in *Antiquity*, those choice parts of the entrails of victims which were offered in sacrifice to the gods.

Some authors make *ablegmina* to denote all those parts of the victims which were offered to the deities; contrary to the authority of Festus, who restrains *ablegmina* to the *exta*, or entrails only.

The *exta* being found good, were to be protected, or parted; i. e. the extremes or prominent parts cut off, as *ablegmina*, to be sprinkled with flour, and burnt by the priests on the altar, pouring wine on them.—Tertullian rallies the heathens for thus serving the gods with scraps and offals.

ABLET, or ALBLEN, in *Ichthyology*, a name given by some to the common BLEAK, a small fresh-water fish, called in Latin ALBURNUS.

ABLOE, in *Geography*, a town of Little Tartary, lying between the river Dnieper and the Black Sea. E. long. 33° 15'. N. lat. 46° 20'.

ABLUENTS, in *Medicine*, a name which some authors give to a sort of diluting medicines, suited to wash off from the external or internal surfaces of the body, any substances improperly adhering to them; they are either water or other fluids, and they are administered in the form of lotion, gargism, or injection. They are more commonly known by the names of ABSTERGENTS, DETERGENTS, and DILUENTS.

ABLUTION, from *abluo*, quasi *ab* & *lavo*, I wash away, in *Antiquity*, a religious ceremony in use among the Romans; being a sort of purification, performed by washing the body, before they entered on sacrifice.

Sometimes they washed their hands and feet, sometimes the head, and oftentimes the whole body: for which purpose, at the entrance into their temples, were placed marble vessels filled with water.

Ablutions appear to be as old as any ceremonies, and external worship itself. Moses enjoined them; the heathens adopted them, and Mahomet and his followers have continued them; thus they have been introduced among most nations, and make a considerable part of most established religions.—The Egyptian priests had their diurnal and nocturnal *ablutions*: the Grecians their sprinklings: the Romans, their lustrations and lavations: the Jews their washings of hands and feet, beside their baptisms: the ancient Christians had their *ablutions* before communion, which the Roman church still retain before their mass, sometimes after: the Syrians, Copts, &c. have their solemn washings on Good Friday: the Turks, their greater and lesser *ablutions*; their gaff and wodon; their aman, tabarut, gusul, and abdest, &c.

ABLUTION is particularly used in the Romish church, for a sup of wine and water, which the communicants anciently took after the host, to wash it down, and help to digest.

The same term also signifies the water which serves to wash the hands of the priest who consecrated it.

ABLUTION, in *Pharmacy*, is a preparation which divers remedies undergo, by washing them in water, or some other fluid, proper to cleanse or free them of their impurities, and so to exalt their powers.

The usual way of doing this, is by COHOBATION, or pouring the liquor distilled from the body, upon it again: and repeating this as often as it is necessary. See DEPURATION.

ABLUTION, in *Surgery*, a term, signifying the washing or cleansing a body. This is performed by injecting with a syringe, or by repeated affusions of a proper liquor, or by plunging the part itself into the fluid.

ABNAKIS, in *History*, Indians of North America, between New England and Canada, who are averse from labour, and take no pains in cultivating the ground.

ABNER, in *Scripture History*, the son of Ner, and general of Saul's armies, who adhered to Saul during his reign, set his son Ishbosheth on the throne, and supported him for seven years at Mahanaim, beyond Jordan, against the forces of David, who then reigned at Hebron, in Judah. He afterwards conceived a prejudice against Ishbosheth, and went over to David, with the chiefs of the army and the elders of Israel. David received him with tokens of affection, which offended Joab, by whom he was insidiously killed; avenging himself, by this murder, of the death of his brother Asahel. His funeral was solemnized by David, who composed a mournful song in honour of him. *Abner* died A. M. 2956, ante A. D. 1048.

ABO, in *Geography*, a maritime town in Sweden, and the capital of the province of Swedish Finland, is situated at the point in which the gulfs of Bothnia and Finland unite, and on the river Aurojocki, which runs through this city. This is the most considerable town in the whole country, and has a good harbour. It has many good brick-houses, but they are generally built of wood, painted red. In 1226 it was erected into a bishop's see. In 1628 Gustavus Adolphus founded a gymnasium or seminary, which queen Christina converted into an academy in 1640, and endowed with the same privileges as that of Upsal. In 1779 it contained about 300 students. The only royal high court of judicature in Finland is held at this place; and here the governor of the province usually resides. The export trade consists of linen, corn, deals, flax, and iron. *Abo* is the 8th voting town in the Diet. It is 140 miles N. E. of Stockholm. E. long. 22° 13' 30". N. lat. 60° 27' 10". The result of 12 years observations, viz. from 1750 to 1761, gives the mean annual temperature at this place, 40° of Fahrenheit. Kirwan's Estimate of the Temperature of different Latitudes, p. 60.

Abo-Slot, or *Abo-Castle*, is one of the most ancient fortifications in Finland. It stands on a peninsula near the mouth of the river *Aura*. In the 16th century king Erick XIV. was confined in this castle. It has often suffered both by the enemy and by fire. Busching.

ABOARD, in *Sea-language*. See BOARD.

ABOASAR, in *Geography*, a village in Lower Egypt, said to be the ancient BUSIRIS.

ABOCCIS, in *Ancient Geography*, the *Abuncis* of Ptolemy, a town of Æthiopia, situate on the western side of the Nile, not far from the greater Cataract.

ABOCRO, or ABORREL, in *Geography*, a town near

near the river Abo, in the Gold Coast in Africa, is a very remarkable mountain.

ABOLLA, in Geography, one of the names of the African Abol. It is a great mountain valley, from whence several rivers descend to the sea, and which is very fertile. The mountains towards the south are very high, and the plains towards the north are very low, and fertile. On the top of the mountains there are very delightful plains, abounding with excellent game. The people there were very poor, and appeared less poor and wretched than other habitations of the country. A river of the same name descends from the mountains to the sea, and which appeared less poor and wretched than other habitations of the country. A river of the same name descends from the mountains to the sea, and which appeared less poor and wretched than other habitations of the country. A river of the same name descends from the mountains to the sea, and which appeared less poor and wretched than other habitations of the country.

ABOLITION, **ABOLISHING**, in a general sense, the act of destroying a thing, or reducing it to nothing. Some derive it from *abolire*, ex *ab* & *olere*, and others from the Greek *abolō*, *Idem*.

In law, the *abolition* of a law, statute, or custom, is the abrogating or repealing it.

The leave given by a prince, or judge, to a criminal accuser, to desist from farther prosecution of the accused, is peculiarly called *abolition*. 25 H. VIII. c. 21.

Abolition is particularly used among civilians, for remitting the punishment of a crime. In this sense *abolition* is a lower species of amnesty, which takes off the punishment but not the infamy: *liberat sed notat*.

Abolition is also particularly used, among Roman lawyers, for the annulling a prosecution, or legal accusation: and in this sense differs from amnesty and oblivion; because in the former, the accusation might be renewed, even by the same prosecutor, which in the latter was extinguished for ever. Within thirty days after a public *abolition*, the same accuser by the prince's licence, was allowed to renew the charge; after a private *abolition*, another accuser might renew it, but the same could not.

This kind of *abolition* is either granted in favour of the accused, or of the accuser; and is either public, granted by the prince or senate, on occasions of public rejoicings, victory, and congratulation; or private, sued for to the president or judge, by one of the parties; frequently by the accuser himself, who after having embarked in the prosecution, by subscribing his name to the charge, could not by the *Turpilian senatus-consultus* otherwise desist, without incurring infamy. On such occasions therefore the accuser would *petere abolitionem*; that is, move for an *abolition*: which was only granted, on his shewing fair and honest motives for withdrawing the charge; viz. inadvertency, youth, warmth, or the like; nor was it granted without the consent of the accused; or if the accusation appeared to have been utterly false, or malicious, &c.

As to the accused, the charge against him was also *abolished* by the death of the accuser, or his being incapacitated from prosecuting by reason of sickness, or the like.—An action of law was *abolished* by dismissal; a sentence of condemnation, by indulgence.

Abolition was also used for expunging a person's name out of the public list of the accused, being up in the treasury.

This was called *abolere nomen*; and, like the former, was either public, as that under Augustus, when all the names, which had long hung up, were expunged at once; or private, done at the motion of one of the parties.

By several laws in the Theodosian code it appears, that an *abolition* of debts was sometimes granted the debtors to the fiscus. We have a medal of the emperor Adrian, wherein that prince is represented standing with a sceptre in his left hand, and a lighted torch in his right; with which he sets fire to several papers in presence of the people, who testify their joy and gratitude by lifting up their hands towards him. The legend is, *R. E. ADRIANO P. S. P. Q. R. OPTIMO PRINCIPI*.

ABOLLA, in Antiquity, a warm kind of garment, lined or doubled, used by the Greeks and Romans; chiefly out of the city, in following the camp.

The word is Latin, formed, as some imagine, from *bulle*, on the supposition that this vestment was garnished with those ornaments called *bulle*. Others, denying this circumstance, derive it from the Greek *αμβολη*, of *αμαβολη*, *amibolus*, *cloathing*.

Critics and antiquaries are greatly divided as to the form, use, kinds, &c. of this garment. Papias makes it a species of the *toga*, or *gown*; but Nonius, and the generality, a species of the *paludamentum*, or *cloak*.

The *abolla* seems rather to have stood opposed to *toga*, which was a garment of peace, as the *abolla* was of war; at least Varro and Martial place them in this opposite light. Some, after Nonius, hold it to have been a military garb alone; others, after Papias, a senatorial; and Salmastius particularly supposes it to have been worn by the presidents in the provinces, and even by the prefects of the city when they administered justice; which Pitiſcus endeavours to refute. Others will also have the *abolla* to have been used by the philosophers, particularly the Stoics, Cynics, &c. Lastly, others reconcile all the variances by making divers kinds of *abolla*, accommodated to different occasions and professions. Even kings appear to have used the *abolla*: Caligula was affronted at king Ptolemy for appearing at the shows in a purple *abolla*, and by the eclat thereof turning the eyes of the spectators from the emperor upon himself.

ABOMASUS, **ABOMASUM**, or **ABOMASIVM**, in Comparative Anatomy, a name given by old anatomists to one of the stomachs or ventricles of animals of the ruminating kind. See RUMINANT and RUMINATION.

Beasts that chew the cud are found to have four stomachs; viz. the rumen, or *magnus ventris*, or *stomach*, properly so called; the *reticulum*, *omasus*, and *abomasus*. The *abomasus*, properly called the *maro*, is the last of the four; being the place where the chyle is formed, and from which the food descends immediately into the intestines.

It is full of a sort of leaves, like the *omasus*; but its leaves have this peculiarity, that, beside the membranes they consist of, they contain a great number of glands, not found in any of the first.

It is in the *abomasus* of calves and lambs that the rennet, or earring, is formed, with which milk is curdled.

ABOMINATION, in Scripture History, a term used with regard to the Hebrews, who, being shepherds, are said to have been an *abomination* to the Egyptians; because they sacrificed the sacred animals of that people, as oxen, goats, sheep, &c. which the Egyptians esteemed as *abominations*, or things unlawful. The term is also applied in the sacred writings to idolatry and idols, not only because the worship of idols is in itself an abominable thing, but likewise, because the ceremonies of idolaters were almost always attended with licentiousness, and with actions of an infamous and abominable nature. To this purpose, Chrysostom (Opera, vol. i.

p. 645. ed. Benedict.) affirms, that every idol and every image of a man was called an *abomination* among the Jews. The *abomination of desolation* foretold by the prophet Daniel, (ch. x. 27. xi. 31.) is supposed by some interpreters to denote the statue of Jupiter Olympius, which Antiochus Epiphanes caused to be erected in the temple of Jerusalem. See 1 Maccab. i. 54. 59. ch. iv. 38. 2 Maccab. vi. 2. The second of the passages above cited may probably refer to this circumstance, as the statue of Jupiter did, in fact, *make desolate*, by banishing the true worship of God, and those who performed it, from the temple. But the former passage, considered in its whole connection, bears more immediate reference to that which the Evangelists have denominated the *abomination of desolation*. Matt. xxiv. 15, 16. Mark, xiii. 14. This, without doubt, signifies the ensigns of the Roman armies under the command of Titus, during the last siege of Jerusalem. The images of their gods and emperors were delineated on their ensigns; and the ensigns themselves, especially the eagle, which was carried at the head of every legion, were objects of worship, and, according to the usual style of Scripture, they were called an *abomination*. These ensigns were placed upon the ruins of the temple after it was taken and demolished; and as Josephus informs us, (De Bell. Jud. l. vi. c. 6. apud Oper. tom. ii. p. 391. Ed. Havercamp.) the Romans sacrificed to them there. The horror with which the Jews regarded them sufficiently appears from the account which Josephus (Antiq. l. xviii. c. 3. § 1. &c. c. 5. § 3. apud Oper. tom. i. p. 884. 875. Ed. Haverc.) gives of Pilate's introducing them into the city, when he sent his army from Cæsarea into winter-quarters at Jerusalem, and of Vitellius's proposing to march through Judæa, after he had received orders from Tiberius to attack Aretas, king of Petra. The people supplicated and remonstrated, and induced Pilate to remove the army, and Vitellius to march his troops another way. The Jews apply the above passage of Daniel to the Romans, as we are informed by Jerome *in loc.* The learned Mr. Mede (See his Works, b. iv. epist. 41. p. 797. and b. iii. p. 667. 672.) concurs in the same opinion. Sir Isaac Newton (Obs. on Daniel, c. ix. and also c. xii. See his Works by Horsley, vol. v. p. 369. 410.) observes, that in the 16th year of the emperor Adrian, A. C. 132. the Romans accomplished the prediction of Daniel by building a temple to Jupiter Capitolinus, where the temple of God in Jerusalem had stood. Upon this occasion the Jews, under the conduct of Barchochab, rose up in arms against the Romans, and in the war had 50 cities demolished, 985 of their best towns destroyed, and 580,000 men slain by the sword; and in the end of the war, A. C. 136, they were banished from Judea upon pain of death; and thenceforth the land remained desolate of its old inhabitants. Others again have applied the prediction of Daniel to the invasion and desolation of Christendom by the Mohammedans, and to their conversion of the churches into mosques. From this interpretation they infer, that the religion of Mohammed will prevail in the east 1260 years, and be succeeded by the restoration of the Jews, the destruction of antichrist, the full conversion of the Gentiles to the church of Christ, and the commencement of the millennium. See Newton on the Prophecies, in his Works, vol. viii. p. 197. 8vo.

ABON, ABONA, or ABONIS, in *Ancient Geography*, a town and river of Albion. According to Camden, the town is ABINGDON, and the river *Abbon* or *Avon*. But by Antonine's Itinerary, the distance is nine miles from the Venta Silurum, or Caerwent; and therefore, others take the town to be Porshut, at the mouth of the river *Avon*, near Bristol. *Abbon* or *Avon*, in the Celtic language, denotes a river.

ABONI, in *Geography*, a town in the interior part of

Africa, near the Slave-coast, which gives name to a province that is rich in gold.

ABONOTICA, or ABONOTICHOS, i. e. *Abonoticus*, in *Ancient Geography*, a small fortified town of Phrygia, whose situation is determined by Arrian and Ptolemy. This was the habitation of the emperor Alexander, whom Arrian (Pseudomant. ap. Oper. tom. ii. p. 217. &c.) has particularly described. On the coin of Antoninus it is represented by a double serpent, the attribute of Æsculapius. This town was called *Laopoli* after the time of Alexander.

ABORAS, called by Xenophon *Araxes*, a river of Mesopotamia, which rose near the Tigis, was increased a few miles below Nisibis by the little stream of the Mygdonius, passed under the walls of Singara, and fell into the Euphrates at Circium. It was fixed as the boundary between the Roman and Persian empires, in the negotiation between Dioclesian and Narseus, towards the close of the 3d century, A. D. 297.

ABORIGINES, or ABORIGENES, in *History*, a name sometimes given to the primitive inhabitants of a country, or those who had their origin in it; in contradistinction to colonies, or new races of inhabitants, derived from other places.

The term *Aborigines* is famous in antiquity.—Though now an appellative, it was originally a proper name given only to a certain people in Italy; and both the reason and origin of it are greatly disputed among the learned.

Aborigines then primarily denoted a nation in Italy, which inhabited the ancient Latium, or country now called Romania, or Campagna di Roma.

In which sense the *Aborigines* are distinguished from the Janigenæ, who, according to the false Berofus, inhabited the country before them; from the Siculi, whom they expelled; from the Grecians, from whom they descended; from the Latins, whose name they assumed, after their union with Æneas and the Trojans; and lastly, from the Aufonii, Volsci, Oenotrii, &c. neighbouring nations in other parts of the country.

Whence this people came by the appellation is much disputed.

S. Jerome says, they were so called, as being, *absque origine*, the primitive planters of the country after the flood. Dionysius of Halicarnassus, (Antiq. Rom. l. i. c. 10. apud Op. tom. i. p. 8, 9. 11. ed. Oxon.) recites several opinions as to the origin of the appellation. Some, he says, allege that they owe their name to their being original inhabitants of the country, and because they were the founders of the race that occupied it, and that the denomination is similar to the Greek term *γενεαρχας* and *απολογονος*. Others consider the appellation as synonymous with *Aberrigines*, and others again conceive them to have been originally *Arcadians*, and that their ancestors were the Oenotrii, who migrated from Greece seventeen generations before the Trojan war, and settled in that country above 400 years before the Trojan war; and that they derived their name either from the mountains of Arcadia, *qu. ορεινς γεινος*, natives of the mountains, or because they gave origin to the Latins, who being descended from them, called them *Aborigines*; that is, the people from whom they derived their origin; and to this opinion he himself inclines.

Aurelius Victor (de Orig. Roman.) suggests, that they were called *Aborigines*, q. d. *Aberrigines*, from *ab*, *from*, and *errare*, *to wander*; as having been before a wandering people, who, coming from different countries, met accidentally in Italy, and lived there by rapine; to which opinion Festus gives some credit. It is added, that Pelasgians, another name sometimes given them, is of the same import, and denotes vagabonds, like cranes.

Pausanias

Paris, for occasioning the death of a lady there, by an attempt to procure abortion by this method. On her trial she said she had frequently practised it with success; but, in this case, it seems, the instrument had pierced the body of the uterus, instead of passing through the os int. anum.

This operation will be again noticed, when treating of those kinds of laborious parturition, where the difficulty is occasioned by the bones of the pelvis being so distorted, and the cavity thence so reduced in size, as to render the passage of a full grown fetus through it totally impracticable. In those cases, it has been lately discovered, the operation may be performed with perfect safety, and with equal advantage both to the child and to the mother. See LABOUR.

A peculiar delicacy, or irritability of habit, distinct from weakness, though perhaps rarely occurring, but in debilitated constitutions, may be also reckoned among the causes of abortion. This habit of body seems in a peculiar manner, and almost exclusively, to belong to persons living in the higher ranks of life, who use late hours, frequent large and crowded assemblies, lie much in bed, and indulge in rich and delicate food. The sudden opening of a door, or appearance of a person not expected, or any thing exciting the least surprise, will often, in such constitutions, be sufficient to produce abortion. That this is not occasioned merely by weakness of constitution is evident, as very weakly, and even consumptive persons, are found to conceive more frequently, to be more tenacious of their offspring, and generally to produce larger and stronger children, than many women of superior general health.

As the causes of abortions, and the constitutions most prone to it, are so various, the modes of preventing it, or of conducting persons through it, must vary likewise. One of the earliest symptoms announcing an approaching abortion, is a sense of fulness, of weight, or heaviness, at the lower part of the abdomen; this is soon followed by pains in the loins and thighs, and if these pass unnoticed, which is not uncommonly the case, a discharge of blood, more or less profuse, according to the constitution of the woman, takes place: this, if accompanied with pains, recurring at intervals similar to those of labour, usually continues until the ovum is excluded. Sometimes the discharge of blood abates, or entirely ceases for six, eight, ten, or more days, and then recurs again, usually with greater violence; and intermissions of this kind sometimes happen three or more times, before the fruit is excluded. On the other hand, it sometimes happens, that after a woman has suffered two, three, or more effusions of blood in this way, they cease; the part of the placenta that had been detached reuniting itself to the uterus, and the woman goes on to her full time. These circumstances only happen in those abortions that occur within the first three, four, or at the latest five months, which are rarely attended with danger. Discharges of blood occurring at a later period, although they also sometimes cease, and recur again at intervals, never completely leave the woman until the fetus and involucre are excluded, which ordinarily does not happen until so much blood has been lost as to destroy the life of the fetus, and to put that of the mother also into extreme danger.

If a pregnant woman of a sanguine temperament, should be seized with pain in the loins, and with discharges of blood from the vagina, six or eight ounces of blood may be advantageously drawn from the arm, which will divert the current of blood from the part. The bowels are next to be opened with some mild purgative; she must be kept quiet, but not confined to the bed; be put upon a cooling regimen,

and take a powder consisting of twenty grains of nitre, the same quantity of the compound powder of gum tragacanth twice or three times in the day, mixed with barley water. A tea-spoonful may be taken every night, of an electary consisting of, Gum of Gummi, two ounces; cream tartar, and flowers of sulphur, of each two drams; jalap, one dram; Symp of roses, a sufficient quantity to give it a proper consistence. For women who are easily moved, a scruple, or half a dram of jalap, may be sufficient, or thirty grains of rhubarb may be substituted for the jalap. If the woman should be only three or four months advanced in her pregnancy, and the fetus should not be dead, or the ovum entirely separated from the uterus, the above may be sufficient to preserve it, and prevent the abortion. In the case of women of more relaxed and delicate constitutions, the bleeding must be omitted, but the electuary with the rhubarb must be given every night, and instead of the powder with nitre and gum tragacanth, a decoction of bark, with a few drops of the vitriolic acid may be given; or the following:

℞ Mucilag. gummi arabici ʒij.
Olei terebinth. gtt. xl.
Syrup. alb. ʒi. aquæ ʒv.
Spirit. nucis moschatae ʒ ñ. m. capiat ægra cochlearia tria ter in die.

If nausea prevails, so that the stomach with difficulty retains either food or medicines, or if the bowels are too loose, twelve or fifteen grains of ipecacuanha may be given in a spoonful of water, as an emetic, and the following draught at night:

℞ Pulv. radicis rhei gr. vi. Confectionis aromaticæ ʒi.
Spt. nucis moschatae ʒi. Tincturæ opij gtt. xij.
Aquæ ʒi. m.

Under this treatment, if the fetus cannot be preserved, the hemorrhage will be restrained, and the abortion will happen without doing any material injury to the constitution.

Abortions occurring at the times we have mentioned, are rarely attended with danger, and never require manual assistance. Those occurring later, viz. after the sixth month, if the hemorrhage should not be restrained by the means here proposed, or should return, which usually happens, often require manual assistance, and must be treated in the same manner as when hemorrhage occurs in women who have attained the full term of gestation. See LABOUR.

Persons administering drugs to pregnant women, with the view of procuring abortion, or even women taking medicines, or using means for that purpose, have in most civilized countries, and from a very early period, been subjected to certain penalties.

The ancient Greek legislators, Solon and Lycurgus, prohibited the practice of producing abortion. Whether or not it was permitted among the Romans, has been much disputed, between two learned modern civilians. It is certain the practice, which was by them called *viferibus vim inferre*, was frequent enough: but whether there was any penalty annexed to it, before the emperors Severus and Antonine, is the question. Noodt maintains the negative; and farther, that those princes only made it criminal in one particular case; viz. of a married woman's procuring it out of jealousy against her husband, in order to defraud him of the comfort of children; this was ordered to be punished by a temporary exile: *sema præcipit, ut si mulier propter invidiam mariti, abortum faciat, in exilium mittatur, sed non propter, utpote, si propter aliam causam.* He adds, that there was no general prohibition of the practice before Gratian and Valentinian. It is true we find in

Cicero an earlier instance, of a woman punished for this fact; but it was in Britain, a country not subject to the Roman laws.

It is to be observed, that a woman was allowed to take the property of her husband, and the reason given is, that the womb was the husband's property, who was destroyed, by the loss, the sole cause of it; to prevent his being impaired on in the children he was to bring up. But then this does not affect women who had been impregnated by others, who were not their husbands.

The relation on which the practice is said to have been allowed, was, that the fetus, while *in utero*, was regarded as a part of the mother, ranked as one of her own viscera, over which she had the same power as over the rest; besides, that it was not regarded as a man, but as not to be alive, otherwise than as a vegetable: consequently, the crime amounted to little more than that of plucking unripe fruit from the tree. V. Juven. Sat. vi. v. 500, &c. Senec. Consolat. ad Helviam Matrem, c. 16.

This last cited author represents it as a peculiar glory of Helen, that she had never, like other women, whose calf children took her form and shape, destroyed the fetus in her womb. *Neque enim gravidatis tunc quasi extra trahit amentes, quibus in utero sunt alienum quibus omnis consuetudo est formae suae, non formam uterum aliunde ipsi quasi extrahunt, sed in utero ipsarum corporis ipsas liber non diffili.* By the decretals of the canon law, (Part ii. Cauff. 3. q. 1. c. 1. n. c. 8.) *Non est homicidium, quae abortum procurat, nec homicidium reus, nisi sit infans.*

The primitive fathers, Athenagoras, Tertullian, Minutius Felix, Augustin, &c. declaimed loudly against the practice, as virtual murder: *Infantem significatio est, [says Tertullian, (Apolog. apud Oper. p. 10.)] prohibere nasci; non propter animam, quae originem animam, an infantem deserbat.* Several councils have declared against it. That the fetus in the mother's womb is without life, and that it is not animated before it is born; and also that it is lawful for a young woman, her life or character being at stake, to procure an abortion, are propositions which pope Innocent X. in a general council in 1679, condemned as false and scandalous. Yet we are told that the modern Romish ecclesiastical laws allow of dispensations for it. Egane mentions the rates at which a dispensation for it may be had.

Foderé says, (*Traité de Médecine Légale*), in the Introduction, the Emperors Severus and Antonine, decreed, that women procuring abortion, forty days after they had conceived, at which time they imagined the fetus was completely formed, and endued with life, should be put to death; but earlier than that period, and before the fetus was supposed to be living, they should only suffer a temporary banishment. Our law seems to have adopted a principle similar to this, but it extends the punishment to any person (maliciously or intentionally, we suppose,) being instrumental in occasioning a woman to miscarry.

"*Si aliquis mulierem pregnantem percusserit,*" says Bracton, D. 1. c. 1. *et si mulierem percussit, et per percussum abortivum: facit homicidium, si percussit, et non si fecerit abortivum, facit homicidium.*" "Life," says Blackstone, (Commentaries, Look i. chap. 1. vol. 1. p. 129. 8vo.) "is the immediate gift of God, a right inherent by nature in every individual; and it begins, in contemplation of law, as soon as an infant is able to stir in the mother's womb. For if a woman is quick with child, and by a potion, or otherwise, killeth it in her womb; or by any means whatsoever, whereby the child is born dead, and she is delivered of a dead child, this,

though not murder, was by the ancient law homicide, or manslaughter." But, he goes on to observe, "The modern law does not look upon this crime in quite so atrocious a light, but merely as a homicide inchoate, or a half-gone."

ABORTION, among *Germans*, begins, fresh embryos are produced too early, and never arrive at maturity.

ABORTIVE, something come before its due time, or before it has arrived at its maturity and perfection.

The term is applied by some writers on the materia medica to medicines that occasion an abortion in pregnant women. Medicines of this kind have also been denominated *Amblotica* and *Echolica*; and they have been commonly supposed to possess the power of promoting the natural birth, or forcing off the placenta, and even of expelling a dead fetus. But these powers are admitted to be fictitious by the ancients, are now deemed imaginary, and such medicines are now hardly ever employed. Cullen's Mat. Med. v. i. p. 162.

ABORTIVE corn, in *Agronomy*, a distemper of corn mentioned by M. Tillet, and supposed to be occasioned by insects. It appears long before harvest, and may be known by a deformity in the stalk, the leaves, the ear, and even the grain.

ABORTIVE fetus. See ABORTION.

ABORTIVE vellem, is made of the skin of an abortive calf.

ABOTRITES, or ALODRITES, in *History*, a people bordering upon Bulgaria, in that part of Dacia contiguous to the Danube. Henry I. of Germany, surnamed the Fowler, in his zeal for the propagation of the christian faith, undertook, and actually effected the conversion of the king of these people. The kingdom of the *Abodrites* was a part of the ancient Vandalia, and is now called Mecklenburg.

ABOU HANNES, in *Ornithology*, a bird of Abyssinia, so called, because it appears on St. John's day; the terms signifying, *father John*. This is the season when the fresh water of the tropical rains is first known in Egypt to have mixed with the Nile, and to have rendered it lighter, sweeter, and more exhaleable in dew; and accordingly it is the season when all water-fowl, that are birds of passage, resort in great numbers to Ethiopia. This bird, according to Mr. Bruce, (*Travels, &c.* vol. v. p. 173.) is the *Ibis* of the ancients. Its beak resembles in shape that of a curlew, and the colour of the upper part is green, and of the lower part black; and it is four and a half inches in length. The bone of the leg is round and strong, six inches long, and the length of the thigh-part is five and a half inches. The height of the body, as it stands, from the sole of the foot to the middle of the back is nineteen inches. Its feet and legs are black; it has three toes before, armed with sharp strong claws, and a toe behind. The head and back part of the neck are brown; the throat, breast, back, and thighs are white. The largest feathers of the wings are a deep black for thirteen inches from the tail, and a space of six inches in length from the end of the tail along the back is also of the same colour. The measures and colours correspond to those of the embalmed Ibis. See Plate I. Birds.

ABOUALI, in *Hydrography*, a river of Palestine, which rises in mount Libanus, and flows with a rapid current into a romantic valley, where it is concealed by trees.

ABOUILLON. See APOLLONIA.

ABOUKIR, in *Geography*, a small town of Egypt, situate in the desert between Alexandria and Rosetta. It is the ancient CANOPUS, and distant, according to Mr. Savary, (*Letters on Egypt, v. i. p. 49.*) six leagues from Pharos. Pliny, (N. H. l. v. c. 31. tom. 1. p. 283. ed. Hard.) who had collected the testimonies of antiquity, says, that it was formerly an island. Its local appearance makes this cre-

dible. The grounds around it are so low, that the sea still covered a part of them in the time of Strabo, (lib. xvii. tom. 2. p. 1311.) The town, built upon a rock, which forms a handsome road for shipping, was out of the reach of inundations. *Aboukir* has been lately (*viz.* in 1798.) rendered famous by the battle between the English and French fleets, in which the British admiral, Nelson, obtained a signal victory, and for which he has been honoured with a peerage. The place itself, though well fortified, and vigorously defended by the Turks, was taken by the French in 1799, and retaken by the English in 1801.

ABOUT, in *sea language*, the situation of a ship immediately after she has tacked, or changed her course by going *about* and standing on the other tack. *About ship* is the order to the ship's crew for tacking.

ABOUTIGE, or **ABUTISH**, in *Geography*, a town in Upper Egypt, near the Nile, where they make the best opium in the Levant. It was formerly a large, but is now a mean place, though governed by an Emir. It stands on the site of *Abotis*, mentioned by Stephanus Byzantinus; the burgh of Settefé, a little above it, represents the small city of Apollo. N. lat. 26° 50'.

ABRA, a silver coin in Poland, nearly equivalent to the English shilling. It is current in several parts of Germany, and through the dominions of the Grand Seignor, at the value of one fourth of the Holland's dollar or *asiani*. See **COINS**.

AERABANEL, **ABARBANEL**, or **AVRAVANEL**, *Isaac*, in *Biography*, a learned rabbi, said to be descended from king David, and born at Lisbon, A. D. 1437. He was obliged to leave Spain with the other Jews, after having been confessor to Alphonso V. king of Portugal, and to Ferdinand the Catholic. He resided at Naples, Corfu, and several other cities, and died at Venice in 1508, aged 71. Among the Jews he was denominated the sage, the prince, and the great politician. Some writers say, (See *Act. Lips.* Nov. 1686, p. 530.) that, by negotiating bills of exchange, which was the business he followed at Castile, after he fled from Lisbon, and by practising the several arts and frauds of the Jewish people, he amassed prodigious wealth; that he oppressed the poor; that he aspired after the most illustrious titles, such as the noblest houses in Spain could not attain; and that being a sworn enemy to the christian religion, he was the principal cause of that storm which fell upon him and the rest of his nation in 1492, when they were driven out of the Spanish dominions. His *Commentary on the Old Testament*, which is scarce, is written in a clear, though diffuse, style; and adheres principally to the literal sense. This book, which consists of detached parts, composed at different times, abounds with so much rancour against the christians in general, and the Roman Catholics in particular, that father Bartolucci was desirous that the Jews should be prohibited the perusal of it; and they were not allowed to read or keep in their houses his commentaries on the latter prophets. *Biblioth. Rabbin.* tom. iii. p. 876. 879. His other works are, *A Treatise on the World against Aristotle*, who maintains its eternity; *a Treatise on the Explication of the Prophecies relating to the Messiah against the Christians*; *a Book concerning Articles of Faith*; and some others of less note. The various persecutions which he, and other Jews suffered, soured his temper, and produced an implacable hatred against the christians, which he has manifested in his writings; though, in company with them, he behaved with great politeness, and was cheerful in conversation. He was an assiduous student, and a very ready writer.

ABRACADABRA, or **ABRACADABER**, a magical word, recommended by Sereus Samonicus, preceptor to the

younger Gordian, as a charm, or amulet, in curing agues, and preventing other diseases, particularly the fever called by the physicians *leontineum*. See *Seren. Samon. de Medico.* N. 53. p. 1508. fol. Martini.

To have this effect, the word must be written on paper, and repeated, omitting each time the last letter in the former, so that the whole may form a kind of inverted cone, (as in the margin,) in which there is this property, that which way soever the letters be taken, beginning from the apex and ascending from the left to the right, they make the same word, or as some would have it, the same sentiment, as is found in the first whole line. This paper must be fastened about the neck by a linen thread. According to Julius Africanus, another ancient writer, the pronouncing of the word in the same manner, will do as well.

p style="text-align: right;">
 abracadabra
 abracadabr
 abracadab
 abracada
 abraead
 abraca
 abrac
 abra
 abr
 ab
 a

ABRACADABRA is said to have been the name of a god worshipped by the Tyrians, so that wearing his name was a kind of invocation of his aid; a practice not more superstitious than that of some christians, who bear various things about them in expectation of their operating by sympathy.

ABRAHAM, in *Scripture History*, the celebrated patriarch, who was the father and founder of the Jewish nation, though it was never called by his name. He was the son of Terah, and the 10th in lineal succession from Noah by his second son Shem, who lived till Abraham was 150 years old. He was born 352 years after the flood, and A. M. 2008, according to the Hebrew chronology, in Ur of the Chaldees, in the 130th, and not, as some have supposed, in the 70th year of his father's life, and removed with him, at the age of 70, A. M. 2078, into Haran, where Terah died at the age of 205 years. At the age of 75, *i. e.* 427 years after the flood, A. M. 2083, he migrated into Canaan, in consequence of the divine order and promise, recorded in the three first verses of the 12th chapter of Genesis. Shuckford (*Conn.* vol. i. p. 274.) supposes, that this promise was made to the patriarch before he dwelt in Haran (see *Acts* vii. 2.), and that it was 430 years before the law. (See *Gal.* iii. 17.) But the interval from the birth of Isaac to the law was 400 years; and therefore, he concludes, that the promise was made at Ur, thirty years before the birth of Isaac, who was born when Abraham was 100 years old, and that it took place much about the time of his removal to Haran. Others (see *Taylor's Scheme of Scripture Divinity*, p. 250.) date the promise to Abraham at the time of his removal to Canaan A. M. 2083. A. D. 1921; and they reckon 430 years from this period to the *Exodus*. Compare *Exod.* xii. 41. with *Gal.* iii. 17. See *Blair's Chronology*, Pl. 1. This promise, however, was the foundation of that grand scheme for preventing the universal prevalence of idolatry, and for preserving among mankind the knowledge and worship of the only true God, which, under several variations and improvements, was to reach to the end of time. For this purpose Providence selected the family of Abraham, which was afterwards formed into a nation, instructed in religious knowledge by God himself, and favoured with such extraordinary privileges and honours, among all other nations of the earth, as were in their own nature adapted to engage them, by the most rational motives, to adhere to God and his worship. The ground of this noble and extensive scheme, and of God's singular regard to Abraham and his posterity, was the **COVENANT of Grace**, the promise or grant of favours and blessings to mankind in Jesus Christ our Lord. In the conduct and accomplishment of this scheme, God required the patriarch to call himself wholly

before his father's return; and he told him, that having presented an oblation of flour to the idols, the roughest of them, in whose hand he had placed a hatchet, hewed the others to pieces with that weapon. Terah replied, that this was bantering, because the idols had not sense to act in this manner; upon which Abraham retorted these words upon his father against the worship of such gods. But he was delivered up by Terah to Nimrod, the sovereign of the country, and because he refused to worship the idols, according to his order, he was thrown into the midst of the flames, from which he escaped uninjured. Mr. Dodd Levi, in his *Lingua Sacra*, has given an account of this tradition, extracted from *Medrasch Berefchib*; and it is related by Jerome, (Trad. Hebraic. in Genesin,) who seems to admit its general credibility. The vulgate translation of 2 Esdras ix. 7. expresses, that he was delivered from the *fire of the Chaldeans*; but the ambiguity of the word *Ur*, which denotes fire, as well as the birth-place of Abraham, seems to have given rise to this opinion. However, if we allow that Abraham, being born and educated in an idolatrous country and family, might have been addicted in very early life to that superstition, it is certain that he renounced it, and that he was providentially removed from a scene of danger, and that he contributed to propagate just sentiments concerning the deity wherever he sojourned. The fame of his wisdom, piety, and virtue, spread far and wide among the nations of the world: this appears from the testimonies of Berofus, Hecataeus, Nicholas of Damascus, cited by Josephus, (Antiq. l. i. c. 7. apud Oper. tom. i. p. 28. ed. Haverc.) and also from what is said of him by Alexander Polyhistor, Eupolemus, Artapanus, and others, whose testimonies may be seen in Eusebius's *Præp. Evang.* lib. ix. cap. 16, 17, 18, 19. His name is mentioned with honour all over the East to this day. Josephus (Antiq. l. i. c. 8. tom. i. p. 30.) informs us, that he taught the Egyptians arithmetic and astrology; and we learn from others, (see Lactantius and Suidas, *ubi supra*;) that he also instructed the Phœnicians in astronomy; that he invented the Hebrew characters and language; and that he wrote several books. Traditional truth and fiction seem to have been blended in the accounts that are given of this eminent patriarch by the Jews, Arabians, and Indians. Of the books ascribed to him, the principal seems to have been the treatise called *Jetzirah*, or *the Creation*, of which it gives an account. This is mentioned in the Talmud, and held in high estimation by several learned Rabbis. It was printed at Paris in 1552, and translated into Latin by Postel; and also translated into Latin, with remarks, in 1642, by Rittangel, a converted Jew, and professor at Königsberg. A book, called *Abraham's Revelation*, was dispersed by an ancient sect, under the denomination of *SETHIANS*. *Abraham's Assumption* is mentioned by Athanasius in his *Synopsis*; and Origen takes notice of a treatise, pretended to be written by him, in which two angels are introduced disputing about his salvation. The Jews also represent him as the composer of some prayers, and of the 10th Psalm, and of a Treatise against Idolatry. Fabricius (Bibl. Græc. tom. ii. p. 516.) informs us, that some astrological books of Abraham, which are now lost, are commended by Vettius Valens and Jul. Firmicus; and from Kirchem's Treatise of Libraries, p. 142. we learn, that all the several words, which Abraham composed in the plains of Mamre, are contained in the library of the monastery of the Holy Cross on Mount Amaria, in Ethiopia. The Indians believe this patriarch to have been the same with their great prophet Zoroaster. According to the Arabians, who have given us a history of Abraham, very different from that of the Bible, he was the son of Azar, and grand-

son of Terah; and the eastern teachers have a long tradition concerning Abraham's life, which differs very much from that of Moses. In a book, said to be in the *First of King's Manuscripts*, No. 792. which was written by Elyan in the Syriac, and translated from the Syriac into Arabic, upon Abraham's journey into Egypt, there is a sermon on his death, preached by St. Athanasius, on the 28th of March; on which day the Coptic and Egyptian christians observe his festival. Among the Mahometans, the memory of Abraham is held in great veneration, and his name frequently occurs in the KORAN. See CAVALA. We are told by Hsien Shih Tsang, (ed. Ann. Hegira 513, cited by D'Herbelot Bibl. Orient. Art. *Abraham*, p. 16.) that in the beginning of the 12th century, the tomb of Abraham having been discovered near Hebron, his body, as well as those of Isaac and Jacob, were found entire and uncorrupted. There were likewise some gold and silver lamps hung up in the cave, which were visited by multitudes. The Moslems have such a reverence for this place, that they make it one of their four pilgrimages, the three others being those of Mecca, Medina, and Jerusalem; and the christians built a church over the cave, which the Turks afterwards converted into a mosque, and prohibited christians from approaching. The emperor Alexander Severus, (Lamprid. in Sever.) who knew Abraham only by the extraordinary circumstances related by Jews and Christians, conceived so high an opinion of him, that he ranked him with Jesus Christ among his gods.

ABRAHAM, *Rabbi*, in *Biography*, was prince of the Jewish nation, and tutor to Abenezra. He foretold that the Messiah would be born under the same configuration or conjunction of Jupiter and Saturn, with Moses the Jewish law-giver. According to his calculation, this was to happen 2859 years after the former, i. e. A. D. 1464; and two such conjunctions are said to have actually occurred within the 15th century, viz. in 1444 in Cancer, and 20 years after in Pisces; but instead of deliverance, the Jews experienced only disaster and distress.

ABRAHAM, *R. Jsaac Ben*, a Jewish writer, who lived about the beginning of the 17th century. He was by nation a Polander, but spent most of his time in the courts of Germany. His book, intitled, *Chafuk Emunah*, i. e. *Munimen Fidei*, was a violent attack on the christian religion, in which he examines the whole gospel, and endeavours to explode all the proofs of it, and to confute the objections of Christians against the Jews. This book, which was composed against the disciples of Luther, was published in 1616, from a MS. which was become very scarce. It was translated into Spanish, and very widely dispersed. The African Jews held it in high estimation, and from them it was brought into Germany by Wagenfeil, who inserted a Latin translation of it in his *Tela Ignea Satanae*.

ABRAHAM, *Ujjeu*, a Paternacle Jew, supposed by some to be a Christian, who, with Tobias Athias, translated the BIBLE out of Hebrew into Spanish. It was printed at Ferrara in 1553, and reprinted in Holland in 1630. The first edition of this Bible, which is the most valuable, is marked with stars at certain words, which are designed to shew that these words are difficult to be understood in the Hebrew, and that they may be used in a different sense.

ABRAHAM, or ABRAM, *Nicholas*, a learned jesuit, was born in the diocese of Toul in Lorrain in 1589. He was made divinity professor in the university of Pont à Mousson, which office he held 17 years, and died Sept. 7, 1655. He wrote notes on Virgil and Horace, a Commentary on some of Cicero's Orations, in 2 vol. fol. a collection of theological pieces, intitled, *Pharus Fidei*, &c. and four other works.

proving somewhat on the explication, makes it represent as below,

A	A	Pater	A	1
B	Ben	Illius	B	2
P	Roush-hakadosh	Spir. Sanctus	P	100
A	αἰεταὺς	homines	A	1
C	σαῦρα	fidvans	C	200
A	εραιω	per sacrum	A	1
E	ζυλω	lignum	E	60

—
365

ABRAXAS is also used, among *Antiquaries*, for a species of graven gem, on which the word *abraxas* is usually inscribed; supposed to have been worn by the ancient Gnostics, Basilidians, and Carpocratians, as an amulet or talisman against diseases.

If the above explication of the meaning of the term *abraxas* be just, we can easily account for the introduction of this practice. In the system of ancient mythology, Apollo and the Sun were the same, and Apollo was the god of healing. Hence, in the true spirit of hieroglyphics and mythology, these gems were undoubtedly used by the heathens, and probably by some superstitious christians, who being lately converted, retained a relish for their former absurdities, as amulets, or charms, to drive away agues and other diseases; and this also gave rise to the use of the word ABRASADABRA for the same purpose. It is not unlikely that such were found among the orthodox as well as among the Basilidians and other reputed heretics.

Abraxas are of divers figures and sizes: sometimes in that of rings to be worn on the finger; in which form they were supposed of great efficacy for driving away flies.

*Abraxas*es are frequent in the cabinets of the curious: a collection of them, as complete as possible, has been much desired by several. There is a fine one in the abbey of S. Genevieve, which has occasioned much inquiry. They are chiefly of the third century; most of them seem to have come from Egypt, whence they are of considerable use for explaining the antiquities of that country. But they are much too numerous and too costly to have been the production and possession of the christians of the three first centuries, though they had all taken delight in such things.

Macarius, Chifflet, Capello, and Montfaucon, have written expressly on *abraxas*es; the latter has given 36 plates of them, well filled, and he has divided them, for the sake of order and perspicuity, into seven different classes.

*Abraxas*es have sometimes no other inscription beside the word; but more usually some symbol annexed to it. Beside which, we sometimes find other marks and words adjoined; as the names of saints, angels, apostles, and the ineffable name Jehovah itself, either at length, or in the abbreviature ΙΑΩ; sometimes the words σαβωθ', Αδωναι, Eloai, or the names of other gods; as Mithras, or Mithraë; ΨΨ, Semes, Sol; Ανοηεις; εις Zeus Σεραπις, or Serapis, the one Jupiter; and the like. Sometimes we observe Isis sitting on a lotus, or Apis, surrounded with stars; Osiris, Serapis, Harpocrates, Canopus; the cock, the dog, the lion, the ape, and the sphinx, which are well known symbols of heathen deities; sometimes monstrous compositions of animals, obscene images, Phalli, and Ithyphalli; in a word, every kind of thing which the Egyptians placed among their gods. The graving of *abraxas*es is not uniform, rarely good; the reverse, on which is the word, is said to be sometimes of a lower and a more modern taste than the face. The characters are usually Greek, sometimes Hebrew, Coptic, or Etrurian; and sometimes of a mongrel kind, forged as it should seem on purpose to make their import impenetrable. It is disputed,

whether or not the Veronica or Montreuil, or the Granite obelisk, mentioned by Gori, be *abraxas*es.

Dr. Lardner, who, with an industry and accuracy for which he was distinguished, and by which he has eminently served the cause of Christianity, has examined the particular classes of these gems given by Montfaucon, and has proved that they are of heathen origin. Many of the figures and inscriptions on them are exceedingly obscene and idolatrous, and could not be the production of any Christian sect whatever; but they must be pagan, and for the most part Egyptian. To this purpose, Beaufobre (*ubi supra*, cap. 4.) observes, that it is altogether incredible, that a sect, which made profession of christianity, should have adopted the monsters adored by the Egyptians; or that a man who boasted of deriving his doctrine from Matthias, and from an interpreter of St. Peter, and who received the gospels and the epistles of St. Paul, should make images of the deity; at a time when christians had the most excessive aversion to all sorts of images, even the most innocent. This learned writer has also urged a variety of irrefragable arguments against the opinion of those, who maintain that these gems were the invention of the Basilidians. From many of the figures themselves, produced by Chifflet, it appears that they are pagan, and of Egyptian origin, and could not belong to any sect of christians; and as for those gems, which have the names of Abraham, Isaac, or Jacob on them, or the God of these patriarchs, or the words, Sabaoth, Adonai, or Eloai, these, he says, are the inventions of the Cabbalists, or of the Egyptian magicians; and he has thus deduced, from his observations on Chifflet's figures, the same conclusion, which Dr. Lardner has drawn from those of Montfaucon. As for the names of angels, which Montfaucon asserts (*Pal. Græc. l. ii. c. 8. p. 177.*) to have been in use among the Basilidians, it is evident, that those which he mentions were derived from the Ophites, as Origen (*Cont. Cels. l. v. p. 295. ed. Cantab. opp. i. p. 653. D. Bened.*) plainly informs us. After an elaborate investigation of this controverted subject, Dr. Lardner concludes in words similar to those of Beaufobre; 1. That *Abraxas* was not the god of the Basilidians. 2. That this name signifies nothing but the sun, which was never worshipped by them. 3. That the figures, both in Chifflet and Montfaucon, are, for the most part, Egyptian. 4. That there is no kind of proof that any of them belonged to the Basilidians. 5. That those which have Iao, Sabaoth, &c. upon them, were the works of magicians, who never made any profession of christianity. 6. That some of these figures derived their origin from the SIMONIANs and OPHITES, who were not Christians either in belief or profession. See Lardner's Works, vol. ix. p. 290—364.

ABREAST, a *Marine* term, expressing the situation of two or more ships, that lie with their sides parallel to each other, and their heads equally advanced. But if their sides be not parallel, then that ship, which is in a line with the beam of the other, is said to be *abreast* of her. When the line of battle at sea is formed *abreast*, the whole squadron advances uniformly, the ships being equally distant from, and parallel to each other; so that the length of each ship forms a right angle with the extent of the squadron, or line *abreast*. See LINE. *Abreast*, within the ship, denotes on a line with the beam, or by the side of any object aboard.

Abreast of any place, means off or directly opposite to it.

ABREIRO, in *Geography*, a small town of Tridos-Montes in Portugal, in a district, which, according to Busching, consists of one parish. W. long. 7° 10'. N. lat. 41° 20'.

ABRETTENE, in *Ancient Geography*, a district of Mylia in Asia. Hence, according to Strabo (*Geog. lib. vi. p. 861.*),

has *abridged* his plaint, or demand; yet the writ still remains good for the rest. The reason is, that such writs run in general, and do not specify particulars. See 21 H. VIII. c. 3.

ABRINCATARUM *oppidum*, in *Ancient Geography*, the town of the *Abrincate* or *Abrincatui*, now *Avanches*, in France, situated on an eminence in the south-west of Normandy, near the borders of Brittany, on the English Channel. W. long. 1° 10'. N. lat. 48° 40'.

ABRIZAN, or **ABRIZGHIAN**, derived from *Abrie*, which signifies in Persian, *a vessel proper for pouring out water*; the name of a feast observed by the old Persians on the 14th day of the month Tir, which nearly corresponds to our September, with abundance of idolatrous superstitions. This heathenish festival was apparently preparatory to the descent of the rain in those countries, being about the time of the autumnal equinox, and has been partly adopted by the Mahometans. Mr. Harner (*Observations on Scripture*, vol. iii. p. 10.) has availed himself of the practice at this feast, to explain the Jewish ceremony of pouring out water at the feast of tabernacles, alluded to by our Saviour, John, ch. vii. After the return of the Jews from their captivity in Babylon, Zechariah (ch. xiv. xvi. xvii.) connects attending the feast of the tabernacles with obtaining the rains of autumn, which are of such consequence after the drought of a Syrian summer; and therefore (says the ingenious writer) this rite was probably then practised, and the pouring out of water in the temple, with solemnity, as before God, understood to be a religious prognostic of the approach of rain, or a morally instrumental and procuring cause of its speedy coming. Might not (he adds) the returning Jews think of adding some memorial of Jehovah's being the giver of rain to that ancient national solemnity that had been enjoined by Moses, to be observed just about the same time of the year with that of the Persian festival, which that people solemnly ascribed to some deity they worshipped, but which the Jews knew was the gift of Jehovah?

ABROCHMENT, or **ABROCHMENT**, **ABROCAMENTUM**, in some ancient *Law-writers*, denotes the act of ingrossing or buying up commodities by wholesale, before they come into the open market, in order to sell them off dear by retail, otherwise called *forestalling*.

ABROGATION, from the Latin *abrogo*, *I repeal*, the act of abolishing a law, by authority of the maker.

In which sense the word is synonymous with abolition, repealing, and revocation.

Abrogation stands opposed to *rogation*; it is distinguished from *derogation*, which implies the taking away only some part of a law; from *subrogation*, which denotes the adding a clause to it; from *obrogation*, which implies the limiting or restraining it; from *dispensation*, which only sets it aside in a particular instance; and from *antiquation*, which is the refusing to pass a law.

ABROHANI, or **MALLEMOULI**, the name of a kind of muslin, or clear white cotton cloth, brought from the East Indies, particularly from Bengal; being in length sixteen French ells and three quarters, and in breadth five eighths.

ABROJOS, or *Baxos de Baluca*, in *Geography*, a bank formed by several small rocks and isles, east of Turk's island. W. long. 69° 40'. N. lat. 21° 5'. A deep channel of the breadth of three leagues lies between this bank and the island.

ABROKUS, in *Botany*, a name used by some of the Latin writers, for the *bromus*, or *avena sterilis*, the wild oat; and by others for the *orobus*, or bitter vetch. The Greeks originally used the word, and that not only for these two

vegetables, but in a much larger sense, understanding by it any herb resembling the plants cultivated for the use of the table, but not of food. The Greeks and Romans had a way of expressing the boiling of pulse or herbs, by words signifying the wetting of them: thus the Greeks expressed boiled things by *bracta*, &c.; and the Romans by *coctus*. Virgil uses the word for the pease, and Plautus, for all esculent things that were boiled: hence their boiled pease and oats were called *abroba*, *non munda*, not fit for food or eating.

ABROLHIOS, in *Geography*, a mountain about 50 miles from the coast of Brazil, and about the island of St. Barbe. S. lat. 18° 22'. W. long. 38° 45'.

ABROMA, in *Botany, formed of *a* and *bruma*, *q. d. not fit for food*, is used in opposition to *Turmerica*, as a name of plants belonging to the natural order of *Chamædrys*, the *Melastoma* of Jussieu, and the 18th class of *Paludifolia* Don and Rostk. The generic characters are as follow: the *calyx* is a five-leaved perianthium, with lanceolate, acute, spreading, and permanent leaflets; the *corolla* has five petals, larger than the calyx, with obovate, arched, concave, obtuse claws, hairy at the end, erect, and inserted at the base into the nectary; and oval, obtuse, spreading, ciliate borders, contracted at the base into recurved little claws, on which the chief claws are placed; and a small pitcher-shaped nectary, divided into five segments, which are obcordate, hairy, erect, recurved, and arched; the *filamina* are five membranaceous, very small filaments, growing on the nectary between the segments, emarginate-trifid, with three anthers on each filament, that are twin and kidney-form; the *pistil* has a subcylindrical germ, with five subulate styles, and acute stigmas; the *pericarpium* is an ovate, membranaceous, five-winged, five-beaked, and five-celled capsule, with folded partitions; and the *seeds* are numerous and subovate, within an oblique membranaceous aril, fixed in a double row to the central edge of the partitions, which is thickened and longitudinally bearded; and without a receptacle. There are two species, viz. the *Maple-leaved abroma*, which is a tree, with a straight trunk, yielding a gum when cut, and filled with a white pith like the elder; it flowers from June to October, and its fruit ripens in September and October; it is a native of New South Wales and the Philippine islands, and was introduced into Kew gardens about 1770, and is a hot-house plant, requiring great heat, and much water:—and *Wheler's Abroma*, so called by Koenig, in compliment to Edward Wheler, Esq. of the Supreme Council in Bengal; this is a shrub with a brown bark, a native of the East Indies, and is not known in Europe. Miller's Dict. by Martyn.*

ABRONO, in *Botany*, a name given by Serapion, and others, to the *heart-PEA*; called also *abrug*.

ABROSTOLA, in *Ancient Geography*, a town in Phrygia, which, according to Ptolemy and the Peutingerian Table, is about 23 miles from *Amurium*. Cellarius, vol. ii. p. 89.

ABROTANOIDES, in *Botany*. See **ARTEMISIA**, **PROTEA**, and **SERIPHUM**.

ABROTANOIDES, in *Natural History*, a name given by Bauhin to the *MADRIFORA maritima* of Linnaeus and others.

ABROTANUM or **ABROTONUM** *inf.* See **ARTEMISIA**, and **SOUTHERNWOOD**. **ABROTANUM foliata**. See **SANTOLINA**, and **LAVENDER-COTON**. See also **EPICLAPHALUS** and **TANACETUM**.

ABROTONUM, in *Ancient Geography*, a town and harbour on the Mediterranean, in the district of Syrtis Parva, in Africa; one of the three cities that formed **TRIPOLY**.

nifies 4, was substituted for 7, or 200. If the last of these suppositions be admitted, the 4 shekels, by Josephus's estimate, would be equal to a quarter of a pound, and by Cumberland's valuation 2 ounces. The learned Bochart in an elaborate dissertation on this subject, (apud Oper. tom. i. p. 883, &c. ed. Villem.) reduces the weight of Absalom's hair to about 2 pounds, which, considering the various circumstances mentioned by him, is by no means incredible.

ABSCEDENTIA, in *Surgery*, denote morbid parts which are in a state of separation. See **ABCEDE**.

ABSCHARON, in *Geography*, a peninsula adjoining the Caspian Sea, and abounding with numerous and productive sources of naphtha and petroleum, and with salt lakes. On this peninsula is situated the city called **BAKU**.

ABSCISS, in *Surgery*, from *abscido*, to separate, or *abs* and *cedo*, to retire; a cavity containing pus, or a collection of puriform matter; called *Abfissus* by the Latins, and *Ἀβίσση* by the Greeks. The term **EMPHYMA** is used to designate those **IMPOSTHUMES** which form in parts not contiguous to the integuments of the body, especially large **SUPPURATIONS** within the chest or belly; and it is sometimes applied to collections of pus in the skull, the orbits of the eyes, the maxillary sinusses, the joints, &c. Abscesses likewise obtain other denominations, according to their seat; as **PANARIS**, in the finger; **ANCHYLOPS**, in the greater angle of the eye; **HYPOPHYON**, in the anterior chamber of the eye; **VOMICA**, in the parenchymatous substance of the lungs; **BUBO**, in the arm-pit or groin; **PAROTIS**, behind the ear; **PARULIS**, in the gums, &c. &c. These appellations are explained in their respective places. We shall now proceed to the general doctrine and treatment of suppurations; after which, will follow some remarks on abscesses of particular parts, requiring peculiar management.

The proximate cause and formation of ABSCESSSES.

This morbid state is always preceded by an inflammation of the vessels from whence the pus has issued. If the purulent matter be well formed, there has been a previous increase of arterial action, a throbbing in the parts adjacent, an exquisite degree of sensibility, augmented animal heat, distension of the minute blood vessels, elasticity of the muscular fibres, and an effusion of serum, or of coagulable lymph from the arteries immediately affected. These phenomena are followed by a gradual diminution of the pain, heat, redness, tension, and throbbing, with a deposition of puriform fluid into the surrounding cellular membrane.

Actual suppuration having now taken place; if the pus lies near the surface of the body, a cream-like whiteness will soon be perceived in some particular point, near the middle, or towards the inferior side of the abscess: an elevation or prominence next occurs, and a fluctuation may be felt underneath, which becomes more distinct as the matter approaches the surface; the pain also is considerably abated, the brilliant appearance of the skin declines; and, if the collection of matter be large, there is usually an attack of shivering, accompanied with febrile symptoms, &c.

The general Seat of ABSCESSSES.

In general, if not always, the matter of an abscess is primarily deposited in the cellular membrane, which surrounds or lies contiguous to the inflamed vessels; except when the secreting arteries terminate and empty themselves in a natural cavity; for example, in the thorax or abdomen. As the texture of the cellular substance admits of easy distension, the pus gradually diffuses itself; and forms an extensive reservoir, which either ruptures spontaneously, in a

part affording the least resistance, or is evacuated by an artificial opening. When pus is confined by a firm adhesion, or by an aponeurosis, or is situated very deeply among parts that resist its pressure, one or more interstices will be sometimes formed of considerable extent; the aperture of which may be at a distance from the original seat of the disease; and if the matter should exit in a very large quantity, the gravitating force of the fluid will give it a tendency to some depending spot. Thus it happens, that matter formed under the temporal muscle may be discharged into the mouth, or pus accumulating in the loins may descend to the lower part of the thigh. We are, therefore, not to imagine the point where the pus makes its appearance by a protrusion externally, to be always the focus or centre of the abscess; although it is generally the most proper place for its evacuation. Some judicious remarks on this subject, by the late Dr. W. Hunter, are contained in the *Medical Observations and Enquiries*, vol. ii. p. 57, &c.

General Indications in the Treatment of ABSCESSSES.

When a practitioner has ascertained, from the preceding and concomitant symptoms, that an abscess exists, (for this disease has sometimes been confounded with an hernia or aneurism,) he should carefully determine whether or not the confined pus ought to be evacuated, and what intermediate steps should be pursued. It may be a question, in some cases, if the suppuration be complete, or sufficiently advanced for an operation. In other cases it may happen, that the tumor ought not to be opened, though the maturation be perfect. At other times the matter, from its situation, ought to be evacuated speedily, lest it should injure the contiguous parts. Regard must also be had to the general state of the patient's health, especially if the suppuration under which he labours be extensive, and has arisen spontaneously. In cases of this kind, which occur after a fever, it will be indispensably necessary to administer such medicines as are adapted to the nature of the internal complaint, as well as to employ appropriate topical remedies to the abscess. When it has been determined to open the tumor, the surgeon should consider in what manner this may be best accomplished, whether by the scalpel, the caustic, or the seton; whether by a single opening, or several; by discharging the pus at once, or at different times.

The various Methods of opening ABSCESSSES.

1. The ancients, and especially Albucasis, used to open abscesses by the application of an actual **CAUTERY**. But the unnecessary and terrific apparatus of hot-irons being now laid aside, all the advantages of exciting a further degree of inflammation, &c. previously to evacuating the pus, may be obtained by milder remedies. When an abscess is seated in a glandular part, and has been very tardy in advancing to a state of maturation, (as is particularly the case with scrofulous and venereal tumors,) it will be often better to open them with a caustic than by any other means. The chief grounds of preference in favour of the caustic are, that it tends to augment the inflammation and suppuration; it diminishes the subjacent glandular swelling; it gives free vent to the confined matter; it promotes healthy granulations; it is much less likely to be followed by troublesome sinusses, or by a sore with loose and callous edges, than when a simple puncture or incision has been had recourse to; and it may be employed with patients who have an insurmountable dread of the knife. An unseemly scar is, however, a not unfrequent consequence of the caustic; and on this account, it is not so eligible in the face or neck, where a cicatrix ought, if possible, to be avoided. The method of preparing and applying caustic substances, in

the, and other surgical cases, is explained under the next article.

2. A third kind of operation is employed rather than the first, when the surgeon wishes to let out only a part of the matter, and to leave the rest to be evacuated by the natural powers of the system, or to be discharged by the patient's efforts. In such cases, an immediate opening is required, and danger is apprehended from delay; or, when the patient is in a weak condition, for the purpose of evacuating the matter, or applying external means to the tumor. The precise circumstances in which this kind of treatment will be explained in the paragraphs which follow, while we defer the description of the operations which occur in several parts of the body.

3. A fourth kind of opening an abscess is by the seton, which is a piece of a sort of soft thread or silk through the parietes of the tumor, by means of a seton needle. This is very common in the veterinary art, but is not much employed on the human subject. Setons are apt to produce adhesions between the skin and subjacent muscle; the scar which they leave, however, is small and firm, and for this reason they are sometimes advantageously had recourse to in superficial collections of matter about the neck and face, where suppuration is likely to continue a long while. They are also used in certain cases of abscess near a joint, or other important part, which might be injured by the scalpel or caustic, or which does not admit of a wide orifice being made, so as to expose the abscessed surface to the air.

Treatment of particular Abscesses.

There are certain general principles in the management of abscesses, from which surgeons do not greatly deviate in common cases; such, for example, as the applying of warm and stimulating applications to the part affected, where the intention is to accelerate the suppuration: when the pus is to be evacuated, they not only make an artificial opening, but assist the daily discharge by compresses, or by lightly filling the orifice with easy dressings; and, when there is a tendency in the sore to granulate, they remove all external obstacles, and use such gentle means as are calculated to aid the healing process of nature: at the same time internal remedies are administered, according to the nature of the symptoms, and the state of the patient's constitution. But, we shall proceed to illustrate these general remarks by an example.

Suppose an extensive inflammation of the phlegmonous kind to have taken place in a robust young person, upon a fleshy part of the body. If no effective topical means have been used to allay the pain, heat, and tension; if no general or local bleeding has been employed; if the patient be not abstemious in his diet, nor has had recourse to purgative remedies; under such circumstances it is very probable the inflammation will advance rapidly, and terminate in complete suppuration. In this latter stage of the case, warm emollient poultices and fomentations should be applied three or four times a day; and, if the inflammatory symptoms become excessive, the cooling regimen, with moderate bleeding, and mild saline purgatives may be advantageously employed. These last should, however, be cautiously and sparingly used, lest the suppurating process be too far checked or interrupted. When the pus has forced its way towards the surface of the limb, and is nearly ready to burst from the tumor, (which will be known by a palpable fluctuation of the matter, and by the integument becoming thin,) prudence suggests that a sufficient opening should

be made for the free and perfect evacuation of the contents of the abscess. But there are circumstances which sometimes forbid our waiting till this critical period; the matter may be confined within a cyst; it may be retained by a thick and firm fascia lying over it; for want of an outlet, it may be actually re-absorbed into the general system, and circulating with the blood, may produce very serious consequences to the patient's health: in order, therefore, to prevent the inconveniences which might ensue from long waiting, a judicious surgeon foreseeing the evil, will evacuate the pus by an early opening. In making his incision, it should be an invariable rule to cut in the direction of the muscular fibres; left, by a transverse wound, some important part be deprived of its action through life: by neglecting to observe this rule in an imposthume of the forehead, an ignorant operator deprived his patient of the power of opening his eyes, so that he was obliged to paste up his eye-brows with adhesive plasters, in order to enjoy the benefit of vision. It is also necessary, in using the scalpel, to recollect the situation of neighbouring blood-vessels and nerves; taking the precaution to employ a grooved director, whenever there is the smallest danger of cutting these organs. The subsequent dressings, BANDAGES, &c. &c. will be nearly the same as are required in common ULCERS or WOUNDS; for an account of which, to avoid prolixity, we refer the reader to those articles. But it will now be proper to point out the plan of treatment to be adopted in some peculiar kinds of abscesses.

ABSCESS of the maxillary sinus. The cavity of the cheek-bone, Antrum Highmorianum, is lined with a delicate vascular membrane, which, when it inflames and suppurates, produces great pain in the upper teeth, nose, and the eye of the side affected; it is also very common for people with this complaint to have a severe pain in the forehead, where the frontal sinusses are placed; but still these symptoms are not sufficient to distinguish the disease. Time must disclose the true cause of the pain, for it will frequently continue longer than that which arises from a diseased tooth, and will become more and more severe; after which, a redness will be observed on the fore-part of the cheek, somewhat higher than the roots of the teeth, and an induration at the same place, which will be considerably circumscribed; this hardness may be felt rather highly situated on the inside of the lip. The method of cure consists in extracting one of the *dentes molares* from the affected side; and then perforating through the socket into the bony cavity. A mild injection may afterwards be employed to cleanse the sinus, and be repeated as occasion requires. Consult Gooch's Cases, Hunter on the Teeth, and Bernstein's Handbuch.

ABSCESS near the Anus. Any of the causes of inflammation, whether internal or external, may produce this disease. It is generally slow and insidious in its progress, involving the rectum, and adjacent cellular membrane in its ravages; for the most part it is painful and tedious, occasioning deep, fistulous, and callous orifices, which demand prompt attention from the surgeon. See FISTULA. The chief indications are, to alleviate the pain by glysters, fomentations, and emollient poultices; to make a free opening as soon as the pus is fairly within reach of the knife; to divide all the sinuosities, if they communicate with each other, so as to effect one general outlet; and, when the intestine has been laid bare or perforated, by the confined matter lying upon it, to rip it up with a curved bistory, guided by the operator's forefinger. Recourse must also be had to internal medicines whenever the patient's health is deranged; and indeed, without such collateral aid, the surgeon's efforts will frequently be in vain. Mr. Pott's observations on this subject

jeet deserve particular attention.—See the article **FISTULOUS ULCER**.

ABSCCESS in the Groin and Arm-pit. The inflammation and tumefaction which occur in these situations, generally arise from a disease in the absorbent glands; sometimes they are occasioned by an injury sustained by a distant lymphatic vessel, communicating with the inflamed gland; and not unfrequently such glandular affections are the consequence of a malignant constitutional disorder, such as the **PLAGUE** or **VENEREAL DISEASE**, when they are denominated **BUBOES**. See these terms in their respective places. From whatever cause abscesses arise in the absorbent system, they are mostly tedious and difficult to cure. See **ABSORBENTS**, and *their diseases*. But when they happen in the groin or axilla, it is especially requisite to avoid making deep incisions, on account of the large blood vessels there situated: in other respects they require no peculiar management, except that, being very slow to suppurate, it will often be necessary to apply stimulating plasters or cataplasms; and when they arrive at a state of perfect maturation, it will much accelerate the cure to evacuate the pus by a caustic instead of a puncture or mere incision. A scrofulous habit of body very commonly gives rise to glandular enlargements; in such cases it will, therefore, be proper to employ the appropriate internal means, without which external remedies will often prove useless. See **SCROFULOUS TUMORS** and **ULCERS**.

ABSCCESS in the Loins; otherwise called the *Psoas* or *Lumbar Abscess*. The large muscles situated within the loins, and their connecting cellular substance, are very liable to inflame, and form extensive collections of pus. These are so important and serious, even under the most favourable circumstances, that comparatively few persons recover from their effects. This consideration should urge practitioners to adopt decisive means of relief in the earliest period of the complaint, and never to make light of the symptoms which indicate a fixed inflammation in the lumbar region. When pus has actually formed, we ought not absolutely to despair, but the principal hope lies in preventing its formation: it is, therefore, of great consequence to ascertain the exact state of the patient when he first applies to the surgeon. An incipient lumbar abscess may be suspected, if the patient has been lately exposed to any of the exciting causes of inflammation; if a dull and constant pain affects him in the deep seated muscles of the loins; if this pain be aggravated in raising and rotating the thigh; if a sense of tightness or confinement be felt within the belly, or near the groin, accompanied with external tenderness to the touch; if there be much difficulty in standing erect, or in lying at full length; and if, in addition to these symptoms, the patient be of a delicate and scrofulous habit of body. When matter is formed in considerable quantity, a new set of symptoms and a more decided character will be attached to this disease: the sufferer will experience nocturnal exacerbations of fever, with frequent rigors, languor, and loss of appetite, wasting of the body, night sweats, hectic complaints, and an external protuberance in the vicinity of the abscess. The matter, however, does not uniformly fluctuate in any particular spot, but may be felt sometimes about the loins, near the hip, or in the groin, and sometimes at the anus, or towards the bottom of the thigh. This tumor will generally diminish, owing to the retrocession of the pus, on placing the patient in an horizontal position. During the increase of the suppuration, there will often be such a remission of the symptoms, that the patient imagines himself in a state of recovery, until a spontaneous rupture takes place in the swelling, or it requires an artificial opening. Now and then some of the lumbar vertebrae become carious, from the pres-

sure of the contiguous pus, and the lower extremities are paralyzed; the large blood-vessels may be destroyed, and thus a speedy termination is put to the patient's sufferings.

The early remedies to be employed in the disease, before suppuration has commenced, are frictions and blisters, by the repeated use of fifteen or twenty blisters, or by the scarificator and cupping glass; the exhibition of diaphoreticatives; a mild vegetable diet; perfect tranquillity and rest; with repeated blistering, or a large caustic over the external part of the loins. But, as suppuration advances, the diet is to be improved; some animal food and wine will be allowed; tonic and acid medicines are to be employed; with country air, moderate bodily exercise, warm sea-bathing, and cheerful company. When the suppuration is far advanced, if it be judged proper to make an outlet, the best method is to evacuate the pus by a very small oblique aperture, with a broad lancet or trocar. Mr. Abernethy advises us to empty the abscess early and completely; then to bring the lips of the wound in contact, and by means of lint and sticking plaster to keep them together; and over these to apply a suitable bandage. The wound heals, in general, without much difficulty, and requires dressing only once in two days. When the skin again projects, from the pressure of the subjacent matter, another puncture may be made; and thus, the evacuation is to be repeated as often as shall be necessary, avoiding any permanent exposure of the cavity of the abscess. Among the means which have been successfully employed on these occasions, are emetics, injections, opium, cinchona, and electricity: but for a more detailed account of the treatment, we recommend the perusal of Mr. Abernethy's Essays, and Mr. Bell's System of Surgery.

ABSCCESS in the Muscles of the Belly. The principal object in this case, is to prevent the matter from bursting internally; since such an event might prove fatal. The surgeon should therefore open the abscess early, and endeavour to use those kinds of bandages, or compresses, which may obviate future collections, and the formation of sinuous ulcers.

ABSCCESS of the urinary Bladder. When an accumulation of pus or mucus occurs in the bladder, mild emollient injections may be used by means of a syringe and catheter. This practice has been lately taken notice of as new; but it was recommended by the Arabian physicians, and by some of the oldest European practitioners, who perhaps took the hint from Albucaasis.

ABSCCESS under the Cranium, within the cylindrical bones. No other remedy can be here advised, for giving free vent to the confined matter, than perforating the bone with a trephine.

ABSCCESS under the Sternum. When pus lies immediately under the chest-bone, within the duplicature of the mediastinum, the surgeon will not hesitate to apply a trephine. An interesting paper on this subject may be seen in the 15th number of the London Medical Review and Magazine. Mr. Blair's Observations on a successful case of this kind, are likewise contained in the 4th volume of that work, page 319.

ABSCCESS of the Thorax. See **EMPHYEMA**.

ABSCCESS of the Breast. The mammary abscess may be produced by any of the remote causes of inflammation, but is mostly occasioned by a redundancy of milk soon after parturition. In general it might be prevented by an immediate application of the infant to the breasts after delivery, or at least before they are turgid with milk. See **INFLAMMATION of the Breast**. When pus is actually formed, a soft, warm, emollient poultice, composed of bread and milk, or of a decoction of poppies and barley-meal, should be constantly kept upon the part, and renewed every three or four hours;

at the same time carefully suspending the enlarged breast, with a bandage, if spread under it, and tied behind the neck. It is very rarely proper to make any artificial opening in these abscesses: they should be permitted to burst of themselves, and be poulticed as long as the hardness or inflammation continues. During this painful period, the child must be suckled by the healthy breast; for it rarely happens that the milk is pure during a state of inflammation, or that the mother can bear the irritation of her child's attempt to draw the nipple.

It is necessary to apprise mothers that the true milk-abscess never degenerates into a cancer, as many persons have ignorantly imagined. Those pests of society, called CANCER-CURERS, often impose on anxious wives, and persuade them they have cured cancers of the breast, when none ever existed! At other times, they keep up a false alarm, to the great detriment of women's health, and the furtherance of their own base designs. See the articles CANCER and SCIRRHUS.

During the tedious suppurating process, if the patient be not sanguine and robust, it will sometimes be proper for her to live on strong nourishing broths, with animal food, and porter, and to have daily recourse to tonic medicines. Without these means all external applications may prove fruitless. When the abscess leaves a deep ulcer, it should be dressed very lightly with mild warm digestives; and cold air must be guarded against in the convalescent stage, after all the dressings shall have been discontinued. The hardness within the breast, or around the cicatrix will generally subside of itself; but if it should not, a little oil of sweet almonds, either alone or mixed with palm-oil, should be gently rubbed over the breast twice a-day. In lieu of these, a piece of fresh butter may answer the purpose. Sometimes, however, it is necessary to administer cicuta and calomel to reduce the glandular indurations; now and then superadding the mercurial liniment. But the treatment must vary according to circumstances.

ABSCCESS of the Eye. See HYPOPHYON.

ABSCCESS of the Ear. See OTALGIA.

ABSCCESS of the Gums. Simple gum-boils require no peculiar management: they may be opened with a lancet when the matter lies superficial; but, if they arise from decayed teeth, or a carious jaw-bone, the tooth affected, or the decayed portion of bone, must be removed before the cure can be effected. The mouth may be frequently rinsed, in order to keep the parts clean, and the breath sweet, with a mixture of warm wine, honey, and diluted vinegar; or with some tincture of myrrh and water. See the article TEETH.

ABSCCESS in the Hip-joint and its Involucra. Spontaneous diseases of the hip are very insidious and dangerous. The first symptoms of an approaching disorder in this part too often pass unobserved, or slighted, even by the patient himself. Perhaps it begins with a trifling degree of weakness, lameness, and wasting of the limb; which, if it be attentively examined, will be found a little elongated, and likewise depressed on the nates of the affected side. After some time, there will be a pain felt as if it were situated in the knee, especially during the night; but this joint, nevertheless, remains in a state of perfect soundness. The patient soon begins to favour the diseased limb, by bearing chiefly on the other leg, and by elevating the heel of the affected side. As his strength fails, he will be seen to grasp the disordered thigh during the act of walking; and before night he will be complaining of unaccustomed weariness. Though he may be naturally alert and chearful, he will, as the complaint augments, shew a great aversion to move; and, in

aiming to produce quick exertions, there will be a sudden halting, or even danger of falling. The affected limb will afterwards be kept in a bended position as much as possible, and a tenderness is complained of in the vicinity of the hip-joint. In scrofulous subjects, the inflammation sometimes advances more rapidly, the general health suffers in proportion to its ravages, the appetite fails, debility and emaciation succeed, night sweats, colliquative diarrhoea, and other hectic symptoms supervene; in short, the local complaints become aggravated, suppuration then discovers itself, the exterior part of the thigh enlarges, the concealed pus fluctuates, the limb shortens and is contracted, the carious joint yields a fetid puriform discharge, and the head of the thigh bone becomes displaced, or forms an immoveable ANCHYLOSIS.

Now and then the progress of this disease varies from the course we have described: there may be no external outlet for the matter; suppuration may not be distinctly perceptible; the febrile symptoms may not be very urgent; and the patient may be carried through the different stages of his complaint, with but a small share of bodily pain. This disease, however, most frequently goes on to a fatal termination; involving the ligaments, the cartilages, and bones of the joint in one dreadful destruction.

The general curative means to be pursued in these cases, resemble those we advised in the lumbar abscesses: but, too commonly, the aid of the surgeon proves ineffectual. If the subject of an hip-disease be scrofulous, it may be proper in its incipient state, to administer the vegetable tonics, with prepared natron, and small doses of calomel; at the same time, prescribing the warm sea-bath, country air, local bleeding, passive motion, abstinence from wine, milk diet; and, if the complaint advances, the use of perpetual blisters, caustics, issues, or setons, are to be especially relied on. See the treatment of ARTHROPOSIOS and WHITE-SWELLING. M. Petit, De Haen, Pott, and others, have written on this subject; but, the most satisfactory treatise we have seen, is that of Mr. Ford, intitled, "Observations on the Diseases of the Hip-Joint," 8vo. London, 1794.

ABSCCESS of the Abdominal Viscera. Any of the contents of the belly may be the seat of an abscess: the most frequent and remarkable are, a suppuration of the Liver, the Kidneys, and the Mesentery. In these cases, the peculiar symptoms will distinguish the part affected, and the general principles before laid down must be attended to. When the pus fluctuates externally, and there is a well grounded hope of its being evacuated by an artificial opening, no time should be lost; as it might prove fatal to suffer the spontaneous rupture of a large abscess into the cavity of the abdomen. If there be any particular constitutional affection, the medicinal treatment adapted for such diseases must be likewise had recourse to. See HEPATITIS, ICTERUS, SCROFULA, TABES MESENTERICA, EMPYEMA, NEPHRITIS, GASTRITIS, CYSTITIS, ENTERITIS, &c.

ABSCCESS of the Thoracic Viscera. As all abscesses are preceded by inflammation, the peculiar nature and order of the symptoms which precede the formation of pus in the thorax, or its contents, will guide the practitioner in his diagnosis. See the articles CARDITIS, PNEUMONIA, PLEURITIS, VOMICA, PHTHISIS, &c. If matter be seated in the interior substance of the lungs, it will probably find its way into the bronchia, and be coughed up from time to time; but if the pus lies near the surface of that viscus, it is more likely to be discharged into the cavity of the chest, forming an EMPYEMA. As an evacuation into the bronchia is most desirable, we should use all our endeavours to solicit a discharge of the pus in that way. The surgical operation

operation for an EMPYEMA is described in its proper place.

From what has been said in the foregoing paragraphs, it will not be difficult to determine on the plan of treatment in other cases of abscess. The principal authors to be consulted on this subject are Severinus, Hildanus, Wiseman, Heister, Van Swieten, Sharp, Pott, Bell, and Kirkland. Some curious cases are also related, or referred to, in the *Bibliothèque Choisie de Médecine*:—the compilations of Mænetus, Bernstein, and James;—the *Memoirs and Transactions* of different learned Societies;—and in the works of Boerhaave, Forestus, Lusitanus, Tulpius, Hildanus, Morgagni, Horstius, Stalpart Vander Wiel, &c. &c.

ABSCISSE, *ABSCISSA*, in *Conics*, a part of the diameter or transverse axis, of a conic section, intercepted between the vertex, or some other fixed point, and a semiordinate.

Such are the lines AP, AP, &c. (*Tab. Conics, fig. 20.*) intercepted between the vertex A, and the semiordinates PM, PM, &c. which are called *abscisses*, of the Latin *abscindere*, to cut off; as being parts cut off from the axis. Others call them *sagitte*, q. d. *arrows*.

Abscisse, in a more general sense, is a part or segment of a line, terminated at some certain point, cut off by an ordinate to a curve. As the abscisse may commence either at the vertex of the curve, or at any other fixed point; it may be also taken either upon the axis or diameter of the curve, or upon any other line drawn in a given position. Hence there may be an infinite number of variable abscisses, terminated at the same fixed point at one end, whilst the other end of them is at any point of the given line or diameter. In the parabola, each ordinate has one abscisse; in the ellipse, or circle, it has two, lying on the opposite sides of it, and in the hyperbola also two, both of which lie on the same side of it. It may be observed, in general, that a line of the second order, or a curve of the first kind, may have two abscisses to each ordinate; a line of the third order may have three abscisses to each ordinate; a line of the fourth order may have four; and so on. The use of the abscisse is, in conjunction with the ordinate, to express the nature of the curves, either by some proportion or equation including the abscisse and its ordinate, with some other invariable line or lines; and hence every different curve has its own peculiar equation or proportion by which it is expressed or defined. When the nature and properties of curves, are expressed by algebraic quantities, the abscisse is commonly denoted by the letter *x*.

In the *parabola* the abscisse is a third proportional to the parameter and semiordinate; and the parameter a third proportional to the abscisse and semiordinate.

In the *ellipse*, the square of the semiordinate is equal to the rectangle of the parameter into the abscisse, subtracting another rectangle of the same abscisse, into a fourth proportional to the axis, parameter, and abscisse.

In the *hyperbola*, the squares of the semiordinates are to each other as the rectangles of the abscisse into another line, composed of the abscisse and the transverse axis. See CONIC SECTION, ELLIPSE, HYPERBOLA, and PARABOLA. See also CIRCLE and CURVE.

ABSCISSION, in *Rhetoric*, is a figure of speech, when beginning to say a thing, we break off short, as supposing the matter sufficiently signified, by what has been already said. Cicer. ad Heren. lib. iv. cap. 77.

For an instance: one of her sex, age, and beauty, to be seen alone, at such an hour, with a man of his character—I need say no more.

Abscission is a species of ELLIPSIS, or SUPPRESSION. Scaliger distinguishes it from præcision and suspension.

ABSCISSION, in *Surgery*, denotes the act of taking away some morbid or superfluous part by an edged instrument. In this sense abscission amounts to the same with the Greek ἀποκοπή. Cowper speaks of the abscission of a leg; which is more properly called AMPUTATION. The abscission of the prepuce makes what we call CIRCUMCISION. Abscission of the ears is a kind of legal punishment inflicted on perjury. In some countries they also practice abscission of the ears on traitors in an army, as a punishment reputed worse than death.

ABSCISSION is more properly used for the operation of cutting away some soft part of the body, when diseased or grown hurtful. In which sense, abscission differs from amputation, in that the latter is of a solid or bony part, the former of a fleshy or membranaceous one; yet they are sometimes confounded. We say the abscission of a muscle, lip, cheek, or the like. Mr. Shipton gives an instance of the abscission of a portion of the intestine, not being mortal. Phil. Trans. N° 283.

Cheelden, and some later surgeons, have removed several inches of morbid intestine in cases of strangulated HERNIA.

ABSCISSION is sometimes used by *medical writers* to denote the sudden termination of a disease in death, before it arrives at its decline. Celsus frequently uses the terms *abscissa vox*, to express a loss of voice.

Astrologers also speak of an *abscission* of the light of a planet, by another planet outstripping it, and joining a third before it. Abscission is held a deterioration.

ABSCONSA, a dark lanthorn used by monks at the ceremony of burying their dead.

ABSENCE, in *Sots Law*, is applied to a judgment pronounced, when a person cited before a court does not appear. No person can be tried criminally in *absence*.

ABSENTEE, in *History*, denotes a person, who is absent from his station, employment, or country. The term has been commonly applied to Irishmen, who possess estates in Ireland, and do not reside in the country. A parliament under this denomination was held at Dublin, 8 Hen. VIII.

ABSINTHII phalena, a species of PHALÆNA found on the ABSINTHIUM.

ABSINTHITES, **ABSINTHIAC**, or **ABSINTHIATED**, something tinged or impregnated with the virtues of *absinthium*, or WORMWOOD.

Bartholin mentions a woman whose milk was become absinthiated, and rendered bitter as gall, by the too liberal use of wormwood. Act. Med. tom. ii.

Vinum absinthites, or *peculum absinthiatum*, wormwood wine, is much spoke of among the ancients, as a wholesome agreeable drink, and even an antidote against drunkenness; though some have charged it with being offensive to the head, and liable to cause fevers, cephalalgies, vomitings, uterine fluxes, &c. Ray also makes it a part of the venery. According to the common account, it is made by infusing the leaves of the plant in a quantity of wine. But Fehr shews that it should rather be prepared by fermentation, in order to correct the crudities of the plant, and call forth its volatile salt. Paulli prepares it even without *absinthium*. Dr. Bowle prefers the *aqua absinthites*, or wormwood-water, taken in a small quantity after meals, to the wine; as being less liable to affect the head, and less with vapours.

ABSINTHIUM, in *Botany*, is compounded of the purgative particle *a* and *sinth*, *sinthia*, *pygari*, alluding to the disagreeable taste of this plant. See ARTEMISIA and WORM-

sons may converse with him without danger: and besides, in case of death, his sentence is supposed to be of some avail to him.

ABSOLUTION is chiefly used among protestants for a sentence, whereby a person, who stands excommunicated, is released or freed from that punishment.

ABSORBENTS, from *absorbeo*, to drink up, in a general sense, denote substances which possess the faculty of absorbing, or swallowing up others; such are ashes, cloves, plants, &c.; and earths of various kinds. Ashes are absorbent with respect to water, though not in the degree supposed by Aristotle, from whom we derive a vulgar error, that a pot full of ashes will still absorb as much water as it would contain if it were empty. Cloves absorb moisture to such a degree, that we are told, if care be not taken in importing them, to keep water, wine, and other liquids at a distance from them, a certain quantity of cloves will, in two days' time, drain a whole hoghead of wine. See ABSORBENTS in the *Materia Medica*.

ABSORBENTS, or ABSORBING VESSELS, in *Anatomy*, denote a minute kind of vessels found in animal bodies, which attract and imbibe any fluid that is brought near their mouths. These vessels are so minute and transparent as not to be discovered in ordinary dissection; but by great labour, they have at length been detected to abound in every tribe of animals. As these vessels are transparent, their contents are visible, which circumstance occasioned them to receive the different denominations of lacteals and lymphatics. The former were so called, because they imbibed the chyle, a milky fluid from the bowels; whilst the latter, containing much lymph, which they had taken up from all the interstices of the body, were therefore named lymphatics.

The lacteal vessels were first noticed at the Alexandrian school by Erasistratus, who observing that they extended from the region of the liver to the bowels, erroneously concluded that they were a peculiar system of vessels, destined for the nutriment of those organs. They were not again particularly noticed till Aselli, in Italy, in 1622, perceiving that the contents of the intestines, and these vessels were similar, rightly conjectured that they absorbed the fluid which they contained from the bowels.

Pecquet, in France, shortly after the publication of the discoveries of Aselli, on opening the large veins near the heart, discovered the chyle not yet incorporated with the blood, and the vessels by which it was poured into the left subclavian vein, and which proved to be the principal trunk of the lacteal and lymphatic vessels, and was named from its situation, by Bartholine, the Thoracic Duct. A little afterwards, in 1651, Rudbec a Swedish, and Bartholine a Dutch anatomist, discovered vessels resembling the lacteals in structure and office in other parts of the body, and which they named, from their contents, lymphatic vessels.

In Haller's time, although great numbers of lymphatic absorbing vessels had been discovered throughout the body, they did not appear to him completely adequate to perform the function of absorption. They had not then been discovered in birds or fishes, and therefore that great anatomist still retained the idea that the veins performed, in part, the important office of absorption.

The merit of first demonstrating the absorbing vessels in these tribes of animals belongs to Mr. Hewson, who assisted in the labours of the first eminent anatomical school in London, in which anatomy was most ably taught by Dr. Hunter.

Mr. John Hunter undertook, by experiments, to determine whether the veins assisted in any degree in the office of absorption. Having conveyed milk, coloured with indigo or saffron, or scented with musk, into the small intestine of an

ass, after a short interval the lacteals were found full of these fluids; but on opening the veins of the intestines at the same time, and suffering the blood to separate into serum and crassamentum, the serum was neither coloured nor scented. When irritating substances are imbibed, the absorbing vessels always become inflamed, whilst the veins suffer no kind of irritation. Of late also the absorbing vessel has been injected in such great abundance, that they appear fully adequate to perform the office for which they seem so admirably adapted. Anatomists at present, therefore, are warranted in believing that they are the only vessels engaged in performing that very important function in the animal œconomy.

Mr. Cruikshank published a systematic account of these vessels, chiefly taken from the preparations and observations that were made in the school established by Dr. Hunter.

Mascagni, in Italy, by employing a new artifice in injecting these vessels, has been able to exhibit them in a more complete and satisfactory manner than any former anatomist. The extremity of a glass tube, like that of the barometer, being melted, is drawn out to any required degree of tenuity, in which state it still remains pervious, or tubular, and affords an opportunity of conveying quicksilver into the minutest vessel discernible by the eye. If these vessels be the only ones, which perform the office of absorption, they must exist in every part of the body. For there is no spot on the surface of the skin, from which ointment may not be taken up, nor any internal part, from which blood, accidentally effused, is not absorbed; nay, the very matter composing the texture of the body is undergoing continual removal and renovation. These vessels therefore must be supposed to begin by open orifices very generally throughout the body, though their commencement can only be demonstrated upon the inner surface of the intestines. They appear to the unaided eyes, in that situation, fine and pointed tubes; but by the microscope, their mouths are discerned to be patulous, and like a cup, which circumstances have been well described by Leiberkuyn. The beginning absorbents soon join together, and after some time form minute vessels, capable of being injected by anatomists; these again conjoin, and form larger vessels, which are still discoverable with great difficulty.

In structure and arrangement these vessels have great similitude to veins; they have, in consequence, been named by some anatomists the lymphatic veins. Like the veins their sides are thin and transparent, though of considerable strength: like the veins, they frequently communicate with each other, or, as it is technically termed, anastomose. The advantage derived from these communications is obvious; for by these means the dissimilar matters which they take up from various parts, are mixed together, and blended with the lymph, which they imbibe from the interstices of the body, and which serves as a vehicle for such heterogeneous particles: they also prevent accidental pressure made on a few vessels from obstructing the progress of the absorbed fluids, which are in that case conveyed forward by collateral channels. Like the veins also, these vessels, by conjoining, form a tube of smaller area, than the united areas of the vessels before their junction. The effect of this construction is the same as in the veins, that is, an acceleration in the current of the lymph, in proportion as it comes nearer to the trunks of the absorbing vessels. The diameter of the thoracic duct bears but a small proportion to the united diameters of all the minute absorbents in the body, and when this duct has been opened, the lymph has flowed from it with a force and jet like that with which the blood issues from a large vein. Like the veins the absorbents are

filled with a fluid, which prevents any retrograde motion of the contents. The vessels are of various sizes, and are able, of themselves, to propel their contents. Whoever reflects on the nature of the lymphatic system, can easily doubt that the vessels possess a contractile power, by which they are able to imbibe those that are salutary. If these vessels are observed in the mesentery, when turgid with the absorbed chyle, they resemble a network of certain tract of the vessels, and a vessel is a phenomenon that cannot be explained, without supposing the vessel to contract at that part, and urge forwards its contents. Haller found that the vessels of the mesentery, when stimulated, so that there can be little doubt of these vessels being muscular throughout their whole extent. The absorbents are found in considerable numbers beneath the skin of the extremities, and when they come to the glands, they pass through little holes, of the size of small beans, which are called lymphatic glands. The absorbent vessels, as they approach the gland, generally separate into several branches, which terminate in the body, and again about an equal number of absorbents emerge from the gland, conjoin, and form one or more principal absorbing vessels. The absorbents which enter the gland are usually denominated *vasa inferentia*, and those which go out of it, *vasa efferentia*. If quicksilver be poured into the former vessels, the gland swells, and a great deal of quicksilver appears to be deposited in it; and afterwards, if the power propelling the injection be continued, it is seen coming out of the gland by the *vasa efferentia*. It seems therefore to follow, that the progress of the absorbed fluid is checked a little in these glands, and it is probable that some change is effected in it during its passage through them. This opinion is confirmed by observing that these glands abound with blood-vessels, which probably pour some fresh animal juices into those which are contained in the lymphatic vessels.

The lymphatic glands are found in great numbers in the groins, armpits, and by the side of the neck, apparently serving like barriers to the absorbents of the head and extremities, as they approach to the large veins of the trunk. The absorbents of the intestines, which contain the chyle, a scarcely animalized fluid, sometimes pass through three or four sets of glands before they arrive at the thoracic duct; hence they are called *vasa lactea primi, secundi, tertii, and quarti generis*. The place where the lacteals conjoin, and meet with the lymphatics from the lower parts of the body to form the thoracic duct, appears in animals like a reservoir, and has been named the *receptaculum chyli*. The vessel thus formed by the junction of the lacteals, with the trunks of absorbents from the lower parts of the body, having passed through the diaphragm, is there named the thoracic duct. In this situation it lies close upon the vertebræ of the back, between the vena azygos and the aorta, receiving in its passage the absorbents of all parts in its vicinity. As it approaches the neck, it leaves the bone to get to the left subclavian vein, in which it terminates just at its commencement. As, however, the absorbents of the right side of the head, and right arm, would have to deviate considerably were they to end in this chief trunk of the absorbing system, they conjoin and form a similar vessel on the right side, which empties itself into the corresponding part of the right subclavian vein. Thus all the old materials of the body, which the absorbents are continually removing, all

the new matter imbibed from the surface, all the redundant lymph taken up from the interstices of the body, and all the chyle occasionally obtained from the bowels, are conveyed into the large veins near the heart. It is, in short, chiefly by this system of vessels that the blood is augmented in quantity or altered in quality; they replenish the body with nutriment, and they also occasionally taint it with infection.

Absorbing Vessels, Distribution of the, throughout the body.—The absorbents of the foot have been injected in considerable numbers from the spaces between the toes; those of the inner side ascend over the inner ankle, and accompany the vena saphena interna. Being joined by others in this course, the trunks thus formed appear like network on the inside of the calf of the leg. These vessels continue in company with the vena saphena interna; and like it, ascend over the inside of the knee and thigh, where their numbers add size increase, and at last they terminate in the inguinal glands. These glands vary considerably in number; the greater part of them is placed above the fascia of the thigh, but some are found beneath it, in the hollow between the iliacus internus, triceps, and sartorius muscles. Those glands which are highest and nearest to the pubes, receive also the absorbents of the genitals. The absorbents of the outside of the foot pass behind the outer ankle, and accompany the vena saphena externa up the back of the leg to the ham, where they terminate in the popliteal glands. They, however, communicate by some branches with the superficial absorbents on the inside of the leg.

The deep-seated absorbents of the leg accompanying the several arteries, which branch off from the popliteal, also arrive at, and end in the glands of the ham, which are small and few in number, seldom exceeding three. The absorbents emerging from these glands are large, and accompany the femoral artery to the groin, to terminate in the inguinal glands. Other deep-seated absorbents of the thigh, however, enter the pelvis at the inferior apertures of that cavity, and communicate with the vessels and glands contained in it. The large vasa efferentia of the inguinal glands pass beneath Poupert's ligament, and accompany the external iliac artery to the loins. There is a series of glands placed in the course of the external iliac vessels, which are named the external iliac glands, with which these absorbents are connected. Having arrived at the lumbar vertebræ, and being increased in size by the accessory absorbents, which they are continually receiving, they terminate in the lumbar glands. These are much more numerous than any of the classes of glands hitherto mentioned, and quite cover the aorta and vena cava.

The absorbents of the genitals terminate, as has been said, in the upper and innermost of the inguinal glands. Some have been injected on the sides of the penis, and others on the middle, accompanying the vena dorsalis; by their junction they form two trunks, which diverge, and proceed to either groin. The absorbents of the scrotum accompany the cutaneous veins to the groin, and terminate in the inguinal glands. The testicles abound in absorbents, some of which join with those of the scrotum, and go to the inguinal glands; but the greater part, consisting of large and numerous vessels, pass up the spermatic chord, and along the external iliac vessels to terminate in the lumbar glands. The absorbents of the clitoris, and external parts of the organs of generation in females form two divisions, one of which goes, as in the male, to the inguinal glands, the other vessels either pass with the round ligament of the uterus through the abdominal rings, and along the psoas muscle to the lumbar glands, or entering the pelvis at the inferior aperture, they join the absorbents of the uterus. The absorbents of the hips

hips and nates also pursue a twofold course; some bend round the trochanters, and go to the inguinal glands, whilst the greater number enter the pelvis with the gluteal and featic arteries at the sacro iliac foramina, and go to the internal iliac plexus of glands. Thus we have traced the absorbents of the lower extremities, and of the parts of generation, and find them either entering the abdomen, and running along the lower part of that cavity to the loins, or ascending through the inferior apertures of the pelvis, and joining the absorbents of that cavity, which we next proceed to describe.

In the pelvis there is a numerous plexus of glands, situated in the course of the internal iliac vessels, and continued toward the obturator foramen; there are also many absorbent glands lying in the hollow of the sacrum. The absorbents of the bladder, after passing through small glands, placed by the side of that viscus, proceed to the internal iliac plexus. The absorbents of the rectum proceeding through the sacral glands pass on to those of the loins. The absorbents of the uterus form two sets, according with the blood-vessels in this respect; those which accompany the uterine vessels pass through glands by the side of the vagina, and proceed to the internal iliac plexus. Those which accompany the spermatic vessels terminate, as in the male, in the lumbar absorbents.

The absorbents of the kidney pursue the same course as the renal blood-vessels, and terminate in the lumbar glands. The absorbents of the intestines, commonly called the lacteals, are extremely numerous on account of the function which they have to perform, and abound more in the jejunum than elsewhere, as the chyle is chiefly absorbed from that intestine. The course of these vessels is through the mesentery, where they communicate with glands, the number of which is stated to be between 100 and 150.

The lacteals have been traced through three or four series of these glands, and have been denominated *vasa lactea primi, secundi, tertii, et quarti generis*.

The lacteals form one or more large trunks as they approach the superior mesenteric artery, which join the thoracic duct. The absorbents of the large intestines pass through glands situated near them, which are very small, and not numerous. Those vessels which arise from the ascending and transverse arch of the colon terminate in the lacteals near the root of the mesentery. Those absorbents which arise from the descending and sigmoid flexure of the colon proceed to the lumbar glands and thoracic duct. Having thus described the principal absorbents that contribute to the formation of the thoracic duct, that vessel may in the next place be attended to. Large trunks of absorbents may be traced in the course of the iliac vessels, converging to form this duct; to these are joined the large trunks of the lacteals, and they unite low down upon the loins. In animals, and particularly in dogs, they terminate in a dilated pyriform cell, which is called *receptaculum chyli*. This appearance, though sometimes observed, is more frequently wanting in the human subject. At the first vertebra of the loins the thoracic duct gets above the diaphragm, and lies between the vena azygos and aorta on the right side of the bodies of the vertebra; it is sometimes double, and then the second branch lies beneath the aorta on the left side; at all times large lymphatics are found also in this situation.

The dimensions of the thoracic duct gradually lessen till it has reached the middle of the back, and then again enlarge. At about the 8th dorsal vertebra it generally divides, and afterwards reunites. Having got above the arch of the aorta, it leaves the spine, ascending and inclining to the left side to reach the subclavian vein, in which it is to

terminate. It passes round the vena and terminates, and empties itself into the venous system at the junction of the vena subclavia and vena interna, where they unite to form the venous trunk. The termination of the thoracic duct was discovered by the dissection of the blood contained in the venous system of the thorax.

During this course, the thoracic duct receives tributaries from various parts of the body, or which are considered to give form and size. It may be considered as a collection that there is a double duct, the one on the right, and generally left then left and right, which are joined in the corresponding angle, and by the junction of the right internal jugular and azygos veins, the duct is formed by the confluence of the absorbents of the head, the right side of the head, and those ascending from the right internal mammary vessels.

The absorbents of the omentum pass through very small glands, situated near the great arch of the stomach, and there join with those belonging to that viscus. The absorbents of the stomach accompany its artery; those accompanying the left gastric join those of the spleen and pancreas, and terminate in glands, extending along the pancreas and splenic vessels. Those which are found in company with the right gastric artery, pass like it through the duodenum, and terminate in the same glands with the deep-seated absorbents of the liver, to which they are conjoined. Those which accompany the coronary artery on the lesser curvature of the stomach, pass through glands situated about that part; they then in general descend to the glands beneath the duodenum, and terminate in the thoracic duct; others, however, may be traced through the cardia to the thoracic duct. The absorbents of the spleen and pancreas, when they arise from those viscera, pass through glands extending along the splenic vessels, and are afterwards continued to the thoracic duct. The absorbents of the liver, which are extremely large and numerous, proceed from its convex surface through the right and left, and suspensory ligaments of that viscus; some of their branches descend upon the diaphragm, and terminate in the thoracic duct near the coeliac artery; others penetrate the diaphragm and go to glands on the outside of the pericardium, from whence they proceed through the anterior mediastinum to the thoracic duct; others accompany the internal mammary vessels on the inside of the sternum, and those of the right side end in the right trunk of the absorbents. Some of the absorbents from the interior part of the liver, emerge from its posterior edge, and join those superficial absorbents. The deep-seated absorbing vessels of the liver ramify in its substance like the vena portæ; they come out where that vessel enters the gland, and being joined by the superficial absorbents of the concave surface of the liver, they pass through numerous glands situated in the capsula Glissoni, and afterwards join the thoracic duct. The absorbents of the diaphragm are numerous, and join with, and augment those large trunks, which arise from the liver and penetrate that muscle. Both these sets of vessels are connected with glands, situated towards the front of the thoracic surface of the diaphragm, on each side of the pericardium. The absorbents of the heart are found in company with its nutrient vessels; the trunk of absorbents belonging to the right coronary artery passes by the side of the aorta in a gland near the origin of the right carotid, and terminates in the right trunk of the absorbing system. The absorbents accompanying the left coronary artery, which are much larger than the former, proceed with the pulmonary artery to glands near the trachea, are there conjoined with the pulmonary absorbents, and empty themselves into the

thoracic duct near its termination. The absorbents of the heart pass through the cardiac glands, which are situated about the arch of the aorta.

The absorbents of the lungs may be distinguished into the superficial and deeper seated. Those on the surface are distributed in the areolæ, surrounding the small lobules of those organs, and appear like the fibres of network. The deeper seated absorbents which communicate with the others, emerge where the air-vessels enter the lungs, and both classes terminate in the bronchial glands, which are numerous, and surround the bronchiae. These glands are also connected with those belonging to the heart, so that both sets of glands frequently participate in the same disease. Three or four large trunks of pulmonary absorbents proceed more immediately, or more remotely, to pour their contents into the thoracic duct; the upper ones do not reach that vessel till it approaches its place of insertion in the venous system.

Numerous absorbents have been seen upon the œsophagus, and there are many glands placed along the course of that tube. The absorbents of the œsophagus conjoin with those of the heart and lungs. Absorbents have been injected in company with the intercostal blood-vessels, which pass through two small glands, situated near the head of each rib, and then enter the thoracic duct. The superficial absorbents of the upper extremity accompany the superficial veins, those from the palm and outside of the hand, near the little finger, run up with the ulnar veins over the internal condyle, and then accompany the basilic vein to the axilla, when they enter numerous glands situated in that part. These absorbents, however, previously are connected with several glands, which are situated in the course of the basilic vein, one of which is found as low as the internal condyle of the os brachii. The absorbents of the thumb, and the outside of the hand in its vicinity accompany the radial veins to the elbow, and then ascend on the outside of the biceps muscle with the cephalic vein. Arriving at the deltoid muscle they bend along its inner edge, and pass between it and the pectoral muscle to glands situated beneath the clavicle. Other cutaneous absorbents have been injected from the palm of the hand, accompanying the median veins in the forearm between these two sets, which afterwards terminate in those, which accompany the vena basilica. The deep-seated absorbents of the arm are found by the sides of the large arteries, and go to the glands of the axilla. The absorbents of the shoulder also terminate in the same glands. The axillary glands, and those beneath the clavicle are connected together, and their vasa efferentia conjoining form a large trunk, which terminates in the thoracic duct on the left side, and is one of the principal vessels forming the corresponding trunk of absorbents on the right side.

Absorbents have been injected on the outside of the head in company with all the principal arteries: for instance, the temporal, occipital, external, and internal maxillary arteries; those from the temple pass through small glands found on the parotid gland as high as the zygoma: those from the face in glands, situated in the cheeks and outside of the jaw: those from the occiput in glands, situated behind the mastoid process. They afterwards converge, and with the deeper-seated absorbents terminate in the most numerous cluster of glands found in any part of the body, excepting only those of the mesentery. They have been named glandulae concatenatae, and extend beneath the jaw, over the side of the neck, where the external jugular veins are found, and all along the internal jugular to its termination. No absorbents can with certainty be said to have been injected

in the brain. The absorbents of each side of the neck having by conjunction formed a common and large trunk, it terminates on the left side in the thoracic duct near its insertion, and on the right it contributes to form the corresponding trunk. The absorbents of the thyroid gland form two vessels of considerable size, which end in these two ducts near their termination. Some of the absorbents of the breast, which are very numerous in females, proceed to the axillary glands, being previously connected with some small glands, situated midway between the breast and axilla; others pass over the pectoral muscle to the glands, beneath the clavicle, and others from the back part of the breast penetrate the intercostal muscles, and join the absorbents and glands, which accompany the internal mammary blood-vessels.

Naturalists, as Malpighi, Leewenhoek, De la Hire, &c. speak of similar absorbents in plants; the fibrous or hairy roots of which are considered as a kind of *vasa absorbentia*, which attract and imbibe the nutritious juices from the earth and air. From the sap-vessels they pass into the whole cellular tissue, composed of vesicles and closely interwoven with the whole vascular part of the plant. Thence they enter the vasa propria and glands, which contain and prepare the fluids and secretions peculiar to the species. See PLANTS and VEGETATION.

ABSORBENTS, Diseases of the, in Surgery. When we consider how recently the structure and uses of the absorbent vessels have been explained, it is not surprising that practitioners are too neglectful of this branch of pathology. Until these last six years, we have not met with one publication on the diseases of the absorbent system; and even to the present day we do not possess a single work upon this subject in the English language. A few scattered hints, indeed, are contained in the writings of several authors; but it still remains a desideratum, to point out—What are the peculiar morbid affections of the lymphatic glands and vessels, and what are their appropriate remedies? To solve this enquiry in a satisfactory manner, would occupy an entire volume. We can, therefore, only throw out a few casual hints, and recommend the farther prosecution of the subject among medical men.

I. Of morbidiferous fluids contained in the absorbent system.

We know, from the experiments of physiologists, and especially of Mr. Abernethy, that the absorbents which open on the surface of our bodies, imbibe both aqueous and gaseous matters derived from the atmosphere, or from substances lying in contact with the skin. It is desirable to have the precise nature of these matters ascertained in different persons, under the various circumstances of health and disease; and to determine what means are advisable, in order to regulate their quantities or qualities. If our health may be affected by the absorption which goes on upon the external surface of the skin, there is equal reason to believe we are sometimes influenced by the nature of the vapours that must be constantly imbibed from the cavities, reservoirs, or interstices of the body. When the synovia, the milk, the bile, semen, and other secreted fluids become inspissated, this change arises from the more watery parts having been absorbed and carried into the sanguiferous system by the lymphatic vessels. When serum, pus, or blood has been effused among the cellular membrane, its disappearance is entirely owing to the activity of the absorbents. In a dropsy or an emphysema, the same agents are occasionally set to work, and will effect a removal of the disease. Other examples might be adduced to illustrate the different ways in which the absorbent vessels may be irritated and undergo a morbid change from the quality of their contents, not

to mention the noxious vapours applied to them by means of contagious disorders.

11. *Of irregular action in the absorbent vessels.*

The irritability or contractile power of the absorbents may be preternaturally weakened; and in that case, probably, there will be an accumulation of the secreted fluids in one or more of the different natural cavities or interstices of the body; for, unless the action of the absorbents keep pace with that of the exhalent or secreting arteries, the natural equilibrium must inevitably be destroyed. Thus it happens in dropsies: either the arteries deposit a larger quantity of serum than can be carried off by the natural power of the absorbents; or, the latter are defective in their action, and cannot take up their usual proportion of fluid. The different causes and remedies of diminished or increased action in this system of vessels is, therefore, an important object of enquiry.

111. *Simple changes in the structure of absorbents.*

Anatomists have taught us to look for various alterations in the structure of absorbent vessels and glands, under particular circumstances of disease. The diameter of these vascular bodies is often entirely obliterated by external compression and other causes. They may be ruptured, wounded, lacerated, or eroded. They may be thickened in their coats, or rendered unfit for use by excessive inflammation and suppuration.

It would be entering into a very wide field of enquiry, to consider what changes the absorbent glands and lymphatics undergo in consequence of the absorption of morbid poisons; for example, in cancer, in syphilis, in the yaws, in the venereal, morbillous, and vaccine diseases, &c. &c. On this subject, we particularly recommend the perusal of professor Soemmerring's Dissertation, *De morbis vasorum absorbentium corporis humani*, 8vo, 1795; Dr. Baillie's *Morbid Anatomy*, 2d edition; Maccagni's splendid work, *De Venis Lymphaticis*; Mr. Cruikshank's book on *the Anatomy of the absorbing vessels*, 2d edition, 4to.; Adams on *Morbid Poisons*; and the concluding part of Dr. Darwin's *Zoonomia*, vol. i. 3d edition, 8vo. Connected with this subject, it may also be worth while to peruse a curious original piece, intitled, an *Essay on external Remedies, wherein it is considered whether all the curable distempers incident to human bodies, may not be cured by outward means*. By P. Kennedy, *Chir. Med.* 8vo. London, 1715. Respecting the latter work, the author says, "there has never, as yet, any thing been attempted of this kind." *Introduct.* p. 5.

ABSORBENTS, or ABSORBENT EARTHS, in *Chemistry*, are those earthy substances which are capable of imbibing by capillary attraction a large proportion of water: such are magnesia, lime, and clay. It is, however, only when these bodies are dry and porous, that they exhibit this property; for certain gems, which are pure argil, and calcareous spar, which, chemically speaking, is the same with chalk, are not in the least degree absorbent. Hence appears the impropriety of this term in chemical nomenclature. Indeed it is at present almost discarded.

ABSORBENTS, in the *Materia Medica*, comprehend those medicinal substances, which, taken inwardly, or applied externally, are adapted to dry up or absorb redundant or acid humours. They are sometimes called driers and sweeteners, and by the Latin writers the word is synonymous with *imbibentia* and *saurantia*. The term has been occasionally confounded with ALKALI, because alkalis have the effect of absorbents with respect to acids. It is now almost restricted to certain earths, which are distinguishable from others by their solubility in acids, and which are suited to imbibe acids, and at the same time to destroy their acid quality. In reference to this property, some have re-

ferred them to the class of ANTACIDS. Of the *absorbents* we may reckon the mineral calcareous earths, such as; the animal calcareous earths, as crabs-eyes and cuttle-bone, egg-shells, pearl, coral, and coralline; and animal earths, not calcareous, as crabs-eyes and burnt hartshorn. The obvious and immediate virtue of these substances is to absorb acid humours in the first passages, and thus to remove the cardiac and other complaints occasioned by them; and they possess different properties, and produce different effects, according to the material which they absorb, and by which they are refilled. The relief they give is often merely temporary, as they have to absorb the acid already generated, without correcting the indisposition which tends to produce it. In some cases they are injurious, for if there be no acid humours in the stomach and intestines, these earthy bodies not being soluble by any other kind of fluid, congregate with the viscous contents of the stomach, and form with them indigestible masses, which may be very hurtful. Hence have proceeded indigestion, loss of appetite, nausea, vomiting, obstructions of the bowels, and other disorders. Sometimes they have formed a kind of crust on the stomach and intestines, which has prevented the separation of the gastric liquor, and obstructed the passage of the chyle through the orifices of the lacteal vessels into the mass of blood. The taking of an immoderate quantity of crabs-eyes and other absorbents for the heart-burn, has sometimes been attended with fatal consequences. See *Phil. Trans.* No. 459. Sect. 2.

It is observed that absorbents are of more general use in infancy than in adult age. Young children are more subject to acidities than adult persons, because their food is chiefly of the vegetable acedent kind, and produces acidities, which are attended with alarming symptoms, and productive of various disorders. When infants, or persons of mature age, but of a feeble constitution, indicate complaints of this kind by four eructations, paleness of the face, and in the case of children by the four smell and green colour of the alvine feces, absorbent medicines may be very properly administered. The other cordial, alexipharmic, antifebrile, and similar virtues ascribed to these medicines, seem to be founded on an erroneous theory, which attributes the acute diseases of adults to a morbid acid; diseases which, instead of being produced, are more successfully subdued by acids. The use of absorbents, says Dr. Lewis (*Mat. Med.* p. 643.), in different kinds of fevers, is nevertheless still continued, and sometimes perhaps with advantage; for though the earths of themselves are apparently rather injurious than beneficial, yet as acids are often given freely at the same time, the solution of the earth in the acid may prove a medicine more serviceable in particular cases than the acid unobtunded. Different absorbents have been selected and recommended for particular purposes. If it be the intention to absorb, constringe and strengthen at the same time, chalk, coral, oyster or egg shells, are esteemed the most efficacious absorbents; if for restraining a seminal flux, some prefer the cuttle-bone; for provoking urine, crabs-eyes; for promoting perspiration, burnt hartshorn; and for dissolving coagulated blood, crabs-eyes dissolved in vinegar. But all these differences have not yet been sufficiently determined by experience, because the earths have rarely been given in a dissolved or soluble state. It is most probable, says Dr. Lewis, that they all act, when dissolved, as mild cooling restringents; for when they are given in substance, as absorbents, in cases of acidities, they all tend to restrain fluxes of the belly, or to bring on costiveness; an effect which should be regarded in the use of them. It is, therefore, a necessary caution to drink diluting liquors with them; and also

be absorbent, not to their assurgent quality, but merely to their capacity of being imbibed. Dr. Boerhaave, in his *Commentaries on Boerhaave's Aphorisms*, observes, that these absorbent powders ought not to be ground too fine, but rather left somewhat coarse, as they will be less apt to concrete upon the surface. The College of Berlin, however, sensible of the advantage of having the earths, when administered in febrile cases, previously dissolved, or reduced to a soluble saline form, directs them to be digested in distilled vinegar with a gentle heat, till the menstruum ceases to act, and the filtered solution to be inspissated to dryness. This preparation, says Dr. Lewis, is greatly preferable to the simple imbibition with vinegar or lemon-juice recommended by some; as by this last management the earth is made soluble only in part, and in an undeterminable proportion. Absorbents are sometimes applied to ulcers; but it is to be observed, that the insipid terrestrous absorbents, such as coral, &c. put into an ulcer, where a bone is carious, can have little effect besides that of imbibing the matter of the ulcer: if they fall into any *cavernule* of the corrupted bone, they may remain so long there, that the matter imbibed by them may become acid. Lint is an absorbent, which has not this disadvantage. See *Monro in Med. Ess. Edinb. vol. v. art. 24.*

Experiments have been made for determining the comparative strength of different absorbents, or the quantities of acid they are capable of satiating. Langius (*Op. Med. Lib. 1704, p. 452.*) reports, that 10 grains of crabs-claws destroyed the acidity of 40 drops of spirit of salt; that egg-shells, crabs-eyes, and mother-of-pearl, taken in the same quantity, saturated 50 drops each; red coral, white coral, and fixed alkaline salt, 60 drops each; volatile alkaline salt and pearl, 80 drops each; chalk, 100 drops; oyster-shells, 120; and some lime-stones, 160. These experiments cannot be much relied on, as earths have different habitudes to different acids. Accordingly Homberg concludes from his experiments, (*Mem. Acad. Royal. des Sc. de Paris pour l'ann. 1700.*) that oyster-shells require for their solution more of the marine acid than coral does; whereas the case is the reverse with the nitrous acid. But neither of these acids is that which absorbents are designed for satiating in the human stomach. The vegetable acids, and the acid of milk, are most analogous to those which are generated in the animal body; and on trying these with the several substances above enumerated, the differences in their absorbent powers appeared not to be very great. *Lewis Mat. Med. 645.*

ABSORBING, the act of sucking up, or imbibing another body. Sir Isaac Newton shews that black bodies absorb all the rays they receive, and that those rays of light which impinge against the solid particles of bodies are absorbed and lost: but it appears from some later experiments and observations of M. Bouguer, that this effect is to be attributed, not to the impact of light on the solid parts of bodies, but to the action of some power diffused over their surfaces. He found by repeated trials on the reflection of

light, from the surface of water, and of different pieces of crystal, that a considerable quantity of light, when the angles of incidence were small, was actually extinguished. This light, he observed, was diminished by increasing the incidence; so that at an inclination to crystal of above $49^{\circ} 49'$, a very small part of the rays was absorbed; though some few were lost, when they fell perpendicularly on the reflecting surface. See his *Traite d'Optique. Paris 1760.*

ABSORPTION, is the *Animal Economy*, is the function performed by the **ABSORBENT** vessels above described. The only opportunity which anatomists have hitherto met with of observing the orifices of these vessels, is upon the villous coat of the intestines. The accounts which have been given of them in that situation are so various, and delivered with such little confidence as not to warrant the insertion of any description. The internal coat of the intestine is seen speckled with chyle coagulated in the mouths of these vessels, in persons who have died when the absorption of that fluid was carrying on. The evident reluctance with which the absorbents admit noxious matter has led to the general belief, that their mouths are irritable, and have the power of denying admission to stimulating substances. Various theories have been formed to account for the admission of matter into the orifices of the absorbing vessels; but whichever theory be adopted, it is previously necessary to admit a corresponding aptitude in the vessel to receive, and in the matter to be received. This being granted, some physiologists have imagined that the absorbent attracted matter into its mouth, in the same manner that capillary tubes imbibe fluids. A little reflection is sufficient to shew that the absorbing vessels are not circumstanced like capillary tubes (the sides of which are rigid) immersed in a fluid. Besides, were such attraction the cause of absorption, that process should be carried on with regularity. On the contrary, absorption is occasionally very deficient when an abundance of fluids, as in œdema, is presented to the mouths of the vessels. This fact may indeed be explained by supposing the orifices of the vessels to be in a contracted state, but the contrary problem is more difficult of solution. In the course of one night a pint of pus may be imbibed from the cavity of an abscess, and sometimes absorption is so excessive that the very substance of the body is in parts removed, and chafms in consequence created.

Other physiologists have endeavoured to discover some propelling power which should protrude the matter subject to absorption into the mouths of these vessels. The pressure of the atmosphere on the surface of the body has been considered adequate to this effect, and the deposition of new matter by the fecerning artery has been assigned as the cause of the propulsion of the old particles into the orifice of the absorbent. Were this theory correct, secretion and absorption should more exactly correspond than they are known to do; like the former theory, it appears inadequate to account for the facts above stated.

Mr. John Hunter who contemplated the facts of natural and morbid absorption in animal bodies with the most steady attention, acknowledged that he was unable to account for the effects produced, unless by attributing to the mouths of these vessels powers similar to those which a caterpillar exerts when feeding upon a leaf. This idea, however, has generally been considered as too wild and chimerical.

Doctor Fullarton, in his ingenious *Thesis* on absorption, published at Glasgow in 1800, attributes to the absorbing orifices a power of suction, which opinion he supports not only by arguments but by analogies. The umbilical tube of the embryos of the sepia and polypi is said, on the authority

thority of Albinus, to absorb by fuction. The proboscis of the papilionaceous flies acts in the same manner. And the absorbents of the celinus marinus have this power in so great a degree as to enable the animal firmly to attach itself to any substance which it may happen to touch. It may be right to remind the reader that the difficulty in accounting for the function of these vessels exists only at its commencement, for when the imbibed matter has gone beyond the first valve it must proceed, and it will be powerfully carried forward by the contractile force of the vessel, and by every occasional pressure which is applied to it. Some physiologists believe that the absorbents cannot take up any matter that is not fluid. If this opinion were true, the solids of our bodies must be converted into fluids before they could become subjects for absorption. A small addition of phosphoric acid might indeed render the earth of bones soluble, and it is in this state, that it is carried out of the circulating fluids by the urinary secretion. No liquid has been conceived capable of dissolving such solids as compose the muscular fibres, but one that resembles in qualities the gastric juices. Dr. Stringham, in his Thesis on the absorbing vessels published in Edinburgh, and Mr. Smith in London, imagined they had discovered that such a fluid capable of dissolving flesh, could be secreted in various parts of the body. See Duncan's Med. Com. vol. x. p. 354. Subsequent experiments have, however, been followed by contrary consequences. See Dr. Fullarton's Thesis on absorption, published at Glasgow, A. D. 1800. Indeed it is unlike the simplicity observable in other parts of the animal œconomy, should such a double secretion take place; first, the secretion of solid materials to compose the structure of the body, and then the secretion of a fluid to dissolve them. It seems best in such difficult investigations to note facts rather than to form theories, and whoever contemplates the things done in the animal body will be astonished at the powers of the vessels by whose agency they must be effected. As an instance, the following may be mentioned. A whole bone may perish, it may be encased by a new one; and by the vascular lining of the new bone, the original dead bone may be altogether removed.

ABSORPTION, in Chemistry. It is a well known chemical fact, in most cases of combination of gaseous substances, either with other gases or with liquids or solids, that a very considerable diminution of volume is experienced. This effect is called absorption, to distinguish it from the decrease of bulk occasioned by condensation. The condensation of a gas, whether by mechanical pressure, or by lowering its temperature, merely increases its specific gravity, without destroying that state of elastic fluidity which is essential to its existence as a gas. On the contrary, the absorption of a gas implies such an intimate union with the absorbent as wholly destroys its gaseous state of existence, and reduces it to a liquid or a solid. Thus carbonic acid and ammoniacal gases, if inclosed in separate vessels, may be condensed, by mechanical means, till they are of much greater specific gravity than ordinary, but yet retaining all the physical properties of air: as soon however as these gases are brought into contact with each other, a great absorption takes place, and a solid is produced containing all their gravitating matter, but wholly deprived of the essential character of a gas.

In pneumatic chemistry, or that branch of the science which treats of the aeriform substances, the apparatus for containing the gases consists of jars or other glass vessels inverted in water or quicksilver; now on account of the great difference in specific gravity between these fluids, whenever a jar partly filled with air, and the rest of its capacity with

quicksilver, is transferred from a fluid of a different density of water, the inverted jar, and consequently the column of water, will sink or rise, till it is supported in equilibrium; this fallacy has no doubt often vitiated the results of experiments, and the error done is the more difficult to be detected. For example, if a jar of water be inverted in quicksilver, and the height of the column of water be 24 inches, and the pressure of the atmosphere be 30 inches of mercury, the pressure on the confined air = 30 inches of mercury - 24 inches = 6 inches; but if the jar, with its contents, be removed into a basin of water, the quicksilver sinks down and is replaced by water, in consequence of which the atmospheric pressure on the confined air becomes = 30 inches of mercury - 6 inches of water, or (the specific gravity of water being 14:1) = 24 inches of mercury. The pressure here amounts to full one sixth of the whole atmospheric pressure, and therefore the inclosed air occupies less space than before, although no real absorption has taken place. See *PNEUMATIC Chemistry*.

ABSORPTION of the earth, in *Natural History*, a term used by Kircher and others, for the sinking in of large tracts of land, by means of subterranean commotions, and many other accidents.

Pliny (Hist. Nat. tom. i. p. 115. Ed. Hard.) tells us, that in his time the mountain Cybotus, with the town of Curites, which stood on its side, were wholly absorbed into the earth, so that not the least trace of either remained: and he records the like fate of the city of Tantalus in Magnesia, and after it of the mountain Syphilus, both thus absorbed by a violent opening of the earth. Galanis and Gamales, towns once famous in Phœnicia, are recorded to have shared the same fate: and the vast promontory, called Phegium, in Æthiopia, after a violent earthquake in the night-time, was not to be seen in the morning, the whole having disappeared, and the earth having closed over it. These and many other histories, attested by authors of greatest credit among the ancients, abundantly prove the fact in the earlier ages; and there have not been wanting too many instances of more modern date. Kircher's Mund. Subter. p. 77.

The mountain Picus, in one of the Molucca isles, was so lofty, that it appeared at great distances as an immense column reared erect in the air, and served as a land-mark to sailors; an earthquake in this island destroyed it; at one instant the whole mountain was absorbed into the bowels of the earth, and no mark of its place remained, but a vast lake of water exactly answering to the shape of the base of the mountain. A like accident, but of a more terrible kind, happened in China, in the year 1556, when a whole province of the mountainous parts of that kingdom was in one moment absorbed into the earth, and all the towns buried, the whole number of the inhabitants sinking with it, and an immense lake of water remaining in its place to this time. Of much later date is the destruction of a city in the confines of Switzerland: but this, though generally said to have been swallowed up into the earth, was not properly an absorption, for the whole city was buried by the fall of a mountain upon it.

The burning mountains, **VESUVIUS** and **STRONGYLUS**, both once very high, have in length of time lost half their height, the upper part having been undermined by the burning, and having fallen into, and been absorbed by the unduried matter below. Another instance of the same terrible earthquake in the Kingdom of Chili, several high mountains in the **Andes** disappeared, and were one after another wholly absorbed in the earth.

These, and a thousand other accidents of the like kind,

prove the truth of absorptions in general; some of them have had a particular place of the things absorbed, some have had a particular place, and some lakes of fresh or salt water; and it may be that many immense lakes were formed in places which we have to believe by the like absorptions.

Pluvial seas may be a source of the raising of places thus elevated, but like elevations do not give an equal credit to that parts of the history.

There are instances, however, of ISLANDS being produced, though we cannot affirm them to have appeared in the place of any which have been destroyed.

In the year 1658, an island was raised near St. Michael's in the Atlantic ocean, by subterranean fires, which threw stones and other subterranean productions, in such quantities that they formed an island of five miles in length. The mountain raised in one night, in the sea near Puzzoli, is another instance of this sudden production of these mountains: this appeared after one night's violent subterranean eruption, and still keeps its place, and is known by the name of Mons Sacer. See ILLAND.

ABSTEINEN, in *Geography*, a district near the river Memel, in Little Lithuania. It is a mountainous and pleasant country, and on account of its fertility in corn and pasturage, called the larder of Lithuania. It abounds with flocks of sheep, various kinds of grain, and excellent horses.

ABSTEMII, in *Ecclesiastical History*, a name given to persons who could not partake of the cup of the Eucharist, on account of their natural aversion from wine.

ABSTEMIOUS, is properly understood of a person who refrains absolutely from all use of wine.

It is compounded of *abs*, from, and *timetum*, coine.

The history of Mr. Wood, in the *Medic. Transf.* vol. ii. p. 261. art. 18. is a very remarkable exemplification of the very beneficial alterations which may be effected on the human body, by a strict course of abstemiousness.

The Roman ladies, in the first ages of the republic, were all enjoined to be abstemious; and that it might appear, by their breath, whether or not they kept up to the injunction, it was one of the laws of the Roman civility, that they should kiss their friends and relations whenever they accosted them.

ABSTEMIUS, *Laurentius*, in *Biography*, a native of Macerata, in Italy, who made a very considerable progress in polite literature, to which he devoted himself in early life. He taught the belles lettres at Urbino, where he was librarian to Duke Guido Ubaldo, under the pontificate of Alexander VI. His works are Notes on different passages of ancient authors: Hecatomythium, or a Collection of 100 Fables, which have been often printed with those of Æsop, Phædrus, Gabrius, Avienus, &c. and a preface to the edition of Aurelius Victor, published at Venice, in 1505.

ABSTENTUS, among *Civilians*, is understood of an heir with-held by his tutor from taking on him an inheritance. Among *Ecclesiastical Writers*, the word is also used for a person excommunicated.

ABSTERGENTS, or **ABSTERSIVE medicines**, more usually called among physicians **DETERGENTS**, are medicines which not only wash off adhering substances, as **ABLUENTS**, but are supposed to possess a power of resolving and loosening their collection. But the terms are too general, and are often erroneously applied upon a false supposition, that they have a power of resolving viscid substances, which water simply, as an abluent, cannot effect.

ABSTINENCE, derived from *abstinere*, formed of *abs*, from, and *ten-re*, to hold, in a general sense, the act or habit of refraining from something to which we have a propensity, or in which we find pleasure.

The Jews were obliged to practise various kinds of abstinence by their law. The Pythagoreans were accustomed, upon being initiated into the fraternity of the select companions and friends of Pythagoras, to abstain from animal food, except the remains of the sacrifices, and to drink nothing but water, unless in the evening, when they were allowed a small portion of wine. Some of the primitive christians also abstained from the use of particular kinds of food, whilst others treated their abstinence with contempt. See Rom. xiv. The council of Jerusalem, which was held by the apostles, enjoined the christian converts to abstain from meats strangled, blood, fornication, and idolatry. Acts xv. 20. The abstinence, called *ritual*, which consisted in abstaining from particular meats at certain seasons, was introduced by the Romish church, prescribed by rules, denominated **ROGATIONS**, and grossly abused. The church of England also recommends certain days of fasting and *abstinence*.—*Abstinence from flesh* has been enjoined by statute even since the Reformation, particularly on Fridays and Saturdays, and on Vigils, and all commonly called fish-days, 2 and 3 Ed. VI. c. 19.—The like injunctions were renewed under queen Elizabeth, but at the same time it was declared, that this was done, not out of motives of religion, as if there were any difference in meats, but in favour of the consumption of sea-fish, and to multiply the number of fishermen and mariners, as well as spare the flock of sheep. 5 Eliz. c. 15. The great fast, says St. Augustin, is to *abstain from sin*. See **FAST**.

The ancient Athletes lived in a perpetual abstinence from all kinds of sensible pleasure, to render their bodies more robust and hardy.

ABSTINENCE is more particularly used for a spare **DIET**, or a slender parsimonious use of **FOOD**.

The Physicians relate wonders of the effects of abstinence in the cure of many disorders, and in protracting the term of life. The noble Venetian Cornaro, after all imaginable means had proved vain, so that his life was despaired of at forty, recovered, and lived to near a hundred, by mere dint of abstinence, as he himself gives the account.

Many of the christians of the east, who retired from persecution into the deserts of Arabia and Egypt, lived in health and cheerfulness to a very advanced age on very little food. According to Cassian, the common allowance for twenty-four hours was twelve ounces of bread, and water; and yet with this subsistence St. Anthony lived 105 years, James the Hermit 104, Arsenius, tutor of the emperor Arcadius, 120; Epiphanius 115; Simeon the Stylite 112; and Romauld 120. Buchanan informs us, that one Laurence attained to 140, by temperance and labour: and Spotswood mentions one Kentigern, called St. Mongah or Mungo, who lived to 185 by the same means. See **LONGEVITY**.

Most of the chronical diseases, infirmities of old age, and the short lives of Englishmen, are owing, according to Dr. Cheyne, to repletion; and may be either cured, prevented, or remedied, by abstinence.

Abstinence, however, should be maintained with discretion, and with a due regard to age, sex, climate, exercise, disposition to corpulence in the individual, and various other circumstances; without a reference to which, it may be pursued to a very hurtful extreme. It is certain, that many persons have irreparably injured their constitutions by excessive parsimony; and those who, either by design or accident, have fasted long, seldom enjoy good health afterwards.

Among the brute creation, we see extraordinary instances of long abstinence.—It is the natural course of divers species

to pass four, five, or six months, every year, without either eating or drinking: accordingly the tortoise, dormouse, serpent, &c. are observed regularly to retire, at certain seasons, to their respective cells, and hide themselves; some get into the caverns of rocks, or ruins; others dig holes under ground; others get into the woods, and lay themselves up in the clefts of trees; others bury themselves under water, &c. See SLEEPERS.

The serpent kind bear abstinence to a very great degree. We have seen rattle-snakes that have subsisted many months without any food, yet still retain their vigour and fierceness. Dr. Shaw (Trav. p. 411.) speaks of a couple of *cerastes* (a sort of Egyptian serpents), which had been kept five years in a large crystal vessel, without any sort of food, unless a small quantity of sand, wherein they coiled themselves up in the bottom of the vessel, may be reckoned as such; yet, when he saw them, they had just cast their skins, and were as brisk and lively as if just taken.

Indeed, several species of birds, the whole tribe almost of insects, and many among the other tribes, are able to subsist all through the winter, not only without food, but many of them in a state of apparent insensibility and torpor.—This furnishes an admirable instance of the wisdom of the Creator: the proper food of these creatures, especially the insect tribe, being then wanting, there is provision for them to live without it. When the fields are divested of their flowery furniture, and the trees and plants are stripped of their fruits, what would become of such animals as are subsisted only by the produce of the spring and summer, and of others which are incapable of bearing severe cold? To prevent the total destruction and extirpation of many species of animals, the Author of nature has provided, that creatures, bereaved by the season of their food, should be likewise impatient of cold: that they might thus be led to shelter themselves out of the way of danger; and that when arrived in a place of safety, the natural texture and viscosity of their blood should dispose it, by a farther degree of cold, to stagnate in the vessels: so that the circulation stopping, and the animal functions being, in a great measure, suspended, there is no sensible waste or consumption of parts, but they remain in a kind of drowsy neutral state, between life and death, till the warm sun revives both them and their food together, by thawing the congealed juices, both of such animals and vegetables. The fact, however, is questionable; and will be more particularly considered hereafter.

It is more than probable, that all motion of the animal juices is extinct in flies, and other insects, when thus asleep; because, though they are cut in pieces, they do not awake; nor does any fluid ooze out of the wound, unless some extraordinary degree of warmth hath been first applied to unbind the congelation. See *Hybernation*. The sleep of such animals is little else than death, and their waking a resurrection.—For if life does not consist in a circulation of the blood, we do not know in what it consists.

Hence it is no wonder that tortoises, dormice, &c. are found as fat and fleshy, after some months abstinence, as before. Sir G. Ent weighed his tortoise several years successively, at its going to earth in October, and coming out again, in March; and found that of four pounds four ounces, it only used to lose about one ounce. Phil. Trans. N^o 194.

We have some instances of men who have passed several weeks, and even months in abstinence without injury. The records of the Tower mention a Scotsman, imprisoned for felony, and strictly watched for six weeks; during which time he did not take the least sustenance: on which account he obtained his pardon. There are many cases

of abstinence from mortal causes, that are related in the different periodical Memoirs, Transactions, Ephemerides, &c.

It is to be added, that in most of the instances of long abstinence related by naturalists, there were apparent marks of a texture of blood and humours, much like that of summer beasts and insects; though it is no improbable opinion that the air itself may furnish something for nutrition. It is certain, there are substances of all kinds, animal, vegetable, &c. floating in the atmosphere; which must be continually taken in by respiration: and that an animal body may be nourished thereby, is evident in the instance of vipers; which, if taken when first brought forth, and kept from every thing but air, will yet grow very considerably in a few days. So the eggs of lizards are also observed to increase in bulk, after they are produced, though there be nothing to furnish the increment but air alone; after the like manner as the eggs or spawn of fishes grow, and are nourished with the water. And hence, some say, it is, that cooks, turnip dogs, &c. though they eat but little, yet are usually fat.

ABSTINENCE is also used sometimes to signify a suppression. Thus in Celsus Aurelianus, *abstinentia sudoris*, signifies a suppression of sweat. Sometimes in this author it means a compression; as *Spiritus ab abstinentiam clausus*, means the wind shut up in the intestines by compression, thereby causing the ILIAC passion.

ABSTINENTES, in Ecclesiastical History, a sort of people, who carried abstinence and mortification so far, that they have been put into the catalogue of heretics; though it is not known in what their error consisted.

Some represent them as the same with those otherwise called *Continentes*, and that they particularly enjoined abstinence from the use of marriage: others say, from flesh, and others from wine. Others will have them a branch of the GNOSTICS. Some make them the same with the HIERACITES; others with the ENCRATITES. They are said to have risen in Spain and France towards the close of the third century.

ABSTOTTEN, in Geography, a small market town, belonging to the bishop of Passau, in the circle above the forest of Wiener, in Austria.

ABSTRACT, ABSTRACTUM, in a general sense, any thing separated from something else.

ABSTRACT *of a fine*, in Law. See FINE.

ABSTRACT *idea*, in Metaphysics, is a partial idea of a complex object, limited to one or more of the component parts or properties, laying aside or abstracting from the rest. But among those who adopt the system of Mr. Locke, an *abstract idea* denotes an idea formed in the mind, when we consider a thing simply in itself, without respect to the subject wherein it resides; or it is a simple idea detached and separated from any particular field, and considered for the sake of viewing and considering it more distinctly.

Thus, magnitude and humanity are *abstracts* or *abstract ideas*, when considered in themselves, and without being attached to any particular body, or person; though they cannot have any real subsistence without such subjects, nor the subjects without them.

Whiteness is an abstract, inasmuch as it does not denote any one white object, but that colour, or idea in the general, wherever found.

Abstract ideas are opposed to those which are concrete; the concrete denoting a general or abstract idea's being attached to some particular subject, or considered as combined with some other idea: as, *great body*, *white wall*. All our simple ideas, says Mr. Locke, have abstract, as well as concrete names: *whiteness*, *whiteness perceived*, *white*, &c. The

like manner as the ideas themselves are *general*, and representatives of all of the kind.

The faculty of abstracting stands directly opposite to that of compounding. By composition we consider those things together, which in reality are not joined together in one existence. And by abstraction we consider those things separately and apart, which in reality do not exist apart. Abstraction is chiefly employed in these three ways. First, when the mind considers any one part of a thing in some respect distinct from the whole; as a man's arm, without the consideration of the rest of the body. Secondly, when we consider the *mode* of any substance, omitting the substance itself, or when we separately consider several modes which subsist together in one subject. This abstraction the *Geometricians* make use of, when they consider the length of a body separately, which they call a *LINE*; omitting the consideration of its breadth and depth. Thirdly, it is by abstraction that the mind frames general, or universal ideas; omitting the modes and relations of the particular objects whence they are formed. Thus, when we would understand a thinking being in general, we gather from our self-consciousness what it is to think; and omitting the consideration of those things which have a peculiar relation to our mind, or to the human mind, we conceive of a thinking being in general.

Indeed the reality and existence of all abstract ideas, and of any faculty in the mind as abstraction, have of late been controverted, and actually denied by persons of very considerable character as metaphysicians and philosophers. It will appear from the following that they are the terms *abstract ideas* under the article *ABSTRACTION*.

Abstract terms, are those made use of to denote *abstract ideas*. In which sense the words *colours*, *poterri-*, *formality*, *figure*, *modality*, &c. are *abstract* or *abstract terms*.

Abstract mathematics. See *MATHEMATICS*.

Abstract numbers, are assemblages of units considered in themselves, and not applied to denote any collections of particular sorts of things.

Abstract, in *Literature*, is a compendious view, or a *summary* of a larger work, and is supposed to be somewhat shorter, and more superficial than an *ABRIDGMENT*.

ABSTRACT, *abstracted*, in *Church History*, is a name given to a sect among the Lutherans, under the lead of Hübner, a Prussian bishop, who asserted against Beza, "that Christ was to be adored not only in the concrete, as the son of God, but that his flesh in the abstract was an object of adoration." Wigandus prevailed so far against Hübner as to get him deposed: afterwards the *Abstracti* gained the ascendancy, and Wigandus was silenced. Micraël. Hist. Eccl. l. iii. f. 2. &c. Budd. Isag. Hist. Theol. l. ii. c. 7.

ABSTRACTION, in *Chemistry*, properly means the act of drawing off or separating, by means of heat, one part of a compound from the other. If the part abstracted is collected, the operation is synonymous with *DISTILLATION*. If it is not collected, the term has the same meaning with *EVAPORATION*. At present, however, it is almost entirely appropriated to the repeated distillation of nitrous acid off any substance; in which case it is said to have been abstracted *with* the acid.

ABSTRACTION, in *Metaphysics*, an operation of the mind, whereby we separate things naturally conjunct, or united together; and form, and consider, ideas of things thus separated; or, as others define it (see Duncan's Elements of Logic, p. 51.), *abstraction* is that operation of the mind, by which we separate from any of our conceptions all those circumstances that render it particular, or the representative of a single determinate object; so that, instead of thinking for an individual, it is made to denote a whole rank or class of things. In this manner we acquire our *general ideas*, that serve as standards by which we may rank and denominate particular objects. Thus, in viewing a square, or circle, we leave out the consideration of every thing that is peculiar to them, except their figure and shape. Whenever, therefore, we meet with a figure answering to that shape and form, which we had laid up in our understandings, it is immediately referred by the mind to this pattern, and called by its name, which by this means becomes proper to the whole species. Thus, a square and circle are universal terms, common to all figures of that particular shape, and alike applicable to them wherever they exist; in

like manner as the ideas themselves are *general*, and representatives of all of the kind.

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Ideas framed thus, which are what we properly call *abstract ideas*, become general representatives of all objects of the same kind; and their names applicable to whatever exists conformable to such ideas. Thus, the colour that we receive from chalk, snow, milk, &c. is a representative of all of that kind; and has a name given it, *whiteness*, which signifies the same quality, wherever found or imagined. It is this last faculty, or power of abstracting, according to Mr. Locke, that makes the great difference between men and brutes; even those latter must be allowed to have some share of reason; that they really reason in some cases, seems almost as evident as that they have sense; but it is only in particular ideas. They are confined to those narrow bounds; and do not seem to have any faculty of enlarging them by abstraction. Essay on Human Understanding, book ii. c. 11. § 9, 10, 11. book iii. c. 3. § 9. Such is the doctrine of abstract ideas, as it has been delivered by that excellent author. From him it became, for a considerable time, a prevailing opinion, that the mind has such a power or faculty of framing abstract ideas or notions of things; and on such ideas a great part of the writings of philosophers is founded. These are supposed in all their systems; and they are more especially reputed the objects of logic, mathematics, and metaphysics, and of every thing that passes under the notion of the most abstracted and sublime learning.

However, an eminent and ingenious author, Dr. Berkeley, has contested the reality of any such ideas; and led the way towards overturning the whole system, and consequently towards setting philosophy on a new foundation. See a Treatise concerning the Principles of Human Knowledge, first printed in 1710.

The qualities or modes of things, it is on all hands agreed, says that learned prelate, do never really exist apart, and separated each from all others, but are constantly mixed and combined together, several in the same object. But, say the philosophers, the mind being able to consider each quality singly, or abstracted from other qualities with which it is united, does by that means frame to itself abstract ideas, of a different nature and kind from the sensible ones.

For example, when the eye perceives an object extended, coloured, and moved, the mind resolves this compound idea into

into its simple constituent parts; and viewing each by itself, exclusive of the rest, frames abstract ideas of extension, colour, and motion. Not that it is possible for such colour and motion to exist without extension; but only that the mind can frame to itself, by abstraction, the idea of colour exclusive of extension; and of motion, exclusive both of colour and extension.

Again, say the same philosophers, the mind having observed that in the particular extensions perceived by sense, there is something common, and alike in all; and some other things peculiar; as, this, or that figure, or magnitude, which distinguish them one from another: it can consider apart, or single out by itself, that which is common; making thereof a general abstract idea of extension, which is neither line, surface, nor solid, nor has any figure or magnitude, but is an idea entirely precluded from them all. So, likewise, by leaving out of the several colours perceived by sense, that which distinguishes them one from another, and only retaining what is common to all, it makes an idea of colour in the abstract, which is neither red, nor blue, nor white, &c.—After the same manner by considering motion abstractedly, both from the body moved, and from the figure it describes, and all particular directions and velocities; an abstract idea of motion is framed, which equally corresponds to all motions whatever.

They add, that as the mind frames abstract ideas of qualities or modes, so does it by the same faculty, obtain abstract ideas of the more compound beings, which include many co-existent qualities. For example: Having observed that Peter, James, John, &c. resemble each other in shape, and other qualities; we can leave out of the complex idea we had of Peter, James, &c. that which is peculiar to each, retaining only what is common to all, and so make an abstract idea, wherein all the particulars equally partake. And thus it is we are supposed to obtain the abstract idea of man, or of humanity, or human nature; wherein there is indeed included colour, because there is no man that has not some colour; but it is neither white, nor black, nor brown; because there is no one particular colour wherein all men partake. So likewise there is included stature, but then it is neither tall nor low, nor yet middle stature, but something abstracted from all these; and so of the rest.

Farther yet, there being a general variety of other creatures, which partake in some parts, but not all, of the complex idea of man; the mind leaving out those parts which are peculiar to men, and retaining only those which are common to all living creatures, frames the idea of animal; which abstracts not only from all particular men, but also from all birds, beasts, fishes, and insects.

The constituent parts of such abstract idea of animal, are body, life, sense, and spontaneous motion. By body is meant, body without any particular shape, or figure; there being no one common to all animals; without covering, either of hair, or feathers, or scales; nor yet naked; hair, feathers, scales, and nakedness, being the distinguishing properties of particular animals, and for that reason left out of the abstract idea. Upon the same account, the spontaneous motion must be neither walking, nor flying, nor creeping; it is nevertheless a motion. But what the motion is, it is not easy to conceive. "I will not affirm," says Dr. Berkeley, "that other people have not this wonderful faculty of abstracting their ideas; but I am confident I have it not myself. I have, indeed, a faculty of imagining, or representing to myself the ideas of things I have perceived, or of variously compounding or dividing them: I can imagine a man with two heads, or the upper parts of a man joined to the body of a horse. I can consider the hand, the

eyes, the nose, each by itself, abstracted or separated from the rest of the body. But then, when I am to imagine, I imagine, it must be some particular figure, or shape. So again, the idea of a man I frame to myself, is either of a white, or a black, or a tawny, or a swarthy, or a crooked, a tall, or a low, or a middle stature. I cannot by any effort of the mind, abstract the idea above described; and it is equally impossible, to form the abstract idea of motion, distinct from all moving, and which is neither walking, nor flying, nor creeping, nor rolling, &c. And the like may be said of all other abstract general ideas whatever."

Since all things that exist are only particulars, "Whence," says Mr. Locke, "is it that we are able to form an idea expressive of a thousand individual things? These terms only become general, by being made the sign of an abstract and general idea; so that the general ideas of all things should follow from the reality of general ideas." According to Dr. Berkeley, a word becomes general, by being made the sign not of an abstract general idea, but of several particular ones, any of which it indifferently suggests to the mind.—For example, when I say, that whatever has extension is divisible; the proposition is to be understood of extension in general; not that I must conceive any abstract general idea of extension, which is neither line, surface, nor solid, neither great nor small, &c. To make this more evident, suppose a geometrician to be demonstrating a method of dividing a line into two equal parts: with this view, he draws, for instance, a black line, an inch long; and this, which in itself is a particular line, is nevertheless, with respect to its signification, general; since it represents all lines whatever; so that what is demonstrated of this one will hold of all others.—And as that particular line becomes general by being made a sign, so does the name *line*, and the idea of a line in the imagination, either of which, taken absolutely, is particular, by being signs become general likewise; and as the former owes its generality, not to its being the sign of an abstract or general line, but of any or all particular right lines that may possibly exist; so must the latter, both the name and the idea, derive their generality from the same cause, or the various particular lines which each of them indifferently denotes.

But to this reasoning it has been replied, that the universality consists in the idea; and not merely in the name as used to signify, and recal into the mind, a variety of particular things, resembling that which is the immediate object of reflection; because had we no previous fixed notion what the name signifies, we could not know what particular things to apply it to, or assign any reason for applying it to one thing rather than another. All that can be pictured in the imagination, as well as all that we take notice of by our senses, is indeed particular. And whenever any general notions are present in the mind, the imagination, at the same time, is commonly engaged in representing to itself some of the particulars comprehended under them. But it would be a very strange inference from hence, that we have none but particular ideas. As well almost might we conclude, that we have no other notion of any thing than of its name, because they are so associated in our minds, that we cannot separate them; or of the sun, than as a white bright circle such as we see in the heavens, because this idea or phantasm is apt to accompany all our thoughts of it. See Dr. Price's *Review of the principal Questions and Difficulties in Morals*, p. 43.

Dr. Cudworth observes, that abstract ideas are implied in the cognitive power of the mind; and he pronounces the opinion, that they are only singular ideas annexed to a com-

mean term: or in other words, names without any meaning, to be ridiculously false, as to deserve no confutation. See *Lord and Innoble Morality*, book iv.

Mr. Locke, (*lib. ii. c. 1. §. 9.*) speaking of the difficulty of forming abstract ideas, says: "does it not require some pains and skill to form the general idea of a triangle, when yet is none of the most abstract and comprehensive; for it must neither be oblique, nor rectangular; neither equilateral, isosceles, nor scalenous; but all, and none of these at once. In effect, it is something imperfect, that cannot exist: an idea, wherein some parts of several different and inconsistent ideas are put together." Now, let any man look into his thoughts, and try whether he has, or can attain to an idea of a triangle correspondent to the description.

Dr. Campbell, in his *Philosophy of Rhetoric*, vol. ii. p. 205. expresses his apprehension, that the bare mention of this hypothesis is equivalent to a confutation of it, since it really confutes itself. He adopts the sentiments of Berkeley on this subject, and will allow to the mind no other power of abstraction, if the term be retained, beside that, by which a particular idea is regarded, as representing a whole order. Mr. Locke, he says, has, on some occasions, evidently inclined to the same opinion: in proof of which he refers to his *Essay*, book iii. chap. 3. §. 11.

In this section Mr. Locke maintains, that not only words but ideas are made signs; and a particular idea is made general, not by any change produced in it (for then it would no longer be the same idea), but by being set up as the representative of many particular things. Universality, he observes, as it belongs not to things, belongs not even to those words and ideas, which are all of them particular in their existence, but general in their signification. Again, the general nature of those ideas is nothing but the capacity they are put into by the understanding of signifying or representing many particulars; and, if possible, still more explicitly, the signification they have is nothing but a relation, (no alteration in their essence,) that by the mind of man is added to them. "If such an extraordinary faculty," as abstraction, says Dr. Campbell, (*ubi supra*, p. 110.) "were possible, I cannot for my part conceive what purpose it would serve. An idea hath been defined by some logicians, the form or resemblance of a thing in the mind, and the whole of its power and use in thinking is supposed to arise from an exact conformity to its archetype. What then is the use or power of that idea, to which there neither is, nor can be, any archetype in nature, which is merely a creature of the brain, a monster that bears not the likeness of any thing in the universe."

The late Lord Bolingbroke likewise controverted the existence of abstract ideas. He apprehends that the disputes about abstraction may after all be considered as verbal, and owing to the want of making a proper distinction between ideas and notions, which have been used, he says, both by Mr. Locke and his antagonist the Bishop of Cloyne, as if they were synonymous. We might avoid the confusion arising from this ambiguity, he presumes, if we conceived the former to be particular in their nature, and general only by their application; and the latter to be general in their nature, and particular only by their application. In another place he observes, that much confusion and error have arisen from the improper use of the word abstraction. There is a very practicable operation of the mind, by which we are said to abstract ideas, and by which we do, in effect, generalize them in a certain manner, and to a certain degree, by substituting one as representative of many. There is another supposed, but impracticable operation of the mind, by which some

philosophers have made themselves and others believe, that they abstract, from a multitude of particular ideas, the idea of one general nature or essence, which is all of them, and none of them; whereas, in truth, though they can define general natures or essences in very clear propositions, they cannot frame an idea of any general nature, which is not a particular idea of that nature. Bolingbroke's *Works* by Mallet, vol. iii. p. 438. and vol. v. p. 17. &c.

The acute Mr. Hume has also attacked the system of abstraction. He asserts, (*Essays*, vol. ii. p. 165.) that it is unintelligible, and even absurd, to conclude, that the ideas of primary qualities are obtained by abstraction. An extension, that is neither tangible nor visible, cannot possibly be conceived: and a tangible or visible extension, which is neither hard nor soft, black nor white, is equally beyond the reach of human conception. Let any man try to conceive a triangle in general, which is neither isosceles, nor scalene, nor has any particular length or proportion of sides, and he will soon perceive the absurdity of all the scholastic notions with regard to abstraction and general ideas. Mr. Hume has pursued Berkeley's reasoning to an extent which he himself never proposed, and represented all his arguments as merely sceptical, "because they admit of no answer, and produce no conviction."—Dr. Reid, in his valuable *Essays on the Intellectual Powers of Man*, (*Ess. v. passim.*) has discussed the subject of abstraction, and examined the various opinions that have been formed concerning it, in a very diffuse and elaborate manner. This ingenious writer apprehends, that we cannot, with propriety, be said to have abstract and general ideas, either in the popular or philosophical sense of that word. In the former sense, an idea is a thought, or an act of the mind in thinking, or in conceiving any object; and this must be an individual act. In the latter sense, an idea is an image in the mind, or in the brain, which in Mr. Locke's system is the immediate object of thought, and in the system of Berkeley and Hume, the only object of thought: and as he believes there are no such ideas, there can be no abstract general ideas. If they existed, they could not be general, because every thing that really exists is an individual. Universals are neither acts of the mind, nor images in the mind. They cannot be the objects of imagination when the word is taken in its strict and proper sense. We cannot imagine a man, without colour, or stature, or shape. But though Dr. Reid denies the reality of *abstract ideas* in the sense above stated, he maintains the same doctrine by merely substituting the term *conception* for *idea*. As general words are necessary in language, there must, he says, be general conceptions, of which these are the signs; and they take this denomination, not from the act of the mind in conceiving, which is an individual act, but from the object or thing conceived, which is general. These general words express either the attributes of things, or the genera and species, into which we divide and subdivide them; and of both these we may have clear and distinct conceptions. As to the operations of the understanding, by which we form these general conceptions, he apprehends that they are the three following, viz. 1. The analysing or resolving a subject into its known attributes, and giving a name to each attribute, signifying that attribute, and no more. 2. The observing one or more such attributes to be common to many subjects. The first act is by philosophers called *abstraction*: the second may be called *generalizing*; but both are commonly included under the name of abstraction. We cannot generalize, he says, without some degree of abstraction; but we may abstract without generalizing. For what hinders me from attending to the whiteness of the paper before me, without applying that

that colour to any other object. The whiteness of this individual object is an abstract conception: though not a general one, while applied to one individual only. To this reasoning it might be replied, that if whiteness be separated in his conception of it from the paper, it is no longer the whiteness of that object; and he must either conceive it as abstracted from all objects, which is impossible, or as pertaining to some other object: and thus neither the quality of whiteness, nor his conception of it, is abstract and general, but concrete and particular. 3. A third mental operation, by which we form abstract conceptions, is, according to Dr. Reid, the combining into one whole a certain number of those attributes, of which we have formed abstract notions, and giving a name to that combination. It is thus we form abstract notions of the genera and species of things. With regard to abstraction strictly so called, the difficulty of which was acknowledged by Mr. Locke, this author says, "I can perceive nothing in it that is difficult either to be understood or practised." "What can be more easy," as he proceeds, "than to distinguish the different attributes which we know to belong to a subject? In a man, for instance, to distinguish his size, his complexion, his age, his fortune, his birth, his profession, and twenty other things that belong to him." But in this case, it may be alleged, that though we separate one or more of these attributes from the others in our conception of them, we cannot abstract them from the individual person without transferring them to some others; so that our conceptions will be still concrete and particular. Dr. Reid adds farther, that attributes which are in their nature absolutely inseparable from their subject, and from one another, may be disjoined in our conception. In a body we can distinguish its solidity from its extension, and its weight from both: and in extension we can distinguish length, breadth, and thickness; and yet none of these can be separated from the body, or from one another. But can we conceive solidity, as separated from all extension and weight? Can we conceive solidity or extension, separated from all bodies? Those who cannot do this will still contend that there is no abstraction strictly so called. Without pursuing this ingenious writer's reasoning any farther, or giving in detail his answers to the various objections of Berkeley and Hume, we shall close our abstract of what he says on this subject with the following general conclusions, which he has deduced from his account of abstract and general conceptions. 1. It is by abstraction, he says, that the mind is furnished with all its most simple and most distinct notions. Abstraction analyses the simplest objects of sense, as well as those of memory, and of consciousness. 2. Our most distinct complex notions are formed by compounding the simple notions got by abstraction. 3. Without the powers of abstracting and generalising, it would be impossible to reduce things into any order and method, by dividing them into genera and species. 4. Without these powers there could be no definition, which can only be applied to universals, as no individual can be defined. 5. Without abstract and general notions, there can be neither reasoning nor language. 6. As brute animals shew no signs of being able to distinguish the various attributes of the same subject; of being able to class things into genera and species; to define, to reason, or to communicate their thoughts by artificial signs, as men do; "I must think," says this author, "with Mr. Locke, that they have not the powers of abstracting and generalising; and that, in this particular, nature has made a specific difference between them and the human species."

The notion of abstract ideas, which, according to Dr. Berkeley, has contributed to render speculation intricate and perplexed, and to occasion innumerable errors and dif-

iculties in almost all parts of knowledge, led even, in his opinion, first to suppose, that bodies have an existence of their own, exclusively and independently of the mind which perceives them.—Can there be a greater chain of abstraction, says he, than to distinguish the existence of sensible objects from their being perceived, so as to conceive them existing unperceived?—If there were external bodies, he says, it is impossible we should ever come to know it; and if there were not, we might have the very same reasons to think there were that we have now. His principal argument may be reduced to the following syllogism; whatever is immediately perceived by sense, is an idea; sensible things are immediately perceived by sense; for the proof of which he appeals to experience; therefore sensible things are ideas: and consequently exist only in the mind. See his Dialogues between Hylas and Philonous.

Mr. Hume concurs with Dr. Berkeley in denying the existence of matter; and advances a step farther, maintaining that the soul is merely a bundle of perceptions, and that there is nothing in the universe but impressions and ideas.

Some late Scots writers, Doctors Reid, Butler, and Oswald, with a view of obviating those sceptical inferences, which had been deduced from the principles of Mr. Locke, have, in opposition to these, offered a new system respecting the nature and origin of our ideas, the outlines of which, with remarks, will be inserted under their proper heads, in the course of this work. See IDEAS, INTUITION, and COMMON SENSE.

We shall only add, that abstracting, on the common system, is no more than generalising: it is making one thing stand for a hundred, by omitting the consideration of the differences between them: it is taking several different, *i. e.* different combinations, setting aside the peculiarities in each, and considering only what is found alike in all.—Thus it is that I say, I love my friend, love my mistress, love myself, my bottle, my book, my ease, &c.—Not that it is possible, I should have the same perception with respect to so many different sorts of things, things that stand in such different relations to me; but only that there appearing something in them all that bears a resemblance to the rest, in some circumstance or other, I chuse to express all by one name, *love*. For if I consider the tendency and effects of them all, I shall find they lead me very different ways, to very different actions; all the analogy there is between them, is a sort of pleasure or satisfaction, arising upon the application of the particular object to its proper organ, or sense.—The abstract idea of love, then, will terminate in the idea of pleasure: but it is certain, there can be no idea of pleasure without a thing pleasant to excite it. Any other abstract idea of pleasure will amount to no more than a view or perception of the circumstances wherewith our pleasures have been attended; but these are mere externals foreign to the pleasurable sensation itself; which nothing but an object applied in such and such a manner can excite.—To suppose an idea of pleasure produced indirectly, by any other than by the proper cause, is as absurd as to suppose an idea of sound, produced without a sonorous object. The mind has no power of making any ideas, call them what you will, whether *abstract* or *concrete*, or *general*, or *particular*: its activity goes no farther than to the perceiving of such as are presented to it; so that its action is really no other than a degree of passion.

ABSTRACTITIOUS, or ALSTRACTIVE, is applied by some modern *Chemists* to a spirit drawn from vegetables without fermentation.

ABSTRUSE, *abstrusus*, formed of *abs*, from, and *trahere*, I thrust, denotes something deep, hidden, or far removed from

from the common apprehensions, and more intelligible ways of conceiving; in opposition to what is obvious and palpable.

Both *senſe Mathematico* is an *algebra* ſcience; and many ſpeculations of *Mathematica* are likewise *algebra*.

ABSURD, ABSURDUM, a term applied to any action or ſentiment that thwarts, or goes contrary to ſome evident truth.

Thus, a propoſition would be abſurd, that ſhould affirm that two and two make five; or that ſhould deny them to make four.

The *Logicians* and *Mathematicians* have a way of proving the truth of a propoſition in this indirect manner, by ſhewing that the contrary is abſurd.

This they call

Reſol. ab ABSURDUM, or arguing ex abſurdo.

Abſurd, when applied to actions, is ſynonymous with *ridiculous*.

ABSURDITY, a kind of error or offence againſt ſome evident or generally allowed truth or principle.

The greateſt of all abſurdities is **CONTRADICTION**.

The ſchoolmen make two ſpecies of abſurdities—The one *abſolute*, *absolutum*, which is repugnant to the common ſenſe of mankind; the other *relative*, *relativum*, which contradicts ſome one, or more philoſophers, or perſons of great weight and authority.

In this ſenſe the doctrine of a *vacuum* is an abſurdity; as being contrary to *Ariſtotle*: and that of a *plenum*, as being contrary to *Sir Iſaac Newton*. In effect, there is ſcarce one truth of any moment, that is not an abſurdity in this ſenſe; as being repugnant to the ſyſtem of ſome ſect, or party.

As reaſon conſiſts in the due uſe of names and words, abſurdity conſiſts in the abuſe of them. *Hobbes* aſſigns abſurdity as a privilege peculiar to man, and which no other creature is capable of: he adds, that of all men, thoſe called philoſophers are moſt expoſed to it. Whence the ſaying of *Cicero*, there is nothing ſo abſurd but has been ſaid by a philoſopher, *nihil tam abſurde divi poteſt, quod non dicatur a philoſopho*. The reaſon ſeems to be, that of all men they reaſon, and diſcourſe moſt. Yet a nearer and more appoſite cauſe may be aſſigned, viz. their neglect at ſetting out, to define the terms they make uſe of, i. e. to aſſign the precise idea each is made to repreſent: which is much like a man's undertaking to number, without knowing the value of the numeral figures; reaſoning, according to the author firſt cited, being no other than computing. Divers abſurdities alſo aroſe from the wrong connecting of names into propoſitions; as firſt, when the names of bodies are applied to accidents; or the names of accidents to bodies: as in that propoſition, "faith is inſufed or inſpired:" ſince nothing is either fuſible, or inſpirable, but body: and the ſame abſurdity the *Carteſians* fall into, when they make extension to conſtitute body, &c. Secondly, when the names of accidents inherent in external bodies are attributed to accidents of our own bodies: as when it is ſaid, that colour is in the object, found in the air, &c. Thirdly, when the names of bodies are attributed to words, or conceptions: as is done by thoſe who aſſert that there are univerſal things, that animal is a genus, &c. Fourthly, when the names of accidents are given to words, and propoſitions; as when it is ſaid, that the definition is the nature of the thing, or a perſon's command is his will. Fifthly, when in lieu of proper words, metaphors and tropes are made uſe of: as, the way leads to ſuch a place, the proverb ſays this or that; which though allowable on ordinary occaſions, yet is of miſchievous conſequence in reaſoning and

ſearching after truth. Laſtly, when names are taken at random, and uſed without meaning, as *transubſtantiation*, *conſubſtantiation*, *entelechia*, &c.

He that can avoid theſe rocks will not eaſily fall into an abſurdity, except in a very long chain of reaſoning, when he may be apt to forget ſome propoſition before laid down. *Hobb. Lev. P. i. c. 5. p. 22.*

ABSUS, the Egyptian *LOTUS* of *Ray*. See *CASSIA*.

ABSYNTHIUM. See *ASYNTHIUM*.

ABSYRTIDES, or *APSYRTIDES*, in *Ancient Geography*, iſlands in the *Adriatic*, on the coaſt of *Illyricum*, mentioned by *Strabo*, *Pliny*, *Mela*, and *Ptolemy*, to which pertain *Apyrtis* or *Aſyrtium*, and *Alyrus* or *Alpyrus*; ſo called according to *Strabo* (tom. i. p. 484.), and *Pliny*, (tom. i. p. 181.) from *Alyrtus*, *Medea's* brother, who was ſlain there. They are ſeparated by a channel, and are now called *Cherſo* and *Oſero*.

ABSYRTUS, in *Mythology*, the ſon of *Cæta* and *Hypſea*, and brother of *Medea*. When *Medea* ran away with *Jaſon*, whom ſhe aſſiſted in carrying off the golden fleece, ſhe was purſued by her father; but in order to retard his progreſs, ſhe tore *Abſyrtus* in pieces, and ſtrewed his limbs in the way.

ABTHANES, in *Hiſtory*, a title of honour anciently uſed in *Scotland*, denoting the high order of *thanes*, or king's miniſters, in contradiſtinction to the lower, called *underthanes*.

ABUBEKER, or *ABU BECR*, i. e. the father of the girl or virgin, viz. *Ayeſha*, who was of this deſcription when *Mahomet* married her, the firſt caliph, and ſucceſſor of *Mahomet*. His original name was *Abdulcaaba*, the ſervant of the *Caaba*, denoting his piety; which name was changed by *Mahomet* on his converſion, into *Abdallah*, the ſervant of God; and on the prophet's marriage with his daughter, he aſſumed the appellation of *Abubeker*. He was eminently uſeful to this impoſtor at the commencement of his undertaking, as he vouched for his veracity in every thing he related concerning his revelations, and his nocturnal journey to heaven; and very much exerted himſelf in augmenting the number of his followers. On this account the prophet gave him the ſurname of *Al Seddik*, which denotes the faithful witneſs, and the appellation *Atik*, or preſerved, i. e. ſaved from hell-fire, thus intimating that he was one of the elect. At the time of *Mahomet's* death, two powerful parties, called the *Mohajerin* and the *Anſars*, claimed the right of nominating his ſucceſſor. The former founded their pretenſions on their having attended the prophet in his flight to *Medina*, and declared themſelves in his favour before any of the other Arabs joined him; whiſt the latter pleaded, that they ſupported him when he was expelled his native city, and enabled him to ſurmount oppoſition, when he and his followers were in a ſtate of perſecution. At length, however, by the interpoſition of *Omar*, they concurred in the election of *Abu Becr*, A. D. 632. As many of the Arabs had renounced their new religion, and returned to paganiſm, judaiſm, or chriſtianity, towards the cloſe of *Mahomet's* life, and after his death, they were unwilling to pay the cuſtomary tribute which he exacted of his followers, and made attempts for throwing off the yoke which he had impoſed upon them. *Abu Becr's* firſt attention was engaged in reducing theſe rebels, whom he defeated, and whoſe children he made ſlaves. This ſervice was conducted by *Khaled*, or *Caled*, an excellent general; who afterwards by his conduct and bravery conquered *Syria*, and greatly contributed to the eſtabliſhment of the *Mahometan* religion and policy. On the day, however, of the reduction of *Damaſcus*, *Abu Becr* died, in the 13th year of the *Hegira*, having

ing attained the age of 63, and reigned only two years and three months. A little time before he expired he made his will, and appointed Omar for his successor. He dictated it to his secretary in the following terms: "In the name of the most merciful God. This is the testament of Abdallah Ebn Abu Kohafa, when he was in the last hour of this world, and the first of the next; an hour in which the infidel shall believe, the wicked person be assured of the reality of those things that he denied, and the liar speak the truth. I appoint Omar Ebn Al Khattab my successor; therefore hearken to him and obey him. If he acts right he will answer the opinion I have always entertained of him; if otherwise, he must be accountable for his own conduct. My intention herein is good, but I cannot foresee future events. However, those who do ill shall hereafter be made fully sensible of the consequences of their behaviour. Fare ye well, and may ye always be attended by the divine mercy and benediction." Before he expired, he prayed God to bless the choice he had made; to inspire the Moslems with sentiments of concord and unanimity; to render their affairs prosperous and flourishing; and to enable them to propagate the doctrines of the Koran in the most effectual manner, as by the prophet Mahomet, in his last moments, they had been most strictly enjoined. Among other sayings of Abu Beer that are recorded, the following are worthy of notice: "Good actions are a guard against the blows of adversity;" and "Death is the easiest of all things after it, and the hardest of all things before it." Such was the liberality of his disposition, that on the Friday of each week, he distributed the residue of his own and the public money, after appropriating a very small sum to his own maintenance; first, to the most worthy, and then to the most indigent, of the Moslems. Gibbon's Hist. vol. ix. 358. 8vo.

ABUCARAS, *Theodore*, was bishop of Charra, or Haran in Mesopotamia, and lived in the eighth century. At first he adhered to the party of Photius, and in connection with Zachary, bishop of Chalcedon, undertook an embassy to the emperor Lewis II. for the purpose of presenting Photius's book against pope Nicholas, and inducing him to throw off the papal yoke. He afterwards abandoned the interest of Photius, and was restored, after humiliating submission, to his place in the council of Constantinople, from which he had been excluded. Several treatises bearing the name of Abucaras, written against Jews, Mahometans, and Heretics, have been collected by Gretzer, and published in 4to. at Ingolstadt, in 1606. Another treatise by Abucaras, intitled, *De Unione & Incarnatione*, was found by Mr. Arnold in the Bodleian library, and published at Paris in 1685, in 8vo. Some have doubted whether Abucaras, the friend of Photius, and the author of these treatises, be the same person. Bayle.

ABUCATUA, in *Ithyology*, the name given by Marcgrave to the *ZEUS gallus* of Linnaeus.

ABUCCO, *Abocco*, or *Abocchi*, a weight used in the kingdom of Pegu. One abucco is twelve teccalis and a half; two abuccos make an agira, which is also called giro; two giri make half a biza; and a biza weighs a hundred teccalis; that is, two pounds and five ounces the heavy weight, or three pounds nine ounces light weight of Venice.

ABUDHAHER, or *ABU THAHER*, succeeded his brother Abufaid, in the 311th year of the Hegira, at the age of eighteen, as chief of the sect of the KARMATHIANS; and proceeded with a large army to Bassora, which he took and pillaged. The next year he intercepted and plundered a caravan returning from Mecca to Bagdad; and having been

rebelled the sovereignty of Bassora, he pillaged Cufa in the following year, and put many of its inhabitants to the sword. He afterwards threatened Bagdad, but was obliged to retreat. However, in the 314th year of the Hegira, he seized the towns of Rahaba and Karkisia in Mesopotamia. In the 317th year, he laid waste Mecca, plundered the pilgrims and the idolaters, killed 30,000 of whom 17,000 were murdered within the wall of the Caaba; and having profaned this holy place, he carried off the black stone, which remained in the custody of the Karmathians for twenty-two years; but finding that the temple was still venerated and resorted to by pilgrims, they restored it. Abudhaber ridiculed the Mahometan religion, and insulted its votaries; reproaching them with the folly of calling the edifice at Mecca God's house, which he was allowed to profane, without being destroyed by the thunder of the Almighty. Six years after these outrages he made a treaty with the Caliph Al Radi, who granted him an annual tribute of 120,000 dinars, on condition of his permitting the pilgrims to pass to Mecca without molestation. This chief resided at Hajar in Yenama, where he built a palace, and lived till the year of Christ 953, in the peaceable possession of a large territory. Bayle. Mod. Un. Hist. vol. ii. p. 311, &c.

ABU JAAFAR AL TABARI, an Imam of great piety, as well as of very extensive reading and erudition, was born at Amu, or Amol, the capital of Tabrestan, whence his name, in the year of the Hegira 224; and though he was a strenuous defender of the koran, he was censured at Bagdad as a heretic or Shiite. His work, intitled, *Al Tarikh Al Tabari*, is held in high esteem, and considered as the basis of all the other histories of the Moslems. What we now have is only an abridgment of a much larger work. It began with the creation of the world, and continued, according to Abulfeda, to the year of the Hegira 302; or, as others say, to the time of the author's death, in the year 310. The Tarikh was translated into Persian and Turkish, and continued by different writers to the year of the Hegira 521. Mr. Ockley says, that an imperfect MS. copy of it, in Arabic, is preserved in the Bodleian library at Oxford. Mod. Un. Hist. vol. ii. p. 309.

ABUKESB. See *ASLANI*.

ABULFARAGIUS, or *ABUL FARAI*, or *ABULPHARAGIUS*, *Gregory*, in *Biography*, son to Aaron, a christian physician, was born in 1226, in the city of Malatia, near the source of the Euphrates, in Armenia. He practised physic with success, but was more distinguished by his study of the Greek, Syriac, and Arabic languages, as well as philosophy and divinity. The commendations of his contemporaries are dictated in the style of the highest panegyric; and he is intitled, the king of the learned, the most excellent of those who excel, the example of his times, the phoenix of his age, the glory of the wise, and the crown of the virtuous. He wrote a history in Arabic, divided into ten dynasties, which is an epitome of universal history, from the creation of the world to his own time, and which does honour to his memory. The parts relating to the Saracens, Tartar Moguls, and the conquests of Jenghis Khan, are the most valuable. It was published with a Latin translation, in two small quartos, at Oxford, in 1663, by Dr. Pococke, who annexed to it a brief continuation relating to the history of the eastern princes. He had, in 1650, published an extract from this work, intitled, "Specimen Hist. Arabum," &c. Abulfaragius was ordained bishop of Cufa at twenty years of age, by Ignatius, the patriarch of the Jacobites; and, about the year 1266, he was elected their primate in the east; which dignity he possessed till his death, in 1280, which happened at the time when he is said to have predicted,

professed, as I expected it. Considering the age in which he lived, it is not wonderful that miracles were ascribed to him; but it is needless to record them in this place. Abulpharaz wrote about 30 treatises, besides the history above mentioned, which are recited by Adhemus. The learned Ptolemy is indebted here from the change of having remained in the East. There was another Abulpharazius, furnished with the title of Attika, who died A. D. 1043. He was a Nestorian monk, a learned man, and a philosopher. He wrote a commentary on the Old and New Testament, in Arabic; he also explained the works of Aristotle, and reproached the Nestorian patriarchs for their neglect of ecclesiastical studies.

ABULFAZL, *i. e.* the father of excellence, the title which was given to the secretary and vizier of the Mogul emperor Akbar. He was deemed the most learned and best writer in the East. He was murdered by order of Sultan Jahangir, on suspicion of his having occasioned a misunderstanding between him and the emperor his father. His death was much lamented by Akbar, and many others, who had any regard for literature. He wrote a history of the Mogul emperors, which he continued to the 38th year of Akbar's reign, A. D. 1564. His official correspondence formed three volumes, and was much esteemed. Frazer's *Book of Akbar*, p. 11.

ABULFEDA, *Ismail*, prince of Hamah, a city of Syria, was born in the year of the Hegira 672. A. D. 1273, and was the sixth in lineal descent from Ayub or Job, the father of the famous Saladin. He was a lover of study, and particularly of geography, which may be inferred from a work, intitled, *Chorographia & Mawalanahrae*, *i. e.* *Regionum extra fluvium Oxam descriptio*, ex tabulis Abulfedae Iimadlis, Principis Hamah. It was printed in London in 1600, by our learned countryman John Grævius, who has added to the Arabic original a Latin translation, with a preface, informing us that he consulted five MSS. At the conclusion of this work it is said to have been finished in the 721st year of the Hegira, or A. D. 1321. The tables are given in the order of the climates, with the degrees of longitude and latitude. Abulfeda is said to have discovered the true longitude of the Caspian sea, concerning which Ptolemy was mistaken. A new edition of this work was published at Oxford in 1712, by M. Gagnier, in the third volume of *Wetstein's Geographia veteris Scriptores Græci minores*; and another at London, in 1732, fol. Abulfeda wrote other works, which manifested his general literature; for he is said to have been acquainted with jurisprudence, physic, philosophy, astrology, history, and poetry, as well as geography. His "General History," from the beginning of the world to his own time, was continued to the year 730, or A. D. 1329. He also wrote "A short system of the Mohammedan civil law;" "A Treatise of Physic;" and some poems. He is also supposed to be the author of the "Astronomical Tables," of which there is a copy in the Bodleian library. His "Life of Mahomet," was published in Arabic and Latin, at Oxford in 1723; and his treatise of the "Life and Actions of Saladin," was printed, with a Latin translation, at Leyden, in 1732, fol.

Abulfeda was no less a military man, than a student. He served under his father in several expeditions, and he was present at the storming of Tripoli, A. D. 1289; and at the capture of Acca or Ptolemais, A. D. 1291, as well as on other occasions, when he distinguished himself, by his skill and valor. He died about the 730th year of the Hegira, A. D. 1329. We are entitled by the editors of the General Dictionary for mentioning Abulfeda with Ismael, surnamed Shakh al-shah, the compiler also of a General History, which

is mostly transcribed verbatim from the work of that prince. Gen. Dict.

ABULGHAZI, *Bayatur*, khan of the Tartars, was born in the city of Urgens, capital of the country of Karazm, in the year of the Hegira 1014, A. D. 1605. He was descended both by his father's and mother's side, in a direct line from Zingis Khan, or Jenghizkan. After experiencing many misfortunes in early life, he became sovereign of Karazm, in the year of the Hegira 1054, and having reigned twenty years, and by his courage and conduct rendered himself formidable to his neighbours, he resigned the throne to his son some time before his death, in order to devote the remainder of his life to the service of God. In his retreat he wrote the famous genealogical history of the Turks, but being prevented by his death, in the year 1074 of the Hegira, from finishing it, he left it in charge with his son and successor to complete it, which was done in two years afterwards. It is written in the Mogul, or Turkish language, and divided into nine parts: the two first treat of the khans and tribes descended from Turk, the son of Japhet, to the time of Jenghizkan; the third relates the life and actions of that conqueror; the five next those of his sons and successors in the several parts of Tartary; and the ninth treats of the khans of Karazm to the death of the author. This history was procured by Strahlenberg, while prisoner in Siberia, and has been translated into Russian, German, French, and English. As this book is one of the chief funds which afford materials for the history of the Turks and Tartars, it will not be improper to mention the authority on which it is founded. The grandson of Jenghizkan, being desirous of preserving the memory of the Mogul tribes, and the signal exploits of his ancestors, sent a nobleman, skilled in the Mogul language, into Tartary, in order to collect materials for this purpose. At his return his memoirs were digested, under his own inspection and assistance, into a work, which consisted of three folio volumes, and was finished in the year of the Hegira 702. The first volume is in the Library at Paris, and was translated by De la Croix, the son, but not published. It was chiefly from this history that Abulghazi extracted his work, excepting that part which relates to the Usbeks of Great Bukharia and Karazm. A French translation appeared at Leyden in 1726, 12mo. *Mod. Un. Hist.* v. iii. p. 334.

ABUL OLA AHMED, one of the most celebrated of all the Arabian poets, was born at Maara, a town of Syria, A. D. 973. He lost his sight by the small-pox, at three years of age; at forty-five he left off the use of animal food, in conformity to the tenets of the Bramins, and also that of eggs and milk, and lived only on vegetables. He died in 1057. He was not esteemed by the orthodox, as a sound Mussulman, for one of his sayings was, "The Christians wander here and there in their paths, and the mahometans are entirely out of the way." Another of his apothegms is, "The world is divided between two sorts of persons, of whom some have sense without religion, others religion without sense." The inscription which he ordered for his tomb confirmed the suspicions of his orthodoxy: "This crime did my father commit against me, but I have not committed the same against any." Gen. Dict.

ABU MOSLEM, a governor of Khorasan in the second century of the Hegira, who, A. D. 747, caused the dignity of caliph to pass from the race of the Ommyades to the family of Abbas; and who, in accomplishing and maintaining this revolution, is said to have killed 600,000 persons. Notwithstanding the services which he had rendered to Alimansur, this caliph, A. D. 759, ordered him to be privately

ly assassinated, ² some say; or, as others report, to be thrown into the Tigris. His character has been variously represented by different writers. Some say, that he was a fierce brutal foldier; and by others, he is described as discreet and merciful. Some extol his acquaintance with the poets of the country, and with the moral precepts of his religion; and others degrade his character as a glutton and sensualist. Bayle says, that he was addicted to magic, and of a sect similar to that of Spinoza. Of his wives he was so jealous, that he confined them in a castle, to which none besides himself had access, and where they were supplied with provisions through the windows. Bayle. *Mod. Un. Hist.* vol. iii. p. 104, &c.

APUNA, among the *Christian Arabs*, is the title or appellation of a religious character.

The word, which is Arabic, is sometimes also written *abuna*, sometimes *abouna*, and by some *abana*, or *alunna*; it literally denotes—our father, and is more particularly used for the archbishop or metropolitan of the Abyssinian church. Fabr. *Lux Evang.* c. 45. Ludolf. *Hist. Æthiop.* lib. iii. c. 7.

ABUNDANCE. See ABUNDANTIA.

ABUNDANT Numbers, are those whose aliquot parts added together, exceed the NUMBER itself whereof they are parts.

Thus the number 12 is *abundant*, its aliquot parts, 1, 2, 3, 4, and 6, amounting to 16—In opposition to *abundant* numbers stand DEFICIENT ones.

ABUNDANT Notion, in *Logic*, is that which includes more marks and characteristics than are necessary to distinguish it from others.

Thus, we may be said to give an abundant notion of a rectilinear triangle, when we describe it as a space terminated by three right lines, and containing three angles. Inasmuch as the number of its angles is determined by that of its sides; so that the bare mention of its three sides was sufficient to have defined it.

ABUNDANTIA, in *Mythology*, a heathen divinity, represented on ancient monuments under the figure of a woman with a pleasing aspect, crowned with garlands of flowers, pouring all sorts of fruit out of a horn which she holds in her right hand, and scattering grain with her left, taken promiscuously from a sheaf of corn. On a medal of Trajan, she is represented with two cornucopizæ.

ABUNOWAS, in *Biography*, a celebrated Arabian poet, who was born in the city of Basra, in 762, left several works collected by different persons, and died A. D. 810.

ABU OBEIDAH, one of the companions of Mahomet, who was appointed by Abubeker to the supreme command in Syria, and afterwards superseded by Caled, under whom he served at the famous siege of Damascus. He restrained the violence of Caled on this occasion, and obtained leave for the citizens to capitulate, and for the christians to depart with their effects. Omar, on his accession, restored Abu Obeidah to the chief command, and Caled submitted to serve under him. He took Baalbec, Emessa, and Jerusalem: and assuming the government of northern Syria, he took Aleppo and Antioch. Whilst he was pursuing his conquests in Palestine, a grievous pestilence proved fatal to many of the Mahometan officers, and also to Abu Obeidah, who died A. D. 639, Hegira 18; which year was called the *year of destruction*. The civil and moral virtues of this commander are more distinguished than his military talents; but he succeeded in consequence of the impression made upon the minds of his enemies by his clemency and good faith. *Mod. Un. Hist.* vol. i. p. 215, &c.

ABUS, in *Ancient Geography*, a river of Britain, formed

by the confluence of the Ure, the Derwent, Trent, &c. flowing into the German Sea between Yorkshire and Lancashire, and forming the mouth of the Humber. See also *ABA*.

ABU SAID, in *History*, sultan of the Mogols, succeeded his father Alau, at the age of twelve, A. D. 1417. He died in 1530, at Solima, where he was crowned, and which was the place of his usual residence. His valour was so distinguished, that he was called *Bekabek*, or *brave*. Having fallen in love with the daughter of Emir Juban, who was married to the Emir Hassan, and who was deemed the greatest beauty in Asia; and the father refusing to consent to her divorce from her husband, Abu Said conceived a prejudice against him, which terminated in his death. Hassan, however, acquiesced in a divorce, and sent her to the sultan, over whom the sultan claimed a right of endowry. Abu Said was the last monarch of the race of Jeingizkhan; and after his death, that happened in the year in which Tamerlane was born, the empire was diminished, and became a land of blood and devastation. *Gen. Diet.*

ABUSE, compounded of *ab*, *from*, and *usus*, *use*, an irregular use of a thing, or the introducing of something contrary to the true intention thereof.

In *Grammar*, to apply a word *abusively*, or in an *abusive* sense, is to misapply, or pervert its meaning.

A permutation of benefices, without the consent of the bishop, is deemed abusive, and consequently null.

ABUSINA. See ABERSPIEG.

ABU TEMAM, in *Biography*, sprung from an Arabian tribe, surnamed Tay, and considered as the prince of the Arabian poets, was born in the 190th year of the Hegira, A. D. 805, or as others say, in 188, or 192 Heg. i. e. A. D. 803, or 807; or in 172 Heg. i. e. A. D. 788, at Jafem, a little town situated between Damascus and Tiberias. He was educated in Egypt, and died at Mawfel, near the spot where ancient Niniveh stood, in the 231st year of the Hegira, A. D. 845, or in 228 or 232 Heg. i. e. A. D. 842, or 846. His poetical compositions were collected with those of others, into a volume, and intitled *Al Hamafab*. Having written an elegy on the death of another, the following eulogium was given Abu Temam:

The man whose virtues thus ascend the sky,
Prais'd (mighty Bard) by thee, can never die. *Gen. Dict.*

ABUTILON, in *Botany*, the trivial name of several species of the SIDA. See also HIBISCUS, MELOCHIA, MALVA and NARÆA.

ABUTTALS, among *Law-writers*, denote the buttings or boundings of a piece of land; expressing on what other lands, highways, or the like, the several extremes thereof do abut, or terminate. In this sense the word is sometimes also written corruptly *abbuttals* or *abutals*.—In old surveys, we often find them called *headlands*. Abuttals amount to the same with what Latin writers call *capita*; Marcellus, *frontes*; the French, *boites*. In *Coke*, the plaintiff is said to fail in his abuttals, that is, in setting forth how the land is bounded.

ABUTUA, in *Geography*, a kingdom in the south of Africa, to the north of the country of the Hottentots, and adjoining to the province of Ohila, which is said to be rich in gold mines.

ABYDENUS, in *Biography*, a celebrated historian, author of the history of the Chaldeans and Assyrians, of which only some fragments have been transmitted to us by Eusebius in the *Præparatio Evangelica*, Cyrillus, and Syncellus; which have been illustrated with several notes by Sædiger in his book *De Emendatione Temporum*.

ABYDON. See AMYDON.

ABYDOS, in *Antient Geography*, a town built by the Milesians, in Asia, on the Hellespont, where, according to Le Brun, (*Voyage en Levant*) the strait is only half a mile, others say two miles wide, opposite to Sestos, on the European side; both of which, according to some geographers, are now called the Dardanelles; but others say, that Sestos was much nearer the Propontis than Abydos; and Strabo, (*l. xii. p. 46*) reckons 3750 paces from the port of Abydos to that of Sestos. Abydos was situated midway between Lampacus and Lium, and was famous for Xerxes's bridge, mentioned by Herodotus, *l. vii. c. 34*; and by Lucan, *Phœn. lib. ii. v. 622*; also for the loves of Leander and Hero, recorded by Musæus and others, and celebrated for its exploits by Val. Flac. *Æneid*. The inhabitants were effeminate, and also addicted, according to Stephanus, (*de Urbibus*, vol. i. p. 9.) to calumny; whence the proverb, *Ab dardanio abydōn calare*, when we would caution against danger. This city was formerly very important, as it commanded the straits, and made those who were possessed of it masters of the communication between the Euxine sea and the Archipelago. It was defended by its inhabitants with great courage and obstinacy against the attack of Philip of Macedon, but at length surrendered amidst the horrors of almost universal slaughter, *A. M. 3803. Ant. J. C. 201*. Fifty of the citizens were compelled to take an oath, in the presence of all the inhabitants, that when they saw the enemy master of the inward wall, they would kill the women and children, set fire to the galleys laden with their effects, and throw into the sea all their gold and silver; and then, in the presence of the priests, they took another oath, either to conquer or die sword in hand. After the surrender of the city, this dreadful resolution was executed to such an extent, that the individuals of every family killed one another, and none escaped but those who by violent restraint were prevented from destroying themselves. Abydos was taken by the Turks, through the treachery of the governor's daughter, in the year 1330.

ABYDUS, an inland town of Thebais in Upper Egypt, between Ptolemais and Diospolis Parva, towards Syene, famous for the palace of Memnon and the magnificent temple of Osiris built by Ifmandes, into which no fingers or dancers were allowed to enter. Here the Egyptians revered the oracle of the God Befu, which was one of the most ancient oracles of Egypt, and famous even in the time of the emperor Constantius. Strabo, vol. ii. p. 1167—1169. Pliny, *l. v. c. 9*. Stephanus (*Urb. vol. i. p. 9*.) say, that it was a colony of Milesians. The city, reduced to a village, under the empire of Augustus, presents in our time nothing but a heap of ruins without inhabitants. About three miles west of the Nile, in the place, as Pococke (*Descript. East. p. 83*.) conjectures, where the present village El-Berbi is situated, but to the west of these ruins is still found the celebrated monument of Ifmandes. The entrance is under a portico, 60 feet high, and supported by two rows of massy columns. This leads into a temple 300 feet long, and 145 wide. There are several other spacious apartments, which communicate with one another, both by passages and stair-cases. The solidity of the edifice, the huge masses of marble which compose it, and the hieroglyphics that cover the walls, evidently testify that it is a work of the ancient Egyptians. In the multitude of human figures, which are intermixed with those of other animals, there may be discovered women suckling their children, and men presenting offerings to Venus. Here are also the divinities of India, such as they are represented in the temples of Indoitan. Six lions' heads, placed on the two sides of the

temple, serve as spouts to carry off the water. The stair-case is formed of stones incruited in the wall, and projecting six feet from it, so that being supported only at one end, they appear to be suspended in the air. The walls, roof, and columns of this stupendous edifice, have suffered nothing from the injuries of time; and its solidity will resist the natural decay of many ages. Except the colossal figures, whose heads serve as an ornament to the capitals of the columns, and which are sculptured *in relief*, the other hieroglyphics, which cover the inside, are carved in stone. To the left of the great building, there is another much smaller, with an altar at the bottom of it, which was probably the sanctuary of the temple of Osiris. Savary has minutely described this structure in his *Letters on Egypt*, vol. ii. p. 5, &c.

ABYLA, one of Hercules's pillars, on the African side, called by the Spaniards *Sierra de las Monas*, over against Calpe, in Spain, the other pillar. These were supposed to have been formerly joined, but separated by Hercules, in order to make an entrance into the sea, now called the Mediterranean. This, according to Pliny, (*Procœm. l. 3*.) was the limit of the labours of Hercules. The Hebrew *עַב*, *ab*, denotes a thick cloud, and also a column, and might therefore be applied to a high mountain, or to the pillar of Hercules. See Bochart. *Oper. tom. i. p. 731—733*. Edit. Villem. See the other authors Strabo, Mela, and Ptolemy, cited by Cellarius, tom. ii. p. 136.

ABYLA. See ABILA.

ABYO, or ABUYO, in *Geography*, one of the PHILIPPINE islands, in the East Indies, between Mindanao and Luzon, where the Spaniards have a fort. *E. long. 122° 15'*. *N. lat. 10° 0'*.

ABYSS, in a general sense, denotes something profound, and, as it were, bottomless.

The word is originally Greek, *αβυσσος*; compounded of the privative *α*, and *βυσος*, *bottom*; *q. d. without a bottom*.

ABYSS, in a more particular sense, denotes a deep mass, or fund of waters.

In this sense the word is particularly used, in the Septuagint, for the water which God created at the beginning with the earth, which encompassed it round, and which our translators render by the *deep*. Thus it is that darkness is said to have been on the face of the abyss.

ABYSS is also used for an immense cavern in the earth, where God collected all those waters on the third day; which, in our version is rendered the *deep*, and elsewhere, the *great deep*.

Dr. Woodward has made several observations and conjectures with reference to this great abyss, in his *Natural History of the Earth*. He asserts, that there is a vast collection of waters enclosed in the bowels of the earth; constituting a huge orb in the interior or central parts of it; and over the surface of this water he supposes the terrestrial strata to be expanded. This, according to him, is what Moses calls the *great deep*, and what most authors render the *great abyss*.

The water of this vast abyss, he alleges, communicates with that of the ocean, by means of certain hiatuses, or chasms passing betwixt it and the bottom of the ocean; and this and the abyss he supposes to have one common centre, around which the water of both is placed; but so that the ordinary surface of the abyss is not level with that of the ocean, nor at so great a distance from the centre, as the other, it being, for the most part, restrained and depressed by the strata of earth lying upon it; but wherever those strata are broken, or are so lax and porous, that water can

can pervade them, there the water of the abyfs ascends, fills up all the clefts and fissures into which it can get admittance; and saturates all the interstices and pores of the earth, stone, or other matter, all round the globe, quite up to the level of the ocean.

The existence of an abyfs, or receptacle of subterraneous waters, is controverted by Camerarius, (Diff. Taur. Act. Erud. Sup. tom. vi. p. 24.) and defended by Dr. Woodward, chiefly by two arguments; the first, drawn from the vast quantity of water, which covered the earth in the time of the deluge; the second, from the consideration of earthquakes, which he endeavours to shew are occasioned by the violence of the waters in this abyfs. A great part of the terrestrial globe has been frequently shaken at the same moment; which argues, that the waters, which were the occasion thereof, were co-extended with that part of the globe. There are even instances of universal earthquakes; which shew that the whole abyfs must have been agitated: for so general an effect must have been produced by as general a cause; and that cause can be nothing but the subterraneous abyfs.

This abyfs is no useless thing; when once established, it serves to solve several difficult phenomena; as the origin of springs and rivers; the level maintained in the surface of different seas, and their not overflowing their banks. To the effluvia emitted from this abyfs some even attribute all the diversities of weather, and changes in our atmosphere; and, what is more, the origin of every thing in the earth, or in its surface. Dr. Woodward has an epistle on the œconomy of the great abyfs hid in the bowels of the earth, and the perpetual communication between it and the atmosphere. Ray, (Physico-Theological Discourses, p. 76. ed. 4.) and other authors, ancient as well as modern, suppose a communication between the Caspian sea and the ocean, by means of a subterranean abyfs: and to this they attribute it, that the Caspian does not overflow, notwithstanding the great number of large rivers it receives; of which Kempfer reckons above fifty, in the compass of sixty miles. But the daily evaporation may be sufficient for this purpose. See EVAPORATION, SEA, and SPRING.—The different arguments concerning this subject, are collected by Cockburn in his Inquiry into the truth and certainty of the Mosaic deluge, p. 271. See DELUGE, EARTH, and VOLCANO.

ABYSS is also used to denote the cavernous belly of a hollow MOUNTAIN.

In which sense Mr. Tournefort describes the abyfs of mount Ararat. This, and similar gulphs, or precipices in mountains, M. Buffon, and others, suppose to be the craters of extinguished volcanoes.

ABYSS is also used to denote HELL. In which sense the word is synonymous with what is otherwise called Barathrum, Erebus, and Tartarus: in the English Bible, the *bottomless pit*.

ABYSS is more particularly used, in *Antiquity*, to denote the temple of Proserpine.

It was thus called, on account of the immense fund of gold and riches deposited there; some say hid under ground.

ABYSS is also used in *Heraldry*, to denote the centre of an *Escutcheon*.

In which sense, a thing is said to be borne in *abyfs*, *en abyfine*, when placed in the middle of the shield, clear from any other bearing: he bears *azure*, fleur de lys, in abyfs. Colombiere.

ABYSS is also used *metaphorically*, for a thing not to be

known or comprehended, on account of its immense extent, or profundity.

In which sense it coincides with secret, inscrutable, incomprehensible, &c.—The judgments of God are called a great abyfs.

ABYSS, in *Hydrography*, is synonymous with GULPH.

ABYSSINIA, or, as it is sometimes called ABASSIA, HABESSINIA, and UPPER ETHIOPIA, in *Geography* and *History*, an empire of Africa, situated in the Torrid Zone, and mostly comprehended between 8° and 16° N. lat. and 34° and 40° E. long. As to the etymology of this name, some have sought for it in the fruitful spots amongst rugged deserts with which the country abounds, and which the Egyptians call *abasses*; and others have traced it to *Abaxa*, the capital of the kingdom of Adal, whose monarchs were once masters of Abyssinia; but Ludolfus, and many who have adopted his opinion, ascribe the origin of the appellation to the Arabic *Habesh*, which has the same meaning with the Latin *Convencia*, and signifies a number of distinct people meeting together accidentally in one place. This etymology, it is alleged, corresponds to the manner in which this country was originally inhabited. For the appellation of Prester or Prebyster John's empire, which the Portuguese gave to this country, there is no sufficient foundation, as there was no person of this denomination that was ever known in Abyssinia. See PRESTER JOHN.—The imaginary limits of this country have been erroneously extended by ancient geographers far beyond the equinoctial line, and its real boundaries have been in later times very much reduced by the invasion of a barbarous people, denominated GALLAS, of whom we shall give an account under that article. It is at present bounded on the N. by the kingdom of Sennaar, on the E. and N. E. by the Red Sea, on the S. by the Gallas, and a vast chain of mountains extending with little interruption from 34° to 44° E. long. and between 8° and 9° N. lat.; and on the S. E. by the kingdom of Adal, and on the W. by the Nile, and some adjacent provinces. But its boundaries have suffered so many irruptions and encroachments, that they are not easily ascertained. At the time of Lobo's mission, in 1624, it extended from the Red Sea to the kingdom of Congo, and from Egypt to the Indian Sea, containing forty provinces. At Maluah, *i. e.* on the coast of the Red Sea, says Mr. Bruce, begins an imaginary division of Abyssinia, into two parts; the first is called Tigré, between the Red Sea and the river Tacazzé; the second is Amhara, between that river and the Nile, westward, where it bounds the Galla. But this division respects language, rather than territory; and it is, in neither view of it, sufficiently precise and determinate. The provinces now comprehended under the empire of Abyssinia are the following; viz. MASUAH; TIGRE; SIRE; SAMEN; WALDUBBA; BEGEMDER, bordering upon Angot, which is almost wholly conquered by the Gallas; AMHARA; and between the rivers Geshen and Samba, a low, unhealthy, but fertile province, called Walaká; and to the S. of this the *Upper Shoa*; GOJAM; DAMOT; MAITSHA; the province of the AGOWS; DEMBEA on the south of Gondar, and Woggora a small province on the east, which are altogether sown with wheat, and are the granaries of Abyssinia; and to the south of Dembea, KUARA. There are many other small provinces which are occasionally annexed, and sometimes separated, such as Guesgué to the east of Kuara; Waldubba, between the rivers Guangue and Angrab; Tzégadé and Walkayt on the west of Waldubba; Abergalé and Selawa, near Begemder; Temben, Dobas, Giannamora, Bur, and Engana, in the neighbourhood of Tigré, &c. Such was the state of the country at the time when Mr. Bruce visited it. These

monarchs form one empire, subject to a monarch, head many kingdoms, but declare that he is a king and despot; of which the capital is usually Axum, but is now Gondar.

The face of this country is generally rugged and mountainous; it is abounded with forests and mountains; and it is also interspersed with many fertile valleys and plains, that are adapted both to pasture and to tillage. The rivers of Abyssinia, which are numerous and large, contribute very much to its fertility. Besides the Nile, which has its source in Gonder, a cleared district of this country, there are the Tacazzé, the Kibabé, or as the Portuguese call it, Zambé, which lies indeed beyond the extent of Abyssinia, as it has been above assigned, the Mareb, the Habor or Hawash, the Coron, which rises in Angot, and empties itself into the Tacazzé, the Angueah and Lidda, which form branches of the Mareb, the Andona, which rises near the source of the Tacazzé, is continued under the name of the Hanazo, through the kingdom of Dawaro, and discharges itself near the bay of Zeyla, the Babilo, Loha, Geihen, Samba, Jema, Roma, Belo, Rahad, and Dender, which rising in provinces bordering on the Nile, empty themselves into that river; the Angrab, Tukoor, and Guangué, which flow into the Tacazzé, &c. The principal collection of water in this country, is the lake of Tzana, or, as it is generally called, the lake or sea of Dembea. The climate of Abyssinia, though, like other parts of the torrid zone, it was formerly thought to be uninhabitable, is not only tolerable, but in general temperate and healthy. In this respect, however, the uneven surface of the country exposes different situations to the effects of heat and cold, of dryness and moisture, and of a free circulation or a stagnation of the atmosphere in very various degrees. On the mountains, and in the higher parts of the country, the sky is clear and serene, the air is cool and refreshing, and the people are healthy and sprightly; whilst those who live in some of the vallies, in the vicinity of marshes, and in sandy deserts, cannot but experience the pernicious influence of excessive heat, and of a moist, stagnant, and suffocating air: so that the climate depends upon soil and situation as much almost as upon the latitude; and therefore no description of it will equally suit the several provinces. Mr. Bruce (*Travels*, vol. iii. p. 662.) observes, that on the highest mountain of the ridge called Lamalmon, the thermometer stood at 32° in the depth of winter, the wind being N. W. clear and cold, but attended only with hoar frost. This, he adds, vanished into dew after a quarter of an hour's sun; nor did he see any sign of congelation upon the water upon the top of that, or any other hill. The barometer stood at 22° at noon of the same day, and the therm. was at 85° . He observed had to be for three hours in the forenoon on the mountains of Amid Amid. From an examination of Mr. Bruce's register of the barometer and thermometer, &c. kept at Gondar, from February 10, 1770, to May 31, 1771, it appears, that the greatest height of the barometer was $22^{\circ} 11' 9''$, on April 29, at 6 A. M. the therm. being 69° , and wind S. The least height was $20^{\circ} 11' 5''$, March 29, at 2 P. M. therm. 75° , wind E. The greatest height of the thermometer was 91° , April 10, at 12 M.—Wind W. N. W. The least height was 54° , July 7, at 12 N. barom. $21^{\circ} 6' 7''$, wind W. The rainy season commences in April or the beginning of May, when the sun becomes vertical, and ends in September. The rains usually cease about the 8th of September; a sickly season follows till they begin again, about the 20th of October; they then continue constant, but moderate, till the 5th of November. All epidemic diseases cease with the end

of the rains. In order to avoid the inconveniences that attend the overflowing of their rivers during this season, as well as on account of the greater salubrity of elevated situations, the Abyssinians have built many of their towns and villages on the mountains. Their houses are generally very mean, consisting only of one story, and constructed with straw and laths, earth and lime, though there are some of stone, and better materials. It is a mistaken notion, however, that they live in tents, and not in houses. In a climate like that of Abyssinia, subject to scorching weather for six months, and to deluges of rain, storms of wind, thunder and lightning, and hurricanes, such as are unknown in Europe, for the other six, it is not probable that they should chuse to live in tents, after having known how to build such cities as Axum. In many of the towns and villages, the houses are separated by hedges, which being always green and intermixed with flowers and fruit-trees, at certain distances, afford an agreeable prospect, and contribute also to their salubrity. Notwithstanding every caution, the Abyssinian climate, more especially in particular situations, exposes the inhabitants to a variety of diseases. They are subject to violent fevers, which commonly prove fatal on the third day. Those who survive to the fifth day often recover, merely by drinking cold water, and by repeatedly throwing cold water upon them in their beds. The bark is the most effectual remedy; which in critical cases, (says Mr. Bruce, vol. iii. p. 34.) should be frequently repeated in small doses, and perfect abstinence observed, unless from copious draughts of cold water. Another common disease in Abyssinia, is the tertian fever, which is in no respect different from our tertian, and is successfully treated in the same manner. All fevers terminate in intermittents, and if they continue long, in dysenteries, which are always tedious, and very frequently mortal. Bark and ipecacuanha, in small quantities, water, and fruit not over-ripe, have been found the most effectual remedies. The dysentery, commencing with a constant diarrhoea, is seldom cured, if it begins with the rainy season; otherwise small doses of ipecacuanha either remove it, or change it into an intermittent fever, which yields to the bark. Another endemic disease is called hanzee, the hogs or the swine, and is a swelling of the glands of the throat, and under the arms, which by ineffectual attempts for producing suppuration, and opening the tumors, becomes a running sore, and resembles the evil. In connection with this disorder, we may mention those swellings, to which the whole body is subject, and particularly incident to the arms, thighs, and legs, sometimes accompanied with ulcers in the nose and mouth, which deface the smoothness of the skin, and which on this account are much dreaded by the Abyssinians. The two last diseases sometimes yielded to mercurials; but the last is speedily and completely cured by antimonials. Another complaint afflicts those who are in the habit of drinking stagnant water. It is called Farenteit, or the worm of Pharaoh, and appears in all parts of the body, but most frequently in the legs and arms. It is a worm with a small black head and a hooked beak, of a whitish colour, and a white body of a silky texture, resembling a small tendon. The natives seize it by the head and wind it gently round a piece of silk, or a bird's feather, and thus by degrees they extract it without any inconvenience or permanent scar. Mr. Bruce suffered much from this complaint, and the breaking of the worm in the operation of extracting it. The most terrible of all the diseases of this climate is the ELEPHANTIASIS. The cicuta, mercury, and tar-water, were unsuccessfully tried in this complaint: the greatest benefit was derived from whey made

made of cow's milk. To the alternation of scorching heat and chilling cold, thin clothing, the use of stagnant putrid water for four months, and other such causes, these diseases may be partly, if not wholly, ascribed. The small-pox was introduced into Abyssinia at the time of the siege of Mecca, about the year 356, and the Abyssinian army was the first victim to it. The diseases and other inconveniences to which the Abyssinians are subject from the nature of their climate, are in some degree counterbalanced by substantial advantages, if they would avail themselves of them by their industry and activity. Their soil, though in many places thinly spread, is rendered fertile and productive by their rains and rivers. Wherever it can be tilled and well watered, it yields very large crops of wheat, barley, millet, and other grain. The inhabitants have two and often three harvests in the year; and where they have a supply of water, they may sow in all seasons; many of their trees and plants retain their verdure, and yield fruit or flowers throughout the year; the west side of a tree blossoms first, and bears fruit, then the south side, next the north side, and last of all the east side goes through the same process towards the beginning of the rainy season. Their rivers abound with various kinds of fish; and their pastures are covered with flocks and herds; and yet for want of application and exertion, notwithstanding the almost spontaneous productions of nature which their country affords them, they are in general poor and wretched. Though they have plenty of wheat, and some of excellent quality, the chief grain they use is that called *TERR*. They have grass in abundance, but they neglect to make hay of it; and therefore they are obliged to supply this defect by feeding their cattle with barley, or some other grain. Notwithstanding the plenty, and frequent return of their crops, they are sometimes reduced almost to famine, either by the devastations of the locusts or grasshoppers, which infest the country, or by the more destructive ravages of their own armies, and those of their enemies. They cultivate the vine, peach, pomegranate, sugar-cane, almonds, citrons, and oranges; and they have many roots and herbs, which grow spontaneously; and their soil, if properly managed, would produce many more. However, they make little wine; but content themselves with the liquor which they draw from the sugar-cane, and their honey, which is excellent and abundant. They have also the coffee-tree, and a plant called *ENSETE*, which produces an eatable nourishing fruit. The country also produces many other plants and fruits, that are adapted both for domestic and medicinal uses: such as the *KOLQUALL*, *PAPYRUS*, *WAZZY*, *BALISSAN*, *WOOGINOOS*, *CUSO*, *SUSSA*, *ERGITTE*, *SINA*, *CARDAMOM*, and *GINGER*. Here is also plenty of cotton, which grows on shrubs, like the Indian. Flowers in a rich variety adorn the banks of their rivers, and encircle their houses; some of which are common with us, and others unknown in Europe. Their forests likewise abound with trees of various descriptions, particularly the *RACK*, *BAOBAB*, *CEDAR*, *SYCAMORE*, &c. This country produces a great number of animals, both domestic and wild. Amongst the former we may enumerate horses, some of which are of a very fine breed, mules, asses, camels, dromedaries, oxen, cows, sheep, and goats; and these constitute the principal wealth of the inhabitants. Amongst the wild animals we may reckon the antelope, the buffalo, the wild boar, the jackal, the elephant, the rhinoceros, the lion, the leopard, the hyæna, the lynx, apes and baboons, which are very destructive to the fields of millet, as well as the common rats; the zecora or wild mule, and the wild ass; the jerboa, the fennec, ahhoko, hare, &c. The hare, as

well as the wild bear, is deemed unclean, and not fit for food. To the antelope we had we may refer the gazelle and hippopotamus, and the water-buffalo, called *ASMAN* by the natives, and by the Europeans *andulou*. Of the vast variety of fish with which this lake and river teem, we shall only mention the *BARB* and the *MESSA*. Amongst the birds, we might enumerate the eagle, hawk, and many of the vulture kind; the *OFFICER*, *SHAK*, the *MASSA*, and many other species of pigeons which are bred in great numbers. The swallows that migrate from the spring to the summer there when they take their flight from the *MASSA* of Masush, they light, and travel two days, and they proceed with moonlight night, till they reach the *BRUCE* saw no sparrows, magpies, nor any other small winter-fowl, nor any geese, except the wild *MASSA* of the Nile, which is common nearly part of Abyssinia; there are storks in the marshes. The locusts of the country are very destructive; they have also a species of caterpillar, that are injurious; but from their nests they draw much supply. Of their vipers and serpent, we shall take notice under the articles *CINASTIS* and *BOA*. For a peculiar fly, see *TSALTSALYA*.

The inhabitants of Abyssinia are Christians, Jews, Mahometans, and Pagans. The Christians are those of the Abyssinian church, of whom we shall give some account in the next article.—The Jews have been settled in this country from time immemorial. Of these some have been voluntary profelytes to Christianity; others have been compelled to embrace the profession of it, in order to avoid persecution, and to enjoy the benefits of manumission and citizenship; and those that remain Jews have been, for the most part, forced to reside in the inaccessible and mountainous parts of the country; and even here they retain the most obstinate tradition of *CURTES* and *TALMADITS*, with invincible pertinacity. Besides these two sects, there is a third sort of them, (says *LUDOLF*, l. i. c. 14. p. 73.) who inhabit the Abyssinian frontiers, between them and the *CALISSA*, who dwell along the Nile. These are supposed to be descended either from those whom the kings of Assyria and Babylon carried away captive, or from those who were dispersed over the world, or were sold by *TITUS VESPASIAN*, after the destruction of Jerusalem. They were never incorporated with the original Jews that came hither, as tradition says, with *MENES*, the son of Solomon, but were looked upon as aliens, being called *SALAXA*, i. e. strangers or exiles. They retain their Hebrew bible in the corrupt Talmudic dialect, and their synagogue-worship.—The Mahometans are reckoned to amount to about one third part of the inhabitants of Abyssinia, and are every where intermixed with the Christians. Some of them apply to agriculture; but the most and most prosperous are the factors, who, since the Abyssinians have been deprived of their sea-ports on the Red Sea by the Turks, have, by favour of the Mussulmans, engrossed that trade very much to themselves.—The Pagans are chiefly the *GALLAS*; besides some others who are dispersed through several of the provinces of the Abyssinian empire. Amidst this variety of nations, there must be supposed a corresponding variety of language, disposition, customs, and government. The Jews speak a kind of corrupt Hebrew. The Moors use their own Arabic in an impure state. The dialect of the court is that of *AMHARA*; that of *TIGRE*, however, approaches nearest to the old *ETHIOPIA*, which is called *Leshone Geez*, or the learned language, and is still used, not only in all their literary and religious books, but also in the king's letters patent, and all their records. See specimens in *Bruce's Travels*, vol. i.

p. 424, &c. With regard to arts and sciences, and general literature, the Abyssinians are commonly very uninformed and likely to continue so, not only from the form of their government and natural indolence, but as long as they are in a great degree excluded from intercourse with nations that are better instructed than themselves.

As to their persons, the Abyssinians are, in general, tall and well made; their features are dark, proportioned, their eyes large, and of a sparkling black colour, their noses rather high than flat, their lips small, and their teeth extremely white and handsome. With respect to their natural temper, they are said to be good-humoured, mild, and placable; unless we except those of Tigre, who, according to the accounts of the Jesuits, not indeed always to be credited, are of a sickle, cruel, treacherous, and vindictive disposition. In their common conduct, they are sober and temperate. They have both a capacity, and an inclination for acquiring knowledge, but have hitherto wanted the necessary means. To religion, or rather to superstition and ceremonial observances, they are much inclined, and deference to their priests is considered by them as one of their first duties. But inured as they are to war and scenes of blood, and to feeding on raw, and even living flesh, they cannot avoid contracting an obduracy of temper, and remaining in a state of barbarity.

The dress of persons of quality, is a long fine vest either of silk or cotton, tied about the middle with a rich scarf. The common people have only a pair of cotton drawers, and a kind of scarf, or piece of the same linen with which they cover the rest of their body. In some parts of the country, more especially near the coast, and in the adjacent provinces, men and women have no kind of covering. Indeed, their dress is suited to the climate, so that the cloth which covers their bodies, and their drawers, are made so wide and long, as to admit as much air as possible. The habit of the women, particularly of the superior class, is formed of the richest silks, garnished, according to their rank, with trinkets and jewels, images, and relics of various kinds. They are allowed to appear in public, and to converse freely with the men, without any of those restrictions to which the Turkish women are commonly subject. The women of superior condition are not very guarded in their conduct, but those of inferior rank are more faithful to their husbands; and they also submit to the meaner and more laborious offices of domestic life. It is their business to grind corn for the family, which they perform daily by means of hand-mills. Every kind of intercourse (says Mr. Bruce, vol. iii. p. 304.) is permitted with absolute freedom. In this particular they resemble the Cynics of old, of whom it was said: "*Omnia quæ ad Bacchum et Venerem pertinuerint in publico facere.*" They bear children, and are delivered with little pain and inconvenience. Although we read from the Jesuits, continues this author, a great deal about marriage and polygamy, yet there is nothing which may be averred more truly, than that there is no such thing as marriage in Abyssinia, unless it be that which is contracted by mutual consent, without other form, subsisting only till dissolved by dissent of one or other, and to be renewed or repeated as often as it is agreeable to both parties; who, when they please, cohabit together as man and wife, after having been divorced, and had children by others, or whether they have been married, or had children by others or not. Upon separation they divide the children. The eldest son falls to the mother's first choice, and the eldest daughter to the father. If, after the first election, the remaining number be unequal, the rest are divided by lot. There is no such distinction as legitimate and illegitimate children from the king to the beggar. The king in his marriage uses no other ceremony than this; he sends an

Azage, or officer, to the house where the lady lives, who announces to her, that it is the king's pleasure she should instantly remove to the palace. She then dresses herself in the best manner, and obeys. From this time an apartment is assigned her in the palace, and a house is given to her wherever else she chuses. When he makes her Iteghé, the form seems to be the nearest resemblance to marriage: for, whether it be in the court, or in the camp, he orders one of his judges to pronounce in his presence, that he, the king, has chosen his hand-maid, naming her, for his queen; upon which the crown is put upon her head; but she is not anointed. Whatever be the forms of marriage in this country, and such are entered into at a very early period, when the males are ten, and the females younger; polygamy is allowed, divorces frequently occur, and adultery is compensated by an easy fine. Their funerals are attended with many superstitious ceremonies. The relations, friends, and a number of hired mourners, bewail the dead for many days together, with shrieks and lamentations, clapping of hands, smiting their faces and breasts, and uttering a variety of affecting expressions in the most doleful tone. They express their concern at hearing of the death of a relation or friend, not only by violent exclamations, but by throwing themselves on the ground with such force as to do themselves great injury. Whenever a near relation dies, every woman in Abyssinia, with the nail of her little finger, which she leaves long on purpose, cuts the skin of both her temples, about the size of a sixpence; and, therefore, you see a wound, or scar, on every fair face in the country; and in the dry season, when the camp is out, from the loss of friends, they are seldom allowed to heal till peace and the army return with the rains.

The food of the Abyssinians is plain and coarse. Their bread, which is indifferently prepared, of wheat, pease, millet, teff, or any other grain, is made into flat cakes or apas, which serve for dishes, plates, and spoons, and even for napkins and table-cloths. They wash their hands before they sit down to their meals, and this is the more necessary, as they touch every thing they eat. The rich have their victuals cut for them, and conveyed to their mouths by pages, who attend them. All their sauces are rich, greasy, and highly seasoned. They never drink till they have finished their meals, alleging an old rule, that you must plant first and then water. When the tables are cleared, they indulge themselves freely in circulating the glass. The common liquor is hydromel, made of five or six parts of water to one of honey, with a handful or two of parched barley meal, which causes it to ferment; to which they add some chips of a wood, called fardo, in order to take off the luscious taste of the honey, and to make it palatable and wholesome. At a feast, which Mr. Bruce attended, there was excellent red wine, brought from Karoota, which is the wine country, good new brandy, hydromel, and a kind of beer, called bouza; both the last of which were fermented with herbs or leaves of trees, and thus made very heady and intoxicating. The Abyssinians neither eat nor drink with strangers; and they break, or purify, every vessel which has been used by them. This custom they seem to have derived from the Egyptians. The Abyssinians eat their flesh raw; and they have a method of obtaining it, which at the first report seems to be hardly credible; but, upon farther enquiry, is an undoubted fact. In the neighbourhood of Axum, Mr. Bruce met with some travellers, who were driving a cow before them. He afterwards found that they cut fleas from the higher part of the buttock; they then closed the wound by drawing the skin over it, and applied to it a cataplasm of clay. They then drove the animal before them, in order to supply them and their companions

panions with another meal. At their feasts they have a bull or cow, one or more, according to the number of guests, which are tied at the door of the house in which they are assembled. After letting out a few drops of blood from the dew-lap under the throat, they cut through the skin on each side of the spine, and stripping off the hide of the animal half way down the ribs, and as far as the buttock, they cut out the solid flesh from the buttocks in square pieces, and the roaring of the animal, during this savage operation, is a signal for the guests to seat themselves at table. These pieces are served up on round cakes of unleavened bread made of tefl. Three or four of these cakes of a whiter sort are placed uppermost, and designed for food; and four or five of a blacker kind are under the others, and serve the master to wipe his fingers upon, and afterwards the servant eats them as bread at his dinner. As no person of any fashion feeds himself, or touches his own meat, the women take the steak, whilst the motion of the fibres is distinctly seen, cut it into small pieces, well pepper them, and wrap them up in the tefl bread, like so many cartridges. In this form they are put into the mouths of the guests, who, like birds fed by their dam, are opening their mouths to receive the morsels that are ready as fast as they can be prepared for them. The females, after having thus supplied the male guests, eat till they are satisfied, and then all drink together. The victim is still bleeding, writhing, and roaring at the door. When the animal has bled to death, the cannibals tear the remaining flesh from the thighs with their teeth like dogs. Such, in brief, is the description of an Abyssinian feast. For a fuller account, see Bruce's Travels, vol. iii. p. 302, &c.

The offering of meat and drink in Abyssinia, is an assurance that your life is not in danger; and it is also the constant practice to wash the feet of those that come from Cairo, and who are understood to have been pilgrims at Jerusalem. Many of the customs in Abyssinia resemble those of the ancient Persians and Egyptians. For particular instances, we refer to Bruce's Travels, vol. iii. p. 268—294.

The capital punishments in Abyssinia are the cross, hanging, slaying alive, stoning to death, and plucking out of the eyes. The dead bodies of criminals slain for treason, murder, and violence on the highway at certain times, are seldom buried. The streets of Gondar are strewed with pieces of their dead carcases, which bring the wild beasts, and particularly the hyenas, in multitudes into the city as soon as it becomes dark, so that it is hardly possible to walk about with safety in the night; and the dogs bring pieces of human bodies into the houses and yards that they may devour them in greater security.

The Abyssinians have few manufactures, though their country produces, or is capable of producing, ample materials for them. Before the discovery of the Cape of Good Hope, and before the Turks took possession of the ports of the Red Sea, there was a considerable intercourse of a commercial kind between Abyssinia with its adjacent provinces and various parts of Arabia and of India. Mahuah was then a harbour of great resort, and had a large quantity of exports brought to it from an extensive tract of mountainous country behind it, in all ages very inhospitable, and almost inaccessible to strangers. Gold and ivory, elephants, and buffaloes' hides; and, above all, slaves, of much greater value, made the principal articles of exportation from this port. There is still a considerable trade carried on from this place; but the hand of power restrains and discourages every exertion, and the interference of it renders every kind of property insecure. The goods imported from the Arabian side are

blue cotton, Surat cloths, and cochineal ditto, fine cloth from different markets in India, cotton unspun in bales, Venetian beads, crystal, drinking and looking glasses, and crude antimony. Old copper is also a gainful article, and imported in large quantities. To the westward of Gondar they wear bracelets of it; and near the country of Goggas and Guba it has been sold, weight for weight with gold. The Banians were once the principal merchants of this port; but their number is now reduced to six, and they scarcely gain a subsistence, as silversmiths, by making earrings, and other ornaments for the women on the continent, and assaying of gold. The same coin is current here as on the Arabian side, and it is valued by the Venetian sequin. But glass-beads, called Contaria, of all kinds and colours, perfect and broken, pass for small money, and are called, in their language, Borjocke. The Venetian sequin is $= 2\frac{1}{2}$ pataka; the pataka, or imperial dollar $= 28$ harf or dahab; the harf $= 4$ diwani, or 120 grains of beads; the diwani $= 10$ kibeer; and the kibeer $= 3$ borjooke, or grains. They have no gold in Abyssinia; and in lieu of small money, they frequently make use of rock salt as white as snow, and as hard as stone. This salt is also applied to the same purposes as common salt. With this mineral salt they purchase pepper, spices, and silk stuffs, which are brought to them by the Indians in their ports on the Red Sea. Cardamoms, ginger, aloes, myrrh, cassia, civet, ebony-wood, ivory, wax, honey, cotton, and linen of various sorts and colours, may be procured from Abyssinia; to which may be added, sugar, hemp, flax, and excellent wines, if they had the art and industry to prepare them. The merchandises above specified are more for foreign than for inland trade. The emeralds of this country have been estimated at a high value. Their domestic commerce consists chiefly in salt, honey, buckwheat, grey-pease, citrons, oranges, lemons, and other provisions, with fruits and herbage necessary for the support of life. Antimony, large needles, goat skins, coarse scissars, razors, and steels for striking fire, as well as bugles and beads, are articles of barter in several of the provinces. Those places which the Abyssinian merchants mostly frequent are Arabia Felix and the Indies, particularly Goa, Cambaye, Bengal, and Sumatra. With regard to their ports on the Red Sea, to which foreign merchants commonly resort, the most considerable are those of SUAKEM, JIDDA, MOCHA, LOHIA, MASSUAH, SUEZ, AZAB, and METE. The trade of the Abyssinians by land is inconsiderable. There are, however, bands of them who arrive yearly in Egypt, particularly at Cairo, laden with gold-dust, which they bring to barter for the merchandises of that country, or of Europe. These caravans, or caravans, formed of a few persons who associate for their mutual safety, are commonly three or four months in their route, traversing forests and mountains, in order to exchange their gold for necessaries for their families, and return immediately with the greatest part of their merchandise on their backs. One of the principal branches of the Abyssinian commerce is that of their slaves, who are highly esteemed in India and Arabia; and who, entrusted by the merchants, as their factors, and found worthy of confidence, obtain their liberty and a suitable recompence.

The government of Abyssinia has been always monarchical and despotic, and it has exercised an absolute dominion over the lives, liberties, and fortunes of its subjects, and uncontrollable authority in all matters civil as well as civil. This empire has ever been destitute of written laws to restrain the royal power, or to secure the property and privileges of the subject; so that the will of the sovereign is the universal law. The princes of Abyssinia claim descent from Menelick, the son of Solomon, by the queen

of Saba. Accordingly it is mentioned by many learned men, and in conformity to the Abyssinian records, of which Mr. Bruce has availed himself, that Azab, or rather Saba, Azab, or Ahab, signifying Saba, was the same country with Abyssinia, whatever might have been its extent; and that it was the kingdom of queen Candace, whose much-esteemed minister, came to worship at Jerusalem; and who, on his return homeward, was hospitably lodged by the deacon, and from whom the Abyssinians acknowledge they afterwards received the gospel. See Acts viii. 27—33. This country, say Pliny (l. vi. c. 29.), and Strabo, (l. xvi. xvii. t. 2. p. 1116. 1175.) was commonly governed by queens; and, it is said, that Candace was a name common to them all, as Pharaoh was to the kings of Egypt; the term Candace importing their sovereign authority. The queen of Sheba or Saba, having heard of Solomon's fame, determined to pay him a visit at Jerusalem. She was there converted, to the Abyssinians say, from heathenism to the Jewish religion, and had a son by Solomon, who was named Menelik. With this son she returned to her own country, and after some time sent him back to Jerusalem to be instructed by his father. Having been anointed and crowned king of Ethiopia in the temple of Jerusalem; and having also, at his inauguration, assumed the name of David, he returned to Azab with a colony of Jews, among whom were many learned doctors of the law, and particularly one of each tribe, from whom the present Umbares, or supreme judges, three of whom always attend the king, are thought to be descended. Azarias, the son of Zadok, the priest, was one of the number, and he brought with him a Hebrew copy of the law, which was committed to his custody as high priest, and which was burnt with the church of Axum in the Moorish war of Ahab. By the last act of the queen of Saba's reign, she settled the mode of succession in her country for the future; enacting, 1st, That the crown should be hereditary in the family of Solomon for ever: 2dly, That, after her, no woman should be capable of wearing that crown, or being queen, but that it should descend to the heir-male, however distant; and that these two articles should be considered as fundamental and immutable laws of the kingdom: and 3dly, That the heirs-male of the royal house should always be sent prisoners to a high mountain, where they were to continue till their death, or till the succession should open to them. The custom, however, of having women for sovereigns prevailed among the neighbouring kingdoms till the last century, and may possibly prevail in some of them to this day. It obtained in Nubia, and the kingdom of Meroë, till the time of Augustus, when Petronius, his lieutenant, subdued the country, and took and destroyed Napata, the residence of queen Candace; and this queen; Mr. Bruce (v. i. p. 477.) supposes, was succeeded by the Candace above mentioned. Whatever was the origin of the last regulation, it seems to have been necessary in order to prevent the confusion that must have arisen from various claimants, in a country where polygamy was allowed, and where the heirs to it must have been numerous; as the crown was to be hereditary in one family, but elective as to the person. Whilst they are confined in a good climate, on a high mountain, they are taught merely to read and write, and the state allows to the amount of 30,000 dollars for their maintenance. However, they are often severely treated, and in times of tumult, put to death upon the slightest misinformation. It is another rule of the society in Abyssinia, that no person that is maimed shall inherit the crown. The queen of Saba having established the laws above recited, and reigned forty years, died in the year 986 before Christ; and was succeeded by her son Menelik, or Menelchek, i. e. *Another self*; whose posterity,

according to the annals of Abyssinia, have ever since reigned. The device of these kings is a lion passant, proper upon a field gules, and their motto, "*Mo Anbasa am Nizilet Solomon am Negade Jude*;" i. e. "The lion of the race of Solomon and tribe of Judah hath overcome." Instead of the lion passant, the Portuguese missionaries introduced a lion rampant, in order, as it is supposed, to put a cross into the paw of this Jewish lion; but the lion passant is restored. In virtue of this noble descent, the Abyssinian monarchs assume the title of Nagush, and are always addressed either by that of Nagusha Nagashit, king of kings, or by that of Natzeghe, equivalent to the French Sire. They are approached with adoration; when seated in council, they are concealed; they are attended by a splendid retinue; their camp is extensive and magnificent, and they wear a very rich and costly crown. The imperial revenue chiefly arises from the four following sources: the tribute paid by those provinces which have gold mines, or which trade with the Caffres and other neighbouring nations, which amounts to about 5 or 6000 ounces *per annum*; the second source of revenue is, the sale of all the great places in the empire, the annual tax on holding them and their appendages, the amount of which from two provinces, one the largest, and the other the richest, is about 75,000 French livres: the third source is, a tenth, levied every third year, upon all the cattle in the empire: the 4th source is, a duty laid upon every loom of cotton cloth, which, if it belongs to a Christian, pays one piece of cloth, and if to a Mahometan, a piece of eight *per annum*. This revenue, the whole amount of which is not easily estimated, falls far short of what might be expected from an empire of which the sovereign is the sole proprietor and disposer.

The military force of Abyssinia has been greatly exaggerated. Mr. Bruce does not imagine that any king of this country ever commanded 40,000 effective men at any time, or upon any cause whatever, exclusively of his household troops, which are about 8000 infantry; 2000 of these last carry firelocks, and supply the place of archers; bows having been laid aside for near a hundred years, and being now used only by the Waito Shangalla, and some other inconsiderable barbarous nations. As they are in a state of almost continual war, either among themselves, or with their neighbours, the face of the country is strewn with dead bodies; and as they bury neither their friends nor enemies, and their beasts of burthen are perpetually dying under the load of baggage which they carry, the army is followed by an immense number of birds and beasts of prey, who devour the putrefying carcases when scattered over the ground; and the surrounding trees are covered with them; and they form a kind of dark canopy over the marching army.

The Abyssinians in computing time, have continued the use of the solar year. Thirty days constitute their month, to which they add five days and a quarter, and thus they complete their year. The five days are added to the month of August, and to every fourth year they add a sixth day. They begin their year with the 29th or 30th of August, i. e. the kalends of September: the 29th of August being the first of their month Mafscaram. The common epoch which the Abyssinians use is from the creation of the world, and they reckon 5500 years from the creation to the birth of Christ, rejecting the odd eight years of the Greeks, who make this period 5508 years. They have also many other epochs, such as from the council of Nice and Ephesus. In their ecclesiastical computations they make use of the golden number and epoch. The first use of epochs amongst them was not earlier, according to Scaliger, than the time of Diocletian; but Mr. Bruce observes, (vol. iii. p. 352.) that this

this is contrary to the positive evidence of Abyssinian history, which says expressly, that the epact was invented by Demetrius of Alexandria. This Demetrius was the 12th patriarch of Alexandria, and died about the 190th year of Christ, or in the reign of Severus, and consequently long before the time of Dioclesian. The Abyssinians have another mode of computing time, that is peculiar to themselves. They read the whole of the evangelists, in order, every year in their churches; and when they speak of an event, they write or say, it happened in the days of Matthew; that is, in the first quarter of the year, whilst they were reading the gospel of St. Matthew in their churches. They compute the time of the day in a very arbitrary manner. The twilight being very short, is selected for the beginning of their day; this they call Naggé, which comprehends the duration of twilight. Méfet expresses the moment when the evening twilight begins. Mid-day is called Kater, which signifies culmination. All the other parts of time they describe, in conversation, by pointing at the place in the heavens where the sun was, when the event, which they are describing, happened. After all, nothing can be more inaccurate than the Abyssinian calculations. This is a circumstance which renders the historical records of Abyssinia very confused and indeterminate. Besides, the earlier part of their history is, on account of its remoteness, involved in a considerable degree of obscurity and uncertainty; and in later ages, the access into this country was difficult, and the intercourse with it very rare and limited. For that kind of knowledge of this country, in modern times, which is attended with any degree of certainty, we are first indebted to the discoveries of the Portuguese. But the zeal of their missionaries to convert the Abyssinians to the Catholic faith, involved them in difficulties and persecution, and barred the access of other Europeans, for a considerable time, into this country. The first history of Abyssinia was written by Alvarez, who accompanied an ambassador sent thither by Emanuel king of Portugal; and it was printed at Lisbon in 1540. It is preserved in Purchas's collection. Father Bermudes, who also visited the country, has given some account of it, intermixed with much fable. His relation was printed in 1565. Father Pais, who resided there for a considerable time, and died there in 1622, wrote an account, which extends from 1556 to his death. Father Almeyda, who travelled through the inland provinces; Father Mendez, who resided there ten years; and Father Jerome Lobo, who arrived in Abyssinia in 1624, resided there nine years, and travelled above 38,000 miles in this empire, and whose history was published by M. le Grand at Paris 1738, have given distinct details of the provinces, produce, customs, and inhabitants of Abyssinia. From these several sources, and the letters of the Abyssinian missionaries to the college of Jesuits at Lisbon, Father Balthazar Telles derived materials for his general history, which was published in the Portuguese language in 1660. Poncet, a physician, who was sent by the French consul at Cairo into Abyssinia, to cure the emperor of an obstinate disease, in 1698, published an account of the religion, laws, and customs of the Abyssinians; but his personal observation was very restricted, and of course he must have depended very much upon the report of those with whom he conversed. The Jesuit writers have concurred to degrade and vilify him without sufficient reason; but his account is in general just and credible, and is held in good estimation. The history of Ludolph, in folio, is the most comprehensive of any that had been written at his time. It is chiefly compiled from the Portuguese authors above mentioned; though he relies too implicitly in many instances on the authority of the Abbot Gregory, whose learning, capa-

city, and integrity, did not warrant the confidence reposed in him. Ludolph's history was drawn up by the father, St. Mallet, in his description of Egypt, both from the account of this country, but it is more a detail of circumstances. But the most comprehensive account of Abyssinia is that published by Jan. Bruce, Esq. in 1790, in 5 vols. 4to. in 1790, after a residence of some years in the country. His work is intitled, "Travels to discover the Source of the Nile, in the years 1768, 1769, 1770, 1771, 1772, and 1773." On this work we have already availed ourselves in the compilation of this history.

The chronicle of Axum, which is the most ancient history of the antiquities of the country, and which, according to Mr. Bruce, is a book esteemed the most authentic after the sacred Scriptures, says, that Abyssinia had been inhabited till 1808 years before Christ; and 200 years after that, or in the year 1600 before Christ, it was laid waste by a flood, and the face of the country was much changed and deformed, so that it was denominated at that time *Oure Midre*, or the country laid waste; or, as it is called in Scripture itself, a land which the waters and floods had spoiled.

It is the concurrent opinion of many authors, ancient and modern, that Abyssinia, called also Ethiopia, was first peopled by the early descendants of Cush, the eldest son of Ham: and it is a tradition among the Abyssinians, which they pretend to have had from time immemorial, that almost immediately after the flood, Cush, grandson of Noah, with his family, passing through Atbara from the low country of Egypt, then without inhabitants, came to the edge of mountains, which still separates the flat country of Atbara from the more mountainous high land of Abyssinia. Their tradition says, that, terrified by the late dreadful event, the flood still recent in their memories, and apprehending a similar calamity, they chose for their habitation caves in the sides of these mountains, rather than trust themselves again on the plain. This apprehension would be naturally increased by the tropical rains of this climate. In these mountains, therefore, the Cushites first resided; and as they became more populous, they extended their borders to those other mountains that were near them, spreading the industry and arts which they cultivated, as well towards the eastern as the western ocean, but never venturing to quit their stated residence on the mountains, and to settle at a distance from them in the plains and vallies. The Abyssinian tradition adds, that they built the city of Axum at an early period, in the days of Abraham. Soon afterwards, without utterly forsaking their first habitations in the mountains, they pushed their colony to Atbara, and built another city called Meroë. This they did, says Mr. Bruce, partly to avoid a fly, named ZIMB, which was very troublesome both to them and to their cattle. From thence they advanced to Thebes; and, by degrees, as they proceeded, they acquired a greater degree of courage, and of confidence in their own faculty. Whilst they were thus establishing themselves in the central and northern territory of the country, their brethren to the south were not idle. Having extended themselves along the mountains that run parallel to the Arabian gulph towards Saba, or Azabo, signifying *south*, which was an appropriate appellation, because it was on the south coast of the Arabian gulph, and the first land to the southward that bounded the African continent, they enjoyed the perfumes and aromatics of the east, myrrh, frankincense, and cassia. The Cushites, in travelling southward towards the mountains of Sofala, supposed by Mr. Bruce to be the OPHIR of Scripture, found mines of gold and silver, which became gradually ample sources of commerce and wealth. But be-

in the south of the Nile, and the first of these they called *Agows*; the second were the *Agows* of the northern provinces of Abyssinia; and the third are the *Agows* of Lalla, with a separate language, manners, and probably the same worship (written in Tigre), that of the *Thamot* pay to the Nile; the fourth is a northern *Demon*, called *Gavay*; the situation of the fifth is not precisely ascertained, unless it be identified with the *Gavay* and *Galashay*. From this recital, we may perceive the propriety of the appellation *Habesh* or *Convenz*, denoting separate nations settled together, as affording the most satisfactory etymology of *Abyssinia*. The inhabitants who possessed Abyssinia from its southern boundary to the tropic of Cancer, or frontiers of Egypt, were the *Cushites*, a polished people, living in towns, being first *Troglodytes*, and having their habitations in caves. The next were the *Shepherds*. After these were the nations who, according to Mr. Bruce, came from Palestine. If the account we have now given of the origin of the *Abyssinians* be just, they might very well vie with the *Egyptians*, and even be deemed superior to them with respect to antiquity, since *Cush*, their great ancestor, was the eldest son of *Ham*. They might likewise have been esteemed of equal antiquity with the *Arabians*, as from the kingdom of *Midian* the *Cushites* penetrated both into the southern parts of the peninsula of the *Arabs* and *Ethiopia*. The communication between *Egypt* and *Ethiopia*, as well as the proximity of blood of *Cush* and *Mizraim*, introduced that similitude of laws and manners that is observable among their respective inhabitants. The *Ethiopians*, or *Abyssinians*, account for this mutual resemblance, by asserting, that *Egypt*, when recovered from the Nile, and made habitable, was first peopled by colonies that migrated out of their country, and they again were civilised by the *Egyptians*. Mr. Bruce endeavours to prove, that the *Abyssinians* in ancient times were not only the most learned people in the world, but that they spoke the original language, and were the inventors of writing. How they, as well as the *Egyptians*, came to lose this character, and to sink into their present state of degeneracy and barbarity, it is not easy to explain. But the nature of their respective governments will serve in some measure to resolve the difficulty. According to some authors, *Moses* resisted the progress of the *Ethiopians* from *Thebais* into the Lower *Egypt*, and drove them back into their capital *Meroë*, which, being surrounded by three rivers, the Nile, *Astapus*, and *Astaboras*, was deemed impregnable. This city, however, was betrayed by a young woman, who fell in love with *Moses*, and delivered it up to him on condition of his marrying her. He then ravaged the country, and having reduced the inhabitants to such a state, that they were incapable of any farther hostile attempts for a long time, he returned in triumph to *Egypt*, after an absence of ten years. Without attempting to fill up the chasm that occurs in the history of *Abyssinia* from this period to the time of *Solomon*, and without recurring again to the story of the queen of *Sheba*, and her son *Menilek*, from whom the kings of *Abyssinia* derive their descent, we shall proceed to observe, that the *Ethiopians*, or *Abyssinians*, after the accession of *Menilek*, were invaded by *Sefac*, or *Sefostris*, who plundered their rich temple at *Saba*, and probably occasioned the removal of the imperial seat to *Tigré*. *Ethiopia*, or at least a considerable part of it, became subject to this monarch. The *Ethiopians*, according to *Sir Isaac Newton*, drowned the successor of *Sefac* in the Nile, and seized upon *Egypt*, and obtained *Libya* in connection with it. However, they were defeated by *Asa* king of *Judah*. Upon this the people of the Lower *Egypt* revolted, and obliged

Besides these *Cushites* and *Shepherds*, who were the first settlers in *Abyssinia*, the above cited *Chronicle of Axum* mentions, among other particulars, that about the year 1420 before Christ, it was taken possession of by a variety of people, speaking different languages, who, as they were in friendship with the *Agazis*, or *Shepherds*, possessing the high country of *Tigré*, came and sat down beside them in a peaceable manner, each occupying the lands that were before him. This settlement the *Chronicle* calls *Angala*, the entry and establishment of these nations, which finished the peopling of *Abyssinia*. Tradition further says, that they came from *Midian*. Many approved writers are of opinion, that the sons of the earliest exodus of *Cush*, and settled in the high country of the east in the Nile of the Red Sea, moving gradually from thence to the southern extremity of *Arabia*; and afterwards, by means of the easy passage over the straits of *Babelmandeb*, transplanted themselves into *Ethiopia*. This migration, according to *Eusebius*, happened whilst the *Israelites* were in *Egypt*; but *Symeon* places it in the time of the *Judges*. These *Arabian Cushites* were called *Abafeni*, and formed a great part of the *Sabæans* or *Homeric*; and the *Ethiopians* were distinguished by the same name, agreed in many particulars with the others, and were believed by most of the *Asiatic* nations in *Josephus's* time, to have had the same origin. Of these new settlers, Mr. Bruce (vol. i. p. 399.) gives a somewhat different account. When *Joshua* had passed the Jordan, and destroyed *Jehon*, a prime king of the whole people of *Syria* and *Phoenicia*. These petty states, many in number, and diversified by language, sought for safety from the conqueror by flight or emigration. Having already carried on a commercial intercourse with the *Shepherds* of *Abyssinia* and *Atbara*, they directed their views to them for protection, and obtained settlements among, or near them. The curse of *Canaan*, (*Gen. ix. 25, 26, 27.*) says Mr. Bruce, seems to have followed them, as they have obtained no principality, but served the kings of the *Agazis*, or *Shepherds*, and so

they still continue. The first and most considerable of these settlements in *Arabia*; the second were the *Agows* of the northern provinces of *Abyssinia*; and the third are the *Agows* of *Lalla*, with a separate language, manners, and probably the same worship (written in Tigre), that of the *Thamot* pay to the Nile; the fourth is a northern *Demon*, called *Gavay*; the situation of the fifth is not precisely ascertained, unless it be identified with the *Gavay* and *Galashay*. From this recital, we may perceive the propriety of the appellation *Habesh* or *Convenz*, denoting separate nations settled together, as affording the most satisfactory etymology of *Abyssinia*. The inhabitants who possessed *Abyssinia* from its southern boundary to the tropic of Cancer, or frontiers of *Egypt*, were the *Cushites*, a polished people, living in towns, being first *Troglodytes*, and having their habitations in caves. The next were the *Shepherds*. After these were the nations who, according to Mr. Bruce, came from Palestine. If the account we have now given of the origin of the *Abyssinians* be just, they might very well vie with the *Egyptians*, and even be deemed superior to them with respect to antiquity, since *Cush*, their great ancestor, was the eldest son of *Ham*. They might likewise have been esteemed of equal antiquity with the *Arabians*, as from the kingdom of *Midian* the *Cushites* penetrated both into the southern parts of the peninsula of the *Arabs* and *Ethiopia*. The communication between *Egypt* and *Ethiopia*, as well as the proximity of blood of *Cush* and *Mizraim*, introduced that similitude of laws and manners that is observable among their respective inhabitants. The *Ethiopians*, or *Abyssinians*, account for this mutual resemblance, by asserting, that *Egypt*, when recovered from the Nile, and made habitable, was first peopled by colonies that migrated out of their country, and they again were civilised by the *Egyptians*. Mr. Bruce endeavours to prove, that the *Abyssinians* in ancient times were not only the most learned people in the world, but that they spoke the original language, and were the inventors of writing. How they, as well as the *Egyptians*, came to lose this character, and to sink into their present state of degeneracy and barbarity, it is not easy to explain. But the nature of their respective governments will serve in some measure to resolve the difficulty. According to some authors, *Moses* resisted the progress of the *Ethiopians* from *Thebais* into the Lower *Egypt*, and drove them back into their capital *Meroë*, which, being surrounded by three rivers, the Nile, *Astapus*, and *Astaboras*, was deemed impregnable. This city, however, was betrayed by a young woman, who fell in love with *Moses*, and delivered it up to him on condition of his marrying her. He then ravaged the country, and having reduced the inhabitants to such a state, that they were incapable of any farther hostile attempts for a long time, he returned in triumph to *Egypt*, after an absence of ten years. Without attempting to fill up the chasm that occurs in the history of *Abyssinia* from this period to the time of *Solomon*, and without recurring again to the story of the queen of *Sheba*, and her son *Menilek*, from whom the kings of *Abyssinia* derive their descent, we shall proceed to observe, that the *Ethiopians*, or *Abyssinians*, after the accession of *Menilek*, were invaded by *Sefac*, or *Sefostris*, who plundered their rich temple at *Saba*, and probably occasioned the removal of the imperial seat to *Tigré*. *Ethiopia*, or at least a considerable part of it, became subject to this monarch. The *Ethiopians*, according to *Sir Isaac Newton*, drowned the successor of *Sefac* in the Nile, and seized upon *Egypt*, and obtained *Libya* in connection with it. However, they were defeated by *Asa* king of *Judah*. Upon this the people of the Lower *Egypt* revolted, and obliged

obliged Memnon, supposed to be the same with Menes and Amenophis, to retire first to Memphis, and then into Ethiopia. In about thirteen years he returned, with his son Ramesses, at the head of a large army, and compelled the Canaanish forces to abandon the Lower Egypt; and this event is denominated by the Egyptian writers the *second expedition of the Shepherd*. Sir Isaac Newton supposes, that the Memnon just mentioned built, or at least fortified Memphis, in order to prevent the Egyptians from penetrating into Ethiopia, and that he died at a very advanced age, about 90 years after the decease of Solomon. In his time the Argonauric expedition is said to have happened. He was succeeded by Ramesses; and his successor Moeris adorned Memphis, and made it the capital of his empire, about two generations after the Trojan war. Cheops, Caphrenus, Mycerinus, and his sister Nitocris, succeeded one another; and in the reign of Afychis, the successor of Nitocris, Ethiopia and Assyria revolted from Egypt, which being partitioned into several small kingdoms, was soon subdued by Sabacon or So, the emperor of Ethiopia. This monarch, forming an alliance with Hothai, King of Israel, occasioned his revolt from the Assyrians: in consequence of which, an end was put to the kingdom of Israel by Shalmanasser king of Assyria, in the 24th year of the æra of Nabonassar, and the 720th before the commencement of the Christian æra. Sabacon was succeeded by Sethon, who marched with a powerful army against Sennacherib king of Assyria, and defeated him. In the 78th year of the æra of Nabonassar, Ethiopia was subdued by Esar-Haddon king of Assyria, who over-run both these countries for three years, when the Ethiopians asserted their independence, which they preserved till the time of Cyrus, whose dominion, according to Xenophon, extended to Ethiopia. After his death the Ethiopians revolted; and their empire was so powerful, that Cambyfes found it impracticable to penetrate into the country; though Sir Isaac Newton suggests that he subdued them about the year 223, or 224, of Nabonassar. But others are of a different opinion. Herodotus asserts, that they reduced some of the provinces contiguous to Egypt; and it appears, that the Persians proceeded as far as Cyrene; but it is not probable that they brought under subjection the whole Ethiopia Propria of the ancients, which comprehended Sennaar, Abassia, and other countries. We have no account of any expedition undertaken by Alexander the Great against Ethiopia, though he was very desirous of exploring the source of the Nile. With this view Ptolemy Euergetes advanced into the country; but if he made any conquests, he does not seem to have long retained them, for nothing of importance relating to Ethiopia occurs till the days of Augustus. About this time, *i. e.* the year of Rome 725, Candace, queen of Ethiopia, or rather of the kingdom of Meroë, made an irruption into the province of Thebais, and being repulsed by Petronius, was obliged to sue for peace, which, as we have already mentioned, was granted to her by Augustus. From this time the Romans considered themselves as masters of Ethiopia. Menilek, according to the Arabian records, succeeded to the throne in the 986th year before Christ, and they reckon twenty-two kings from Menilek to Bazen, the eighth year of whose reign coincides with the æra of the birth of Christ. But this account must be very erroneous, because each reign will amount to more than forty-four years, which is impossible. In the reign of Tiberius, about the year of Christ 220, there seems to have been an intercourse between the Roman empire and the Ethiopians: and we learn from Procopius, (*De Bell. Pers. l. i. c. 19.*) that before the reign of Dioclesian, the frontiers of the Roman empire extended so far into Ethiopia,

fusion of names will account for the difference between the Arabian and Abyssinian records; for if this Abicha was the prince who had intercourse with Abou Thaleb, Mahomet's grandfather, and from the early days of the Calaba was connected, and was detained for many years, the smallness was introduced among the Abyssinians about the year 522, or 150 years before the Hegira; and thus the Arabian and Abyssinian account may be made to correspond. Some historians have held, that the Ethiopian monarchs embraced the doctrines of Mahomet, soon after the appearance of this impostor; but this account has been considered as improbable. It is more certain, however, that Najaschi, who was the Ethiopian governor of Yemen, and who was related to the royal family of Abyssinia, was proselytized to the Mahometan faith. On this occasion the Abyssinians lost their territories in Arabia, and were forced to seek refuge on the side of Africa, where they established several kingdoms, such as Adel, Mara, Hadea, Auffa, Wypo, Tarishih, and other states, which acquired permanent power and importance. The Jews being at this time oppressed by the caliphs, sought an asylum in Abyssinia; and they contributed to augment and strengthen an independent sovereignty, which had been preserved in one family of Jews on the mountain of Samen, the royal residence having been fixed upon a high-pointed rock, called the Jews' rock. Judith, a very beautiful and intriguing queen of the Jews, had made so strong a party, that she resolved to attempt the subversion of Christianity, and also the succession in the line of Solomon. Having massacred the royal family, she took possession of the throne, in defiance of the law of the queen of Saba; but the infant king, the only remaining prince of his race, fortunately escaped into the province of Shoa, and thus the royal family was preserved to be again restored. Judith and her descendants maintained their usurpation for more than 300 years; but no part of their history is recorded in the Abyssinian annals, except that of Lalibala, who lived at the close of the 12th, or beginning of the 13th century, and was reputed to be a saint. This appellation he probably acquired from the protection which he afforded to the Christians, who, persecuted by the Saracens in Egypt, fled for refuge to Abyssinia. Lalibala employed them in forming various works in the solid rocks, some traces of which remain to this day; and in unsuccessful attempts to divert the Nile out of its course, so that it might no longer be the cause of the fertility of Egypt, which was then in possession of the enemies of his religion. The race of Solomon, which had been restricted to the sovereignty of Shoa, was unexpectedly restored in the person of Icon Amlac, to whom Naacueto Laab, grandson of Lalibala, by the mediation of Tecla Haimanout, a monk and native of Abyssinia, who had been ordained Abuna, and who was highly esteemed for his sanctity and patriotism, resigned the kingdom of Abyssinia. Amongst other articles of the treaty between them, one was, that no native Abyssinian should for the future be chosen Abuna; and this article between Icon Amlac and the house of Zagué was observed for near 500 years. Icon Amlac continued to reside at Tegulat in Shoa, from his accession in 1268, and his reign lasted fifteen years. After a rapid succession of princes, Amda Sion ascended the throne in 1312. This sovereign professed Christianity, but disgraced it by his conduct. During a reign of thirty years, this prince was almost incessantly engaged in various wars with the Moors, who inhabited different provinces of Abyssinia and its vicinity; but at last, weary with conquest and carnage, he returned in triumph to his capital, and having never suffered defeat in any battle, he ended his days, and transmitted the crown to his son, Salf Amari. The only transaction that distinguishes

this reign, is the relief afforded to the Coptic patriarch, whom the sultan of Egypt had thrown into prison, with a view of extorting money from him. Of Zara Jacob, whose reign commenced in 1434, and continued thirty-four years, Mr. Bruce observes, that he was regarded in Abyssinia as another Solomon, and a model of what the best of sovereigns should be, though he was not justly entitled to this high encomium. This prince sent an embassy to the council of Florence, which formed a subject for a picture in the Vatican, and he obtained from the pope a convent at Rome for the use of the Abyssinians. From this period a party was formed in favour of the church of Rome; and this best of sovereigns was the first who introduced religious persecution into his dominions. Although the established religion in Abyssinia was that of the Greek church, many different superstitions prevailed in every part of the country. An accusation having been brought against some families for worshipping the cow and the serpent, they were seized by order of the king, capitally convicted, and executed. This severity was followed by a proclamation, declaring, that any person who did not, upon his right hand, carry an amulet, with these words, *I renounce the devil for Christ our Lord*, should forfeit his personal estate, and be liable to corporal punishment. Before the close of his reign persecution was suppressed, and he employed himself in repairing the churches which had fallen into decay, or which had been destroyed in various parts of the country in the wars with the Mahometans. In the next reign, which commenced in 1468, the old law for confining the royal children, which had been discontinued from the reign of Judith, in the tenth century, was revived; and they were sent to the high mountain of Geshen, on the confines of Amhara and Begemder, which continued to be the state-prison till a slaughter occasioned the desertion of Geshen. Bæda Mariam, having ingratiated himself with his people, by clemency towards those who had been banished for various offences in the former reign, commenced a war with the Dobas, who made inroads into his country; and he also turned his arms against the kingdom of Adel; but being seized with a pain in his bowels, which occasioned his death, all his plans and enterprises terminated. About this time Henry of Portugal, a scientific and adventurous prince, formed the project of discovering a passage to India, by doubling the cape of Africa, and thus of sharing with the Venetians, and others, the profits of the commerce that was carried on with that country. A plan was also concerted for penetrating into India through the interior parts of Africa. The practicability of this latter scheme was rendered probable, by the report of some monks who resorted to Jerusalem and to Alexandria, and who were the subjects of a Christian prince, said to be a priest, whose dominions were said to extend through the African continent from the east to the west sea. This report had been confirmed at the court of Bemoy, the sovereign of the Jaloffes, on the west coast of Africa, and also at Benin, another negro country; though it was somewhat confused and precarious, in consequence of the account given by Marco Paulo, a Venetian traveller, who said that, in his travels into Tartary, he met with a Christian prince, who was a priest, and who was called Presbyter, or Prester John. The king of Portugal, however, resolved to send Peter Covillan and Alphonso de Paiva, as ambassadors to this unknown prince. The object of their mission was to explore the sources of the Indian trade, the principal markets for spice and pepper, and the channels of their conveyance to Europe; and to ascertain the country whence gold and silver were obtained, and the possibility of arriving at the East Indies by sailing around the southern promontory of Africa.

Africa. Having proceeded on their journey together from Alexandria to Cairo, thence to Suez, and afterwards to Aden, a rich trading town, without the straits of Babel-mandeb, they separated from one another. De Paiva soon lost his life; but Covillan set sail for India, and having visited Calicut and Goa, and crossed the Indian ocean to inspect the mines of Sofala, returned to Aden, and then to Cairo, where he heard of the death of his companion. Here he found two Jews with letters from the king of Abyssinia, which induced him to return to Aden; whence he crossed to the dominions of that prince, whose name was Alexander, and whom he accompanied to Shoa, where the court resided. Covillan settled in the country, became rich and powerful, and no more returned to Europe. But the intelligence he transmitted from time to time to the court of Portugal was important and useful. He described the Indian ports which he had seen, the situation and riches of the mines of Sofala, the disposition of the princes, and the wealth and populousness of the country where he dwelt; and he exhorted the king to prosecute the discovery of the passage round Africa, affirming, that the cape itself was well known in India, and accompanying his communication with a chart, which he had obtained from a Moor in India, and which exhibited the exact situation of the Cape, and the cities round the coast. Covillan came into Abyssinia in the year 1490, and the reigning prince, Alexander, or Isaacander, to whom he was introduced, died by violence, in 1495. He was succeeded by an infant son, who reigned seven months; after which his younger brother, Naod, was elected king by the unanimous voice of the people; and having, by his courage and prudence, delivered himself from the fear of a foreign war, he applied with diligence to reform internal abuses, and to cultivate the arts of peace. After a reign of thirteen years, he died in 1508, and was succeeded by his son David III. an infant of eleven years of age, who was settled on the throne by the interest of Helena, widow of Bæda Mariam. At the commencement of this reign, the Turks, with a view of sharing the profits of the trade of the country, took possession of Zeyla, a small island in the Red Sea, opposite to the coast of Adel; but their desire of possessing India diverted their views from Adel and Abyssinia. It was thought desirable, in the present situation of the country, to form an alliance with the Portuguese, and for this purpose Matthew, an Armenian merchant, was deputed as an ambassador. The principal object of the embassy was to obtain a force sufficient to destroy the Turkish power; and, it is said, that a third part of Abyssinia was offered as an acknowledgment. During the progress of this embassy, the Turks renewed their depredations on the Abyssinian territories. David prepared to resist them; and, at length, succeeded in completely defeating and routing them. On the day in July 1516, when he obtained a decisive victory over the Moors, the island of Zeyla was taken, and the town burnt by the Portuguese fleet under Lopez Suarez de Alberguiera, who had brought back Matthew, and with him an ambassador, from Portugal. The two ambassadors, accompanied by fifteen Portuguese, set out on a very difficult and perilous journey for the emperor's court. Matthew died of an epidemic fever in the course of the journey; but the Portuguese ambassador arrived in 1520, within three miles of the Abyssinian camp. His reception was not favourable; and it was not till after a delay of five years, that the business of the embassy was completed, and he was allowed to depart for Portugal. This long intercourse between two distant nations, alarmed the Mahometan powers; and the Adeliens, assisted by the Turks, defeated the emperor in several successive battles, and over-ran the empire, plundering

and burning the towns and villages, and carrying away the people for slaves. This distress continued till the year 1537. In the next year the emperor sent an embassy to revise, and a new embassy to Portugal, was sent. John Bermudes, one of the attendants of Edward, the Portuguese ambassador, was deputed, who was invested with the ecclesiastical authority of Abuna. Being a bigot to the popish religion, he declined accepting the office, unless his ordination should be approved by the pope, which was indirectly submitting the church of Abyssinia to that of Rome; and this submission on the part of David, the pope inexpressible pleasure, at a time when so many kingdoms in the west were revolting from his supremacy. Having in his way through Italy obtained the pope's sanction, he proceeded to Lisbon, and was acknowledged by the king as patriarch of Alexandria, Abyssinia, and of the East; and he succeeded in obtaining the succours which he requested. When these succours arrived, they took the town of Arkeeko, killed the governor, and massacred all the people in the town whom they could find. The delay, however, had reduced the Abyssinians to great distress. A Mahometan chief had made an attack upon the rock Geshen, where the royal family had been kept, and massacred them; and David, sinking under a complication of disasters, died in the year 1540, and was succeeded by his son Claudius. On his accession, the Moors formed a league against him, but were defeated. Aided by the Portuguese forces, which had joined those of the empire, Claudius freed himself from all apprehension of foreign enemies; and he then directed his attention to the internal state of the country. John Bermudes, insolent in his disposition, and invested with ample ecclesiastical powers, attempted the conversion of Claudius, and insisted that he should establish the popish religion through his dominions, as his father David had promised to do; but Claudius was invincible, and the alteration terminated in the expulsion of the catholics, and the discontinuance of all intercourse with the Europeans; and Bermudes himself was obliged to leave Abyssinia, and return to Portugal. In 1558, the pope sent a new deputation of priests; but, though they were civilly received by Claudius, they seemed to have had little success with respect to the principal object of their mission. The thoughts of Claudius were now employed about a successor; and as he had no son, it was proposed to ransom his youngest brother, the prince Menas, who had been taken prisoner by the Moors in the time of David. This business having been settled, Claudius's premature and violent death made way for the advancement of Menas to the throne in 1559. After a short reign, embroiled by internal rebellion, and the seditious practices of the popish missionaries, he closed his life in 1563, and was succeeded by his son Sertza Denghal, who, after various conflicts with the Moors, and with the Galla and Falasha, two neighbouring nations, in which he was generally victorious, died in consequence of eating fish of a poisonous nature, in 1595. Before his death he nominated Za Denghal, his nephew, for his successor. The affections of his people were alienated from this prince on account of his attachment to the church of Rome, whose interest in Abyssinia had much declined, in consequence of the death of Oviedo, and the other missionaries, and through want of a fresh supply of catholic preachers. In the year 1600, Peter Pæz, or Pais, was sent on this mission. He was learned, diligent, and active. The emperor was engaged by his manners and discourses to embrace the catholic religion; he issued orders for prohibiting the observance of the Jewish Sabbath, and sent letters to pope Clement VIII. and Philip III. of Spain, requesting a supply of mechanics to instruct his people in the arts of

The emperor, however, was not content with this; he ordered the Jesuits to be expelled from the country, and to be banished to the coast of Africa. He then ordered the crown to be placed on the head of his son, and to be proclaimed king. He then ordered the crown to be placed on the head of his son, and to be proclaimed king. He then ordered the crown to be placed on the head of his son, and to be proclaimed king.

was killed, and the throne of that illustrious monarch was then vacant. In 1645, in a contest more painful and protracted than that in which he was engaged with his father. He was succeeded by his son Hannes I., who had the address to preserve himself on his whole reign, if we except some feeble expeditions against Eritrea and the Shannah, and, in 1680, his son Yafous I. ascended the throne with the approbation of the whole kingdom. This prince is said to have possessed all those abilities and dispositions which form the character of a great and good monarch. In this reign attempts were made to revive European missions. They were occasioned by a report that, on the expulsion of the Jesuits from Abyssinia, many catholic christians had fled into the adjacent countries of Nubia and Sennaar, where they were grievously oppressed by the Mahometans. The cause of these christians was espoused at Rome, and the pope dispatched a mission for their relief, under the title of the *Ethiopic mission*. The missionaries were intrusted to penetrate as far as possible into Abyssinia, and to maintain the catholic faith as far as they were able, till an opportunity offered of converting the whole empire; and for their protection and encouragement, a convent was established at Achmim, in Upper Egypt. At the same time, Louis XIV. of France appointed six Jesuits to the same mission, and furnished them with suitable presents for the emperor and the principal nobility. The admission of these missionaries was facilitated by a dangerous scorbutic disorder, which had attacked Yafous and his son, and for which they wished to have the advice of an European physician. Maillet, the French consul at Cairo, wishing the Jesuits to have the honour of the mission, disappointed the views of Friars Paschal and Anthony, two Franciscans, who were first thought of, and recommended Charles Poncet, a Frenchman, who had been bred a chemist and apothecary, and Father Brevedent as his servant, to Hagi Ali, a Mahometan factor at Cairo, for the desired purpose. The Franciscans attempted the destruction of Poncet and his attendants; but Poncet arrived safe at Gondar on the 21st of July, 1690, and having perfectly cured his royal patient, set out on the 2d of May, 1700, on his return for Europe, and arrived in safety at Mafuah. Brevedent died at Gondar soon after their arrival. An embassy on the part of the Abyssinian monarch was defeated by the interference of Maillet; but the Jesuits concerted another mission from France, and the person appointed as ambassador was M. de Roule, vice-consul at Damietta. This mission was very injudiciously conducted; the merchants at Cairo resisted it; the Franciscans obstructed it, and it terminated in the murder of the ambassador in the province of Sennaar. Yafous, the emperor, had been previously assassinated, in 1704, by a conspiracy of his wife and son, Tecla Haimanout, who was himself assassinated in 1706, and succeeded by his uncle Tifilis, or Theophilus. After the death of this monarch, in 1709, the line of Solomon, by the queen of Sheba, was set aside, by the influence of the conspirators who had contributed to the murder of Yafous and Tecla, and a stranger, called Oufas, was seated on the Abyssinian throne. Oufas was soon deposed; and David, son of Yafous, was proclaimed king of Abyssinia, and crowned at Gondar on the 30th of January, 1714. The dissensions among the Abyssinian clergy, that occurred in this reign, produced a dreadful massacre, and ended in the death of the king, who died, by poison, in 1719. He was succeeded by his brother, Bacuffa; and Bacuffa, in 1729, by his son Yafous II. His reign was disturbed by frequent seditions and rebellions; in one of which Gondar, the capital, was set on fire, and almost entirely ruined. He died in 1759.

not without the suspicion of having been poisoned, and was succeeded by his son Joas. The whole empire, in this reign, was divided into two powerful factions, the effects and effects of which are particularly recited by Mr. Bruce, who was witness of the confusion and tumult which they produced. In the progress of this contention, Joas was assassinated; and, at his death, in 1766, Hanne, brother to the late King Basquilla, was appointed emperor. Hanne, however, being maimed by the loss of his hand, was deemed incapable of assuming the sovereignty: he was removed by poison, and his son Tecla Haimanout II. was advanced to the throne. From, and even before the accession of Joas, Michael Ras, who had been appointed Ras or Governor of Tigré, and other provinces, and who was become master of almost one half of Abyssinia, had the principal direction and influence in the government of the country. His marriage with Ozoro Eitner, a very beautiful and accomplished princess, and the widow of Mariam Earea, the most distinguished nobleman of the country, had very much augmented both his dignity and power. Hanne was established on the throne by his authority, and when he found that he was not likely to answer his purpose, he is supposed to have made way, by poison, for his successor Tecla Haimanout. This prince treated him, from the moment of his accession, with the affection and respect of a son; and this influence of Michael was very considerable in preserving the attachment and submission of his subjects, as well as in conducting the military operations of his reign. Of these Mr. Bruce has given a very minute detail, for which we must refer the reader to the 4th volume of his elaborate and comprehensive work.

ABYSSINIAN, in *Ecclesiastical History*, is used as the name of a sect in the christian church, established in the empire of Abyssinia.

The Abyssinians are a branch of the Cophts, or Jacobites; with whom they agree in admitting only one nature in Jesus Christ, and rejecting the council of Chalcedon: whence they are also called MONOPHYTES, and EUTYCHIAN.

Some learned men are of opinion, that the Abyssinians, or Ethiopians, embraced the sentiments of the Monophytes in the ninth century, in consequence of the exhortations addressed to them by the doctors of that sect who resided in Egypt. But Mosheim (*Ecclesiastical History*, v. ii. p. 363, 8vo.) says, it is certain that the Abyssinians, who were accustomed to receive their spiritual guide from the bishop of Alexandria, commenced Monophytes in the seventh century, if not sooner. For in that period the Arabians made themselves masters of Egypt, oppressed the Greeks, and granted to the Monophytes such a powerful protection, as enabled them to reduce under their jurisdiction almost all the churches that had been established in Egypt. The Abyssinians are, strictly speaking, a distinct body from the Cophts, who comprehend those Christians who dwell in Egypt, Nubia, and the adjacent countries, and whose condition is truly deplorable. They surpass the latter considerably in numbers, power, and opulence: nor is this surprising, when it is considered that they live under the dominion of a Christian emperor.

The Abyssinian church is governed by a bishop, or metropolitan, styled ABUNA, and sometime, though improperly, patriarch, sent them by the Cophtic patriarch of Alexandria residing at Cairo, who is the only person that ordains priests. The first person who possessed the episcopal dignity was Frumentius, who converted the Abyssinians to Christianity in the beginning of the fourth century. Some, indeed, have supposed, that they were converted by the apostles: others have asserted, that the Eunuch, baptised

by Philip, upon his return to Coenae, became the first of Abyssinia. But, if the Abyssinians were converted by him, it is probable, that they must have been baptised in the Nile, and not in the Red Sea, as the Eunuch was baptised in the Red Sea. The Abyssinians, however, had no communication with the Christians of the Red Sea, until the time of the arrival of the Greek monks, who came to the country in the sixth century. The Abyssinians, therefore, could not have been converted by the Eunuch, if this were the case, the whole story of the Eunuch and Saba must be rejected as a fable. The Abyssinians, however, a woman sitting upon the throne, and that during her years, after she had been excluded by a fundamental law of the land. But we are informed, that Candace reigned upon the Nile, in Athara, much nearer to Egypt. Her empire, taken in the time of Augustus, we have already mentioned under the name of Abissinia, and her successors and kingdom called in the reign of the Abyssinian kings, long after the Mahometan conquest, and they exist there to this day. To which we may add, that the Abyssinians are known to have continued Jews and Heathens above 300 years after the time of the apostles. The ground upon which some would have watered the conversion of the Abyssinians to Christianity, is the report of a council, said to be that of Nice, found, or pretended to have been found, in Alexandria. This canon is written in Arabic, and is so unintelligible, says Mr. Bruce, who had seen it, that it scarce conveys any sense at all. But this canon regulated the precedence of the Abuna of Ethiopia in all succeeding councils, and places him immediately after the prelate of Seleucia. The Jesuits have availed themselves of this canon, in order to vindicate the honourable antiquity of the church of Ethiopia. The Abyssinian history informs us, that a queen reigned in Abyssinia, when Christians came into this country. Mr. Bruce observes, that though women are excluded from the Abyssinian throne, there exists a law, or custom, that the queen upon whose head the king shall have put the crown during his life, is regent of the kingdom, and guardian of every child, as long as he shall live. If such a queen should have a son, she would have the crown of the kingdom, and of the king, during his minority: if she should have a daughter, and a son, who was no relation to her, should succeed, she would still be regent, nor would her office cease till he came of age. This regent, for life, is called Iteghé. Such was probably the case at the time of Frumentius's settlement in Abyssinia. The history of the Abuna is very imperfectly known for many years after their appointment. The first of them, who is particularly mentioned, is Abuna Tecla Haimanout, who distinguished himself by the reformation of the Abyssinian church, and by the regulations made by him both in church and state. He established the law, that the Abuna should not have it in their power to dispossess of their own countrymen as Abuna. The Arabic canon, above mentioned, may probably be attributed to the Abuna; and is a sagacious and very judicious law. Tecla Haimanout was a native of Abyssinia, and therefore the prohibition had not taken place before his time; but as no Abuna was afterwards chosen to this office, the canon must be a work of his time; for it is impossible a canon should have been made by the council of Nice, calling the rank of a bishop in a nation which, for above 200 years after that general council, were not Christians. As the Abuna seldom understands the language of the country, he has no share of the government.

He is much less in general estimation from what he was formerly, chiefly by the intrigues of the monks, and by the influence of the pope's plenipotentiary in the court of the emperor, and the various marks of some of these Abyssinians have been merely lay-vestments, without so much as priestly orders. Their revenue arises from the sale of dispensations, and of ordination, and from certain lands in the provinces of Tigré, Galla, and Dender, of which they are the lords; from a tax which we may call a kind of public contribution of salt and cloth annually made to them through the empire, which amounts to a considerable value.

The order next in rank and dignity, yet in general estimation, to the Abuna, is that of the Debanas, who are neither priests nor deacons, but a kind of Jewish Levites or chorists, who assist at all public offices of the church, and particularly in the conduct of all their musical performances. Besides these, every parochial church has a president, subordinate to the Abuna, called Komos, or Hegumenos, or Archi-presbyter, who has all the inferior priests and deacons, and all the secular affairs of the parish, under his inspection and government. The deacons occupy the lowest rank of the priesthood; they assist at divine service, and have their respective duties and vestments when they officiate. All these orders are allowed to marry; but the monks, who are very numerous, vow celibacy; and, it is said, with a reservation. Le Grand says, they make a promise aloud, before their superior, to keep chastity, but add in a low voice, *as you keep it*.

The monks are divided into two classes; those of Debra Libanos, and those of St. Eustathius. The head of the latter, who are grossly ignorant, is the superior of the convent of Melbar Salaké, in the north-west corner of Abyssinia, near Kuara, and the Shangalla, towards Sennaar and the river Dender. The chief of the former is the Itchegué, who is ordained by two chief priests, holding a white cloth, or veil, over him, while another says a prayer; and they then lay all their hands on his head, and join in psalms together. This Itchegué is, in troublesome times, of much greater consequence than the Abuna. The monks do not live in convents, but in separate houses round their church, and each cultivates a part of the property they have in land. The churches in Abyssinia are very numerous. Every great man that dies thinks he has atoned for all his wickedness, if he leaves a fund to build a church, or has built one during his life. The king builds many. The situation of a church is chosen near running water, for the convenience of their purifications and ablutions, in which they strictly observe the Levitical law. The churches are placed on an eminence, and surrounded by rows of Virginia cedar, which form very pleasing objects along the face of the country. All the churches are round buildings, with conical summits, and pitched roofs, and on the outside encompassed with pillars of cedar, to which the roof projects about eight feet beyond the wall, so as to form an agreeable walk in hot weather, or in rain. The inside of the church is partitioned in the manner prescribed by the Mosaic law. In the first and outer circular apartment the congregation sit and pray. Within this is a square, divided by a veil or curtain, in which is another small division answering to the holy of holies, and so narrow, that none but the priests can enter it. Persons of both sexes, under Jewish disqualifications, are prohibited from going within the outer circumference of the church, and must perform their devotion at an awful distance among the cedars; and those who enter the church must put off their shoes, and take care they are not stolen by the priests and monks before they return; kiss the threshold and two door-posts, say any prayer which they think proper, and

thus their duty is finished. As for the doctrinal religion of the Abyssinians, it is that of the Greek church, which they received on their conversion to Christianity by Frumentius, about the year 335; and every rite or ceremony in the Abyssinian church may be traced to its origin in the Greek church whilst both of them were orthodox. Frumentius preserved it untainted with heresy whilst he lived. Afterwards Arianism, and a number of other heresies, as they are called, were brought by the monks from Egypt, and infected the church of Abyssinia. Many of these were owing at first to the various use of the two words, nature and person, than which no words were ever more equivocal in every language in which they have been translated. For some time the Abyssinians had free access to Cairo and Jerusalem, where their books were revised and corrected, and many of the principal orthodox opinions inculcated. But since the conquest of Arabia and Egypt by Sultan Selim, in 1516, their intercourse with those countries has been interrupted; and they are now, says Mr. Bruce, with regard to doctrine, as great heretics, and with respect to morals, as corrupt as the Jesuits have represented them. But though he concurs with the Jesuits in condemning their sentiments and practice, he disapproves of their mode of reforming them. The eucharist is received by the Abyssinians in both kinds: for this purpose they use unleavened bread, and the grape bruised with the husk, and forming a kind of marmalade, is substituted for wine, though an excellent strong wine is made at Dreda, about thirty miles south-west of Gondar. The communicant after receiving, drinks a large draught of water, and turning his face to the wall of the church, repeats some prayer in private with apparent decency and attention. Whether the Abyssinians believe the doctrine of transubstantiation or not, is not absolutely certain. Ludolph (l. iii. c. 5.) thinks, that the words of consecration prove their disbelief of this doctrine. Mr. Bruce maintains the contrary opinion; though he tells us, that a priest declared to him, with great earnestness, that he never did believe that the elements in the eucharist were converted, by consecration, into the real body and blood of Christ. This, he said, was the Roman Catholic faith, but it never was his, and he conceived the bread to be bread, and the wine to be wine, even after consecration. With respect to the state of souls before the resurrection of the body, the opinion generally prevailing is, that there is no third state, but that the souls of good men enjoy the beatific vision immediately upon their separation from the body. However, their practice and their books contradict this opinion; for when any person dies, alms are given, and prayers are offered for the souls of those departed.

Upon the whole, we may observe, that the religion of the Abyssinians, in the present state of it, is unworthily dignified with the name of Christianity, since it consists in a motley collection of traditions and tenets, which have not any influence on practice. This people, of all ranks, of either sex, and of every age, are habitually liars, drunkards, gluttons, implacable in their resentment, faithless in their dealings, and cruel in their vengeance. The king has unlimited power; and a minister, in the king's name, exercises that power with the most licentious cruelty. The Abyssinians are totally illiterate; the arts cultivated among them remain in a state of great imperfection; and, which is a defect peculiar to themselves, they have not even an idea of music. Their bloody feasts, and their promiscuous amours, are too disgusting for description. Every thing in their country wears an air of wretchedness and meanness. Such are the reflections of an anonymous writer in the Monthly Review, vol. ii. p. 423. New Series.

The Abyssinians have divers times expressed an inclination to be reconciled to the see of Rome; but rather out of interest of state than any other motive. See **ABYSSINIA**.

Several missionaries accuse the Abyssinians of Judaism, in regard to the many Jewish observances still in use among them: some have even doubted, whether they are more Christians, or Jews. Lobo says expressly, they are more Christians in name: they practise circumcision on females as well as males. But different opinions are held in different provinces with regard to the origin and obligation of this rite, as well as the time and mode of performing it. The Abyssinians of Tigré profess to have derived it from Ishmael's family and his descendants, with whom they were connected at an early period in their trading voyages: and they say, that the queen of Sheba, and all the women of that coast, had suffered excision at the usual time of life, before puberty, and before her journey to Jerusalem. The Falasha declare, that their circumcision was that commonly practised at Jerusalem in the time of Solomon, and in use among them when they left Palestine, and came into Abyssinia. They perform it on the 8th day, as a religious rite, according to the first institution by God to Abraham. The Abyssinians pretend theirs is not of this kind, and that they practise it because Christ and the apostles were circumcised, though they do not hold it necessary to salvation. But none of them pretend that circumcision arises from any kind of necessity, or from any impediment to procreation, or that it is necessary for cleanliness, or from the heat of the climate; and therefore it is probable, that it was originally derived from a divine command, and as such, transmitted to them. See **CIRCUMCISION**. The Abyssinians eat no meats prohibited by the law of Moses. Women are obliged to the legal purifications. Brothers marry their brothers' wives, &c. They abstain from hog's flesh, blood, meats strangled, &c., and observe both Saturday and Sunday sabbath, according to the custom of the primitive church: all of them marks of Judaism; though by some resolved into mere human institution, and usage. They celebrate the Epiphany with peculiar festivity, in memory of Christ's baptism; when they plunge and sport in ponds and rivers, which has occasioned some to affirm that they were baptised a-new every year. This is positively asserted by Alvarez, but as positively contradicted by Mr. Bruce, (vol. iii. p. 324, &c.) who has given a very ample account of this ceremony, which is an old observance of the eastern church, formerly performed publicly in Egypt, as it is now in Ethiopia. Many falsehoods have been propagated with regard to the mode of baptism in Abyssinia, in order to impugn the validity of it, and to excuse the rash conduct of the Jesuits in rebaptising all the Abyssinians, as if they had been a Jewish and Pagan people that had never been baptised at all. Among the saints-days, which are very numerous, is one consecrated to Pilate and his wife; because Pilate washed his hands before he pronounced sentence on Christ; and his wife desired him to have nothing to do with the blood of that just person. They have four Lents: the great one commences ten days earlier than ours, and is observed with much severity, many abstaining therein even from fish, because St. Paul says there is one kind of flesh of men, and another of fishes. They allow of divorce, which is easily granted among them, and by the civil judge: nor do their civil laws prohibit polygamy. They have at least as many miracles, and legends of saints, as the Romish church; which proved no small embarrassment to the Jesuit missionaries, to whom they produced so many miracles, wrought by their saints, in proof of their religion, and those so well circumstantiated and attested, that the Jesuits were obliged to deny miracles to be

any sufficient proof of a true religion: and to allege the same arguments against the Abyssinians, which protestants in Europe allege against the papists. They pray for the dead, and invoke saints and angels; and have to great a veneration for the Virgin, that they charge the Jesuits with not rendering her honour enough. Images in painting they venerate, and persons have been killed in churches from the earliest age of Christianity, but they abhor all those that are crucified and in relief; nor do they use a cross on the top of the bell of the Synagogue, because it casts a shade. They hold that the sun or man is not created, because, say they, God finished all his works on the sixth day. They have the best book of scripture with us; though few are able to purchase entire copies either of the Old or New Testament. The Revelation of St. John is a favourite book with them. The Song of Solomon is also much esteemed by the old priests, but the reading of it is prohibited to the young ones, the deacons, laymen, and women. The Abyssinians believe that this song was made by Solomon in praise of Pharaoh's daughter; but they do not think, with some of our divines, that it contains any mystery or allegory respecting Christ and the church. They also admit the apocryphal books, and the canons of the apostles, as well as the apostolical constitutions, for genuine. Their liturgy is given by Alvarez, and in English by Pagit; their calendar by Ludolf; the answers to abbé Gregory to certain questions, proposed by the author last cited, are published by Fabricius, under the title of *Theologia Æthiopica*.

ACA, **Acco**, and **ACON**, in *Ancient Geography*, a town of Phœnicia, on the Mediterranean; afterwards called *Prolemais*, now **ACRE**. See **ACHA**.

ACABA, a ridge of mountains near **GERRI**, in Abyssinia.

ACABENE, one of the districts or provinces into which Ptolemy divided Egypt. It was situated near the river Tigris.

ACABIS, a small town in Cyrenaica, mentioned by Ptolemy.

ACACALIS, in the *Materia Medica*, the name given by some authors to the *filix sylvestris*, or wild *cereb.* Dale.

ACACALOTL, or **ACALOT**, in *Ornithology*, the name of an American bird, which is the *TANTALUS Mexicanus* of Gmelin, and called by some *CORVUS aquaticus*, or the water raven.

ACACESIUM, a city of Arcadia, so called from Acacus the son of Lycaon. It is mentioned by Pausanias, l. 8.

ACACIA, or **AKAKIA**, *Martin*, in *Biography*, was born at Chalons sur Marne, about the year 1520. He studied at Paris under the celebrated Monf. Brislot, and was made Professor of Medicine and Surgery there, and acquired considerable reputation as a teacher in those sciences.

He published commentaries on several of the works of Galen, in the years 1548, and 1555, and two books de Morbis Muliebribus, inserted in the *Gynæcia* by Spachicus. He died in the year 1588.

ACACIA, in *Botany*. See **GUILANDINA**, **GUALIACUM**, **MIMOSA**, **POINCIANA**, and **SPARTIUM**.

The flowers of a species of the acacia are used by the Chinese in making that yellow, which, we see, bears washing in their silks and stuffs; and appears with so much elegance in their painting on paper. The method is this:

They gather the flowers before they are fully open; these they put into a clean earthen vessel over a gentle heat, and stir them continually about, as they do the tea-leaves, till they become dryish and of a yellowish colour; then to half a pound of the flowers they add three spoonfuls of fair

water, and after that a little more, till there is just enough to hold the flowers incorporated together: they boil this for some time, and the juice of the flowers mixing with the water, it becomes thick and yellow; then they take it from the fire and strain it through a piece of coarse silk. To the liquor they add half an ounce of common alum, and an ounce of calcined oyster-shells reduced to a fine powder. All is then well mixed together; and this is the fine lasting yellow they have so long used.

The dyers of large pieces use the flowers and seeds of the acacia for dyeing three different sorts of yellow. They roast the flowers, as before observed; and then mix the seeds with them, which must be gathered for this purpose when full ripe: by different admixture of these they give the different shades of colours; only for the deepest of all, they give a small mixture of Brazil wood.

M. Geoffroy attributes the origin of bezoar to the seeds of this plant; which being broufed by certain animals, and vellicating the stomach by their great sourness and astringency, cause a concretion of the juices, till at length they become coated over with a stony matter, which we call BEZOAR, or BEZOARD.

ACACIA, *bastard or false*, in Botany. See ROBINIA.

ACACIA *Indiana*, signifies TAMARIND.

ACACIA, *tree-thorned*. See GLEDITSIA.

ACACIA *Zeylanica*, signifies LOGWOOD.

ACACIA, in the *Materia Medica*, is a subastringent gummy substance, prepared by inspissating to a due consistence, the juice expressed from the unripe pods of the *Acacia foliis scorpioidis leguminose* of Bauhine, or the *MIMOSA Nilotica* of Linnæus. For an account of the pods, and manner of preparing the juice, see Murray's Apparatus Med. vol. ii. p. 412. This substance is brought from Egypt, in roundish masses, wrapt up in thin bladders from four to eight ounces in weight. It is outwardly of a blackish brown colour, and inwardly of a reddish or yellowish brown. This juice totally dissolves in water; but rectified spirit produces little or no effect upon it; it is therefore truly of the gummy kind. It has no smell, and applied to the tongue it soon softens, and manifests first a moderately rough and then a sweetish taste.

This mild gummy astringent may be given to advantage in disorders arising from laxity and acrimony, as habitual diarrhœas, uterine fluors, and catarrhal coughs. By the Egyptians it is used against spitting of blood, in doses of a dram; and also in collyria for strengthening the eyes, in gargarisms for quinseys, and glysters for diarrhœas. Among us it is seldom otherwise used than as an ingredient in mithridate or theriaca. The above substance has been called *Acacia vera*, by way of distinction from the *German Acacia*, which is a counterfeit of the other, and often sold for it in the shops. This is the inspissated juice of unripe sloes, formed by boiling the juice to the consistence of a solid extract. It is distinguished from the *true Acacia* chiefly by its colour, which is as black as that of Spanish liquorice, and also by being harder and heavier, and of a sharper taste, and by giving out its astringency to rectified spirit. This is administered in fluxes, that indicate the want of styptic medicines, in doses from a scruple to a dram. Lewis, Mat. Med.

ACACIA, among *Antiquaries*, denotes something resembling a kind of roll or bag, seen on medals in the hands of several of the consuls and emperors from the time of Augustus.

According to De-Cange, the *acacia*, properly so called, was a purple bag filled with earth, or sand, and born by the prince in his left hand, to remind him of his frailty and

mortality; and thus to prevent his being too much elated with his station.

But authors are not agreed, either about the use of this roll, or about the substance whereof it consists; some taking it for a handkerchief rolled up, which the person who presided at the games threw out as a signal for their beginning; whilst others rather imagine it intended to represent a roll of memoirs, or petitions.

ACACIANS, in *Church History*, the followers of Acacius, bishop of Cæsarea, who flourished about the middle of the fourth century. He succeeded his preceptor, the famous Eusebius, in 340, wrote his life, and several other works, viz. 17 books upon Ecclesiastes, six books of Miscellaneous Questions, and a book against Marcellus, and died about the year 356. He was surnamed Luscus, or Monophthalmus, because he could see only with one eye. He is generally reckoned a man of unsteady principles, but he was sensible and eloquent, and a skilful disputant. Some of the Acacians maintained, that the Son was not of the same, but of a similar substance with the Father: others held that he was of a different substance from the Father. This was likewise the denomination of another sect, derived from the name of their leader, a patriarch of Constantinople, in the fifth century, who favoured the opinion of Eutyches. See EUTYCHIANS, and MONOPHYSITES.

It was by the advice of this *Acacius*, who succeeded Genadius in 471, and died in 489, that the HENOTICON was published, by the emperor Zeno in 482. In this connection we cannot forbear introducing a circumstance, that redounds much to the honour of another Acacius, bishop of Amida, in 420, whose name, says Gibbon, (Hist. Decl. and Fall of the Rom. Emp. vol. v. p. 427, 8vo.) might have dignified the faintly calendar. Boldly declaring that cups of gold and silver are useless to a god, who neither eats nor drinks, this generous prelate sold the plate of the church of Amida; employed the price in the redemption of 7000 Persian captives: supplied their wants with affectionate liberality; and dismissed them to their native country, to inform the king of the true spirit of the religion which he persecuted. The king, it is said, was so affected with this act of benevolence, that he wished to see the bishop; and the interview produced a peace between this prince, Veranius, and Theodosius I.

ACACIUS, a name given to several bishops, and other eminent persons besides those mentioned under the preceding article; particularly a martyr under the emperor Decius; a patriarch of Antioch, who succeeded Basil in 458, and died in 459; a bishop of Miletum in the 5th century; another bishop of Beroea in Syria, who was present at the council held at Constantinople in 381, the friend of Epiphanius Flavianus, and the enemy of John Chrysostom, bishop of Constantinople, whom he caused to be deposed, and who, at the age of 110 years, advised Theodosius the younger, to confirm the sentence pronounced against Nestorius, and also against Cyril, bishop of Alexandria: he was eminent for wisdom and sanctity, says Theodoret, and died in 436:—and a famous rhetorician in the reign of the emperor Julian.

ACADA, see PORTO BELLO.

ACADEMICS, a sect of philosophers who followed the doctrine of SOCRATES and PLATO, as to the uncertainty of knowledge, and the incomprehensibility of truth.

Academic, in this sense, amounts to much the same with Platonist; the difference between them being only in point of time. They who embraced the system of Plato, among the ancients, were called *Academici*; whereas those who did the same, since the restoration of learning, have assumed the denomination of PLATONISTS.

We usually reckon three sects of Academies; though some make five. The ancient *Academy* was that which was founded by Plato; and consisted of those followers of this eminent philosopher, who taught the doctrine of their master without mixture or corruption. The first of these was SPEUSIPPUS; he was succeeded by XENOCRATES. After his death the direction of the academy devolved upon POLEMO, and then upon CRATES, and terminated with CRANTOR. After the death of Crates, a new tribe of philosophers arose, who on account of certain innovations in their manner of philosophising, which in some measure receded from the Platonic system, without entirely deserting it, have been distinguished by the appellation of the *Second* or *Middle Academy*. The first preceptor, who appears in this class, and who, in consequence of the innovations which he introduced into the Platonic school, has been commonly considered as the founder of this Academy, is ARCESILAUS.

In order to conceive justly concerning the nature and causes of this revolution, it will be proper to advert to the state of opinions in the preceding period. It had been very generally maintained by both the Greek and Barbaric philosophers, that there can be no certain knowledge of things so variable and fluctuating as those material objects which fall under the notice of the senses. But they did not imagine, that human reason is wholly incapable of arriving at truth; nor was the doctrine of universal scepticism introduced in the infancy of philosophy. In excluding material objects from the department of science, the first philosophers discovered an inclination to inquire with modesty concerning the nature of things, to divest themselves of prejudice, and to satisfy themselves with a sober assent to those truths which lay within the reach of the human understanding. Besides, the Barbaric philosophers, and after them the Greeks, held two kinds of doctrine, the popular for the amusement of the vulgar, and the concealed, which was communicated in the confidence of mere private instruction to their professed disciples. Such was the state of philosophy, when Socrates appeared, and exerted himself in regulating the conduct of the human mind. In opposition to the Sophists, who boasted that they knew every thing, he confessed that he knew nothing; by which acknowledgment he did not mean to assert the universal uncertainty of human knowledge, but merely to convince his followers of the futility of those speculations, which do not rest upon the firm foundation of experience, and to teach them modesty in their inquiries, and diffidence in their assertions. Among the sects who sprung out of the school of Socrates, the greater number deviated into the mazes of disputation, and resumed the Sophistic mode of arguing on either side of every question, that was proposed. Plato inclined to a stricter method of philosophising; and in his public disputations after the Socratic manner, whilst he refuted the opinions of others, and left his hearers undecided concerning his own, he fully explained the principles of his philosophy to those pupils who were indulged with his private and confidential instruction. His doctrine was, that no certain knowledge can be obtained concerning the varying forms of natural bodies, and that ideas are the only objects of science. This doctrine was universally taught in the *Old Academy*; but before the time of Arcesilaus, it was never denied, that useful opinions may be deduced from the senses. Cic. Acad. l. i. c. 8. tom. ii. Ed. Olivet. Two sects arose about this time, which threatened the destruction of the Platonic system; one was founded by PYRRHO, which held the doctrine of universal scepticism, and the other by ZENO, which maintained the certainty of human knowledge, and taught with great confidence, a doctrine essentially different from that of Plato. In this

situation, Arcesilaus thought it necessary to exercise a cautious reserve with regard to the doctrine of his master, and to conceal his opinions from the vulgar, under the appearance of doubt and uncertainty. Professed to derive his doctrine concerning the uncertainty of knowledge from Socrates, Plato, and other philosophers, he maintained, that though there is a real certainty in the nature of things, every thing is uncertain to the human understanding, and consequently that all confident assertions are unreasonable. He thought it disgraceful to admit to any proposition, the truth of which is not fully established, and maintained that, in all questions, opposite opinions may be supported by arguments of equal weight. He disputed against the testimony of the senses, and the authority of reason; acknowledging at the same time, that they furnish probable opinions sufficient for the conduct of life. However, his secret design seems to have been to establish the doctrine of Plato, that the knowledge derived from sensible objects is uncertain, and that the only true science is that which is employed upon the immutable objects of intelligence, or ideas.

After the death of Arcesilaus, the Platonic school was successively under the care of LACYDES, who is said to have founded a new school, merely because he changed the place of instruction, and held it in the garden of Attalus, within the limits of the Academic grove, and of Evander and Egefinus. Arcesilaus, however, had opposed the Stoics and other dogmatical philosophers, with such violence, and extended his doctrine of uncertainty so far, as to alarm not only the general body of philosophers, who treated him as a common enemy to philosophy, but even the governors of the state, who apprehended that his opinions would dissolve all the bonds of social virtue and of religion. His successors, therefore, found it difficult to support the credit of the academy; and CARNEADES, one of the disciples of this school, relinquished, at least in words, some of the more obnoxious tenets of Arcesilaus.

From this period the Platonic school assumed the appellation of the *New Academy*, which may be reckoned the *third* in order from its first establishment. It was the doctrine of this Academy, that the senses, the understanding, and the imagination, frequently deceive us, and therefore cannot be infallible judges of truth; but that, from the impressions produced on the mind, by means of the senses, called by Carneades phantasies, or images, we infer appearances of truth, or probabilities. These images do not always correspond to the real nature of things, and there is no infallible method of determining when they are true or false; and consequently they afford no certain criterion of truth. But, with respect to the conduct of life and the pursuit of happiness, probable appearances are a sufficient guide, because it is unreasonable not to allow some degree of credit to those witnesses who commonly give a true report. See PROBABILITY. According to the doctrine of the *New Academy*, the judgments arising from the operation of the mind in estimating the different degrees of probability, are not science, but opinion, which is all the knowledge that the human mind is capable of attaining. The chief point of difference between the *Middle* and the *New Academy*, seems to have been, that the latter taught the doctrine of uncertainty in less exceptionable terms than the former. Dr. Warburton, however, offers several reasons to show that both these Academies were in reality the same, and that they were as real sceptics, as the sect which was so denominated. See Div. Leg. of Moses, vol. ii. p. 117, 118, 4th ed. Arcesilaus, in his zeal for overturning all other sects, furnished his opponents with a pretext for changing

him with attempts to undermine the whole foundation of morals. Cato, by his habit of probability, afforded full scope for partial principles of conduct. Arcesilaus was chiefly engaged in opposing the tenets of other philosophers in logic and physics, and paid little attention to ethics. Carneades, while he inculcated the necessity of suspense in speculative researches, prescribed rules for the direction of life and manners. The immediate successor of Carneades, in the *New Academy*, was CRITORACHUS. He was succeeded by PHILO of Larissa, who is considered by some writers as the founder of a *fourth Academy*; and a *fifth* is said to have been established by ANTIOTCHUS of Ascalon, who was the last professor of the Platonic school, and who attempted to reconcile the tenets of the different sects, and maintained that the doctrines of the STOICS were to be found in the writings of Plato. After his time the professors of the Academic philosophy were dispersed by the troubles of war, and the school itself was transferred to Rome. Here the philosophy of the *Old Academy*, revived and corrected by Antiochus, found many advocates.

Amongst the most eminent of these we may reckon LUCILIUS, M. VALERIUS, M. TERENCE VARRO, and M. PORC. The *Stoic Academy* had likewise its patrons in this city; as it was founded upon a conviction of the imbecility of human reason, without running, with the Pyrrhonists, into the extravagance of an entire suspension of opinion, it became a favourite sect among the Romans. Cicero, to whose profession, as a public pleader, whose business it was to collect arguments from all quarters on opposite sides of every doubtful question, it was peculiarly adapted, addicted himself to this sect; and having himself been instructed by Philo, he would not find it difficult to induce others to follow his example. Cicero De Off. l. 2. c. 2. Oper. tom. iii. p. 328. Tusc. l. 2. c. 2. tom. ii. p. 353.—l. 4. c. 4. tom. ii. p. 419. Acad. Qu. passim. tom. ii. p. 5—99. De Fin. l. 2. c. 1. tom. ii. p. 129—l. 5. c. 3—5. tom. ii. p. 248—251. De Orat. l. 3. c. 16—18. tom. i. p. 328. De Nat. Deorum, l. 1. c. 5—7. tom. ii. p. 504. Philos. Fragm. tom. iii. p. 585. Ed. Olivet. Genev.—Diog. Laert. l. 3—4—6. tom. i. Ed. Amst.—Sext. Emp. l. 1. c. 33. p. 56. Contra Logic. l. 7. p. 401, &c. Ed. Fabr. Lips. Enf. Hist. of Philos. b. 2. c. 8. vol. i. p. 238, &c. b. 3. c. 1. vol. ii. p. 9—11. See ECLECTICS, PLATONISTS, and SCEPTICS. For the difference between the Academics and Sceptics; See SCEPTICS.

ACADEMICS, ACADEMICIANS, or ACADEMISTS, is also used among us for the members of the modern academies, or instituted societies of learned persons.

ACADEMY, ACADEMIA, in *Antiquity*, a public grove, or villa, situate in one of the suburbs of Athens, about six stadia, or $\frac{1}{2}$ of a mile from the city; where Plato, and the wise men who followed him, held assemblies for dispute and philosophical conference; and which gave the denomination to the sect of ACADEMICS.

It took its name *academy*, from one Academus, or Ecademus, a citizen of Athens, to whom it originally belonged; and who appropriated it to gymnastic sports or exercises.—He lived in the time of Thales.

Some, erroneously, derive its name and origin from Cadmus the Phœnician, as being the first who introduced learning, and the use of letters, among the Greeks.

The academy was farther improved and adorned by Cimon, with fountains, trees, shady walks, &c. for the convenience of the philosophers and men of learning who here met to confer, dispute, &c.—Hipparchus, the son of Pisistratus, built a wall round it: and, in order to defray the charges, laid so heavy a tax on the people, that ever

after *Ἰππαρχῶ τῶν*, was used proverbially for any expensive business. It was also the burying-place of illustrious persons, who had deserved well of the republic. Of this retreat, so well adapted to philosophy and the muses, Horace speaks, Epist. II. 45.

“Atque inter sylvas Academique querere verum.”
“Midst academic groves to search for truth.”

Within this inclosure Plato possessed, as a part of his humble patrimony, purchased at the price of three thousand drachmas, or about 116l. 10s. 6d. sterling, a small garden, in which he opened a school for the reception of those who might be disposed to attend his instructions.

Here he taught his philosophy: and from this circumstance all public places, destined for the assemblies of the learned and ingenious, have been since called ACADEMIES.

Sylla sacrificed the delicious groves and walks of the academy, planted by Cimon, to the laws of war; and employed those very trees to make machines with which to batter the city. Cicero also had a villa, or country retirement near Puzzuoli, which he called by the same name, *academia*; where he used to entertain his philosophical friends.—It was here he composed his *Academical Questions*, and his book *De Natura Deorum*.

ACADEMY is more frequently used among the moderns, for a regular SOCIETY, or company of learned persons; instituted generally under the protection of a prince, for the cultivation and improvement of arts or sciences.

Ptolemy Soter, in order to encourage and improve the liberal arts in his dominions, founded an academy at Alexandria, or a society of learned men, who devoted themselves to the study of philosophy, and all other sciences; and he provided them with a collection of books, which became by degrees the finest library in the world, and has been known under the name of the ALEXANDRIAN library.

Theodosius the younger, founded an academy at Constantinople, which he furnished with able professors of every science, intending it as a rival institution to that at Rome, which, with other literary seminaries, had been destroyed by Alaric and the Goths, towards the close of the fourth, and beginning of the fifth centuries.

Some authors confound academy with university; but though much the same in Latin, they are very different things in English.—An university is, properly, a body composed of graduates in the several faculties; of professors, who teach in the public schools; of regents or tutors, and students who learn under them, and aspire likewise to degrees. Whereas, an academy is not intended to teach or profess any art, such as it is, but to improve it: it is not for novices to be instructed in, but for those that are more knowing; for persons of distinguished abilities to confer in, and communicate their lights and discoveries to each other, for their mutual benefit and improvement.

The first academy we read of, was established by Charlemagne at the motion of ALCUIN: it was composed of the chief wits of the court, the emperor himself being a member.—In their academical conferences, every person was to give an account of what ancient authors he had read; and each of them assumed the name of some ancient author who pleased him most, or some celebrated person of antiquity. Alcuin, from whose letters we learn these particulars, took that of Flaccus, the surname of Horace; a young lord named Augilbert, took that of Homer; Adelard, bishop of Corbie, was called Augustin; Riculf, bishop of Mentz, was Dametas; and the king himself, David.

Most nations have now their academies; but Italy has the greatest number.

Of these useful institutions we shall give an account in the following order.

ACADEMIES of Antiquities; as

The *Academy* at Cortona, established for the study of the Etrurian antiquities; which are numerous and extensive. Their head is called Lucumon, a name taken from the ancient governors of Etruria. One of their laws is to give audience to poets only one day in the year: another is, to fix their sessions, and impose a tax of a dissertation on each member in his turn.

The *Academy of Antiquities* at Upsal, owes its rise to queen Christina, but its establishment chiefly to Charles Gustavus her successor. Its design is for illustrating the northern languages, and the antiquities of the country, as fones, coins, and the like monuments; in which notable discoveries have been made by it. The more eminent of its members have been Verelius, Loccenus, Scheffer, Rudbecks, Koder, Salin, Perikioild, &c.

ACADEMY, of Architecture, was established at Paris by M. Colbert, in 1671, consisting of a company of skilful artists, under the direction of the Superintendent of the buildings.

ACADEMY, Royal, of Arts, was instituted in London for the encouragement of *Designing, Painting, Sculpture, &c.* &c. in the year 1768. This academy is under the immediate patronage of the king, and under the direction of forty artists of the first rank in their several professions. It furnishes, in winter, living models of different characters, to draw after; and in summer, models of the same kind to paint after. Nine of the ablest academicians, are annually elected out of the forty, whose business is to attend by rotation, to set the figures, to examine the performances of the students, and to give them necessary instructions. There are likewise four professors of *Painting, of Architecture, of Anatomy, and of Perspective*, who annually read public lectures on the subjects of their several departments; beside a president, a council, and other officers.

The admission to this academy is free to all students, properly qualified to reap advantage from the studies cultivated in it; and there is an annual exhibition of paintings, sculptures, and designs, open to all artists of distinguished merit.

The *Academy of Arts*, at Petersburg, was established by the empress Elizabeth, at the suggestion of count Shuvalof, and annexed to the *Academy of Sciences*. The late empress Catharine has formed it into a separate institution, enlarged the annual revenue from 4000l. to 12,000l., and augmented the number of scholars from 40 to 300. She has also constructed, for the accommodation of the members, a large circular building, which fronts the Neva. The scholars are admitted at the age of six, and continue to 18; and they are lodged, clothed, fed, and taught, at the expence of the crown. All of them are instructed in reading and writing, arithmetic, the French and German languages, and drawing. At the age of 14, they may chuse any of the following arts, which are distributed into four classes: 1. Painting in all its branches of history, portrait, battle, and landscape; architecture; mosaic; enamelling, &c. 2. Engraving on copper-plates, seal-cutting, &c. 3. Carving in wood, ivory, and amber. 4. Watch-making, turnery, instrument-making, casting statues in bronze and other metals, imitating gems and medals in paste and other compositions, gilding, and varnishing. Prizes are annually distributed among those who excel in any particular art; and from those who have obtained four prizes 12 are selected, who are sent abroad at the public charge. Their travelling expences are defrayed; and when they settle in any town, they receive an annual salary of 60l. for four years. There

is an assortment of paintings and models for the use of the scholars.

ACADEMIES, of Painting, Sculpture, and Architecture: as the celebrated ones anciently at Florence and Milan, called also *school*; and that other at Bologna, incorporated into the new institute; to which may be added the academy of painting and sculpture at Paris and Vienna; another of designing at Rome.

ACADEMY of Painting and Sculpture at Paris, was first projected by Le Brun, Sarazin, Conscience, &c. for which they obtained an arret of council in 1648, and established in 1654 and 1657, under the Cardinal Mazarin, first protector thereof; and the chancellor Acquier was protector. In 1663, a pension of 4000 livres was granted to the academy by the interposition of M. Colbert. It consists, besides, of a director, a chancellor, four rectors, a treasurer, and four professors, one of anatomy, and another of perspective; adjuncts to the rectors and professors; counsellors; a secretary; an historiographer, and two others.

Persons are here admitted either in quality of painters or sculptors, who model from a naked person.—The painters are admitted according to their respective talents; there being a distinction made between those who work in history, and those who only paint portraits, or landscapes, or beasts, or fruits, or flowers, or paint in miniature; or only design, or engrave, or carve, &c. In the Academy of painting there are 12 professors, each of whom attends a month in the year, and their place is supplied by 12 adjuncts. The professor upon duty places the naked man as he thinks proper, and sets him in two different attitudes every week. This they call *setting the model*. In one week of this month he sets two models together, which is called *setting the group*. The paintings and models made after this model are denominated *academics*, or *academy-figures*. They have likewise a woman who stands for a model in the public school. Three prizes for design are distributed every three months among the elites or scholars; two others for painting, and two for sculpture every year. An account of this academy has been published by Guerin, under the following title, *Descript. De l'Acad. Roy. de Peinture & Sculpt.*

There is also a French academy of painting, sculpture, &c. at Rome, established by Lewis XIV., wherein those who have won the annual prizes in the like academy at Paris, are received and entertained for three years with a view to farther improvement.

An *Academy* of drawing and sculpture was established at Manheim, by Charles Theodore, elector Palatine, in 1775, with a view of encouraging and promoting the fine arts.

The *Academy* of painting and sculpture, at Stockholm, has nine professors, and commonly about 400 scholars. This academy annually distributes three large and three small medals; and the students who most distinguish themselves, are permitted to travel into France and Italy, at the expence of the institution.

ACADEMIES of Belles Lettres, those wherein eloquence and poetry are chiefly cultivated. Italy abounds with these; and in France there are not a few; such are

The *Academy* of Unidi at Florence, called afterwards La Fiorentina, in honour of the grand-duke Cosmo I. who declared himself its protector in 1549, is illustrious both for the works it has produced, and its members; which for these two last ages have included most of the eminent men, not only in Tuscany, but in all Italy. Their chief attention is to the Italian poetry.

ACADEMY of Humorists, Unaristi, had its origin at Rome, from the marriage of Lorenzo Mancini, a Roman gentleman, at which several persons of rank were guests; and

and it being carnival time, to give the ladies some diversion, they took themselves to the reciting of verses, sonnets, speeches, and comedies, first, *ex tempore*, and afterwards prepared rationally; which gave them the denomination of *Belli Litterari*. After some experience, coming more and more into the taste of these exercises, they resolved to form an *academy of Belles Litteratures*; and changed the title of *Belli Humori* for that of *Humoristi*; choosing for their device a cloud, which, after being formed of the saline exhalations of the sea, returns in a gentle sweet shower, with the motto from Lucretius, *resurgens dulcis*.

ACADEMY of *Arcadia* was established at Rome in 1690, for reviving the study of poetry, and the *belles lettres*; and comprehends most of the politer wits in Italy, of both sexes; many princes, cardinals, and other ecclesiastics: to avoid all disputes among whom, about pre-eminence, it is wisely provided, that all appear masked, after the manner of shepherds of *Arcadia*. Within ten years from its first establishment, the number of *Arcadians* amounted to 600. They hold assemblies *intra mœnia, in agro, in vinea, in campo, in monte, in silva, in agro, in vinea, in campo, in monte, in silva*, or in the gardens of some nobleman of distinction. Six of these meetings are employed in the recitation of poems, and verses of the *Arcadi* residing at Rome, who read their own compositions: except ladies and cardinals, who are allowed to make use of other shepherds for this office. The seventh meeting is set apart for the compositions of foreign, or absent members; in which there is more entertainment than in all the rest; because the pieces produced here are written in all the different styles and dialects of Italy. The government of this academy is wholly democratical, allowing of no prince or protector, but only a *capitulum*, who represents the whole society, chosen each olympiad, that is, every four years; with a power of electing twelve others yearly, to assist him in the administration. Under these are two *subcustodes*, one vicar or *procurator*, and four deputies or superintendants, annually chosen. There are five ways of electing members; the first called *acclamation*, used when sovereign princes, cardinals, and ambassadors of kings, desire to be admitted; in which case the votes are given *viva voce*; the second, *annumeration*, introduced in favour of ladies and academical colonies; where the votes are taken privately: the third, *representation*, established in favour of colleges and universities, where the young gentry are bred; who have each a privilege of recommending one, or two members, privately to be ballotted for: the fourth, *furrogation*, whereby new shepherds are substituted in the room of those dead, or expelled: the last, *destination*, whereby, when there is no vacancy of members, persons of poetical merit have the title *Arcadi* conferred on them, till such time as a vacancy shall happen. All the members of this body at their admission, assume new pastoral names, in imitation of those of the ancient *Arcadians*. The academy has divers colonies of *Arcadi* established in other cities in Italy, all regulated after the same manner.

ACADEMY, *Royal* at Caën, was established by letters patent in 1705; it had its rise fifty years earlier in private conferences, held first in the house of M. de Brioux. M. de Segrain retiring to this city, to spend the rest of his days, restored and gave new lustre to their meetings. In 1707, M. Foucault, intendant of the generality of Caën, procured the king's letters patent for erecting them into a perpetual academy, of which M. Foucault was to be protector for the time, and the choice afterwards left to the members, the number of whom was fixed to thirty, and the choice of them, for this time, left to M. Foucault. Beside the thirty, leave is given to add some supernumerary members, not exceeding six, from the ecclesiastical communities in that city.

An assembly of men of letters was formed at Lyons, which merely wanted letters patent to constitute a royal academy, inferior to few in France. It consisted of twenty academists, with a director at their head, and a secretary who is perpetual. F. Lombard, a Jesuit, one of the members here read a learned dissertation on infinity.

There is an *Academy of Belles Lettres, History, and Antiquities* at Stockholm, the Memoirs of which are published in the Swedish language.

ACADEMIES, *Chirurgical*; as that first instituted at Paris in 1731, and finally established by letters patent from the king in 1748; the members of which are not only to publish their own and correspondents' observations and improvements, but to give an account of all that is published in surgery, and to compose a complete history of this art, by their extracts from all the authors, ancient and modern, who have wrote on it. A question in surgery is to be proposed by the academy yearly; and a prize of a gold medal of five hundred livres value to be given to him who furnishes the most satisfactory answer.

ACADEMY of *Surgery* was instituted some years ago at Vienna by the emperor, under the direction of the celebrated Brambilla. It had at first only two professors, who had the charge of instructing 130 young men, of whom thirty had been surgeons in the army. But the number both of teachers and pupils has been much increased. They are provided with a large edifice in Vienna, which affords habitation for the teachers and students, and also for pregnant women, and patients for clinical lectures, and new arts. They have also a medical library, a complete set of surgical instruments, an apparatus for experiments in natural philosophy, a collection of specimens in natural history, a number of anatomical and pathological preparations, and a variety of other useful articles. Adjoining to the building, there is also a good botanical garden. Three prizemedals, of the value of forty florins each, are annually bestowed on the students who return the best answers to the questions proposed in the preceding year.

ACADEMIES, *Cosmographical*; as that of the Argonauts at Venice, instituted at the solicitation of F. Coronelli, for the improvement of *Geography*. The design of the *academia cosmographica* is to procure exact maps, geographical, topographical, hydrographical, and ichnographical, of the celestial as well as terrestrial globe, and the several regions and parts thereof, together with geographical, historical, and astronomical descriptions: in order to which, the several members oblige themselves, by their subscription, to take one or more copies of each piece, published under the direction of the academy; and to advance the money or part of it, in order to defray the charge of publication. To this end, three societies were settled at Venice, Paris, and Rome: the first under F. Moro, provincial of the Minorites of Hungary; the second under the abbot Laurence au Rue Payenne au Marais; the third, under F. Ant. Baldigiani, Jesuit, professor of Mathematics in the Roman college; to whom those address themselves, who are willing to engage in this design. The number of members in the several countries of Europe has been considerable; their device is the terraqueous globe, with the motto, *plus ultra*. At the expence of this academy, all the globes, maps, and geographical writings of F. Coronelli have been published.

ACADEMY of *Dancing*. One of this kind was instituted by Louis XIV. with extraordinary privileges.

ACADEMIES, *Ecclesiastical*; as that at Bologna, instituted in 1687, and employed in the examination of the doctrine, discipline, and history of each age of the church.

ACADEMIES, *Historical*; as the *Royal Academy of Portuguese*

guese History at Lisbon, which was instituted by king John V. in 1720, as appears by a medal struck by the academy, on the front whereof is that prince's effigy, with the inscription *Johannes V. Lusitanorum Rex*; and on the reverse, the same prince standing is represented supporting and raising History, almost prostrate before him, with the legend *Historia Refurgens*: underneath are the following words in abbreviation, REGIA ACADEMIA HISTORIÆ LUSITANÆ INSTITUTA VI. Idus Decembris MDCCXX.

This academy consists of a director, four censors, a secretary, and fifty members; to each of whom is assigned some part either of the ecclesiastical, or civil history of the nation; which he is to treat either in Latin, or Portuguese.

ACADEMY of *Saalian History*, at Tübingen, was established by some learned men, for publishing the best historical writings, the lives of the chief historians, and compiling new memoirs, on the several points and periods thereof.

ACADEMIES of *Language*, are called by some, *Grammatical Academies*: as the *Academy della Crusca*, *Academia furfuratorum*, or the *Bran Academy*, alluding probably to the end of their institution, which is to sift out and reject as husks or bran, all Italian words that are not good Tuscan, is famous for its vocabulary of the Italian tongue, and was formed at Florence, in 1582, but scarce heard of before the year 1584, when it became noted for a dispute between Tasso and several of its members. Many authors of note confound this with the Florentine academy. The famous Torricelli delivered many of his philosophical discourses in this academy. This academy is now united with two others, viz. the Fiorentina, and the Apatisti, under the name of *Reale Accademia Fiorentina*.

ACADEMY of *Frustriferi* had its rise in 1617, at an assembly of several princes and nobility of the country, who met with a design to refine and perfect the German tongue. It flourished long under the direction of princes of the empire, who were always chosen presidents. In 1668, the number of members arose to upwards of nine hundred. The history of this academy is written in the German tongue by George Neumarch.

ACADEMY, *French*, had its rise in a private meeting of men of letters in the house of M. Conrart, in the year 1628. Cardinal Richelieu, in 1635, at the instance of M. Chapelain, erected it into an academy for refining and ascertaining the French language and style. The number of the members was limited to forty, out of whom a director, a chancellor, and secretary, are to be chosen; the two former hold their post for two months, the secretary is perpetual. Several privileges and immunities were conferred on the new academy, particularly the *droit de committimus*, or a privilege of not appearing to answer before any court, but that of the king's household. Their first assemblies were held in the cardinal's apartment; after his death, in that of the chancellor Seguier. At last an apartment was given them in the Louvre, now called *l'Académie Française*. They meet three times a week in the Louvre; at breaking up, forty silver medals are distributed among them, having on one side the king of France's head, and on the reverse, *protecteur de l'Académie*, with a laurel and this motto, *a Pimmortalité*. By this distribution, the attention of the academists is secured: those who are present receiving the surplus, otherwise intended for the absent.

As to the employments of the academy: its design being not only to give rules but examples of good writing; they began with making speeches on subjects taken at pleasure, each member in his turn; twenty of these have been printed. Their next work was a critique of the *Cid* of M. Corneille,

a task enjoined them by the cardinal. They next set about a dictionary of the French tongue, which after about thirty years spent in it, in order to settle the words and phrases to be used in writing, &c. was published in 1694; having in the mean while given occasion to some disputes with M. l'Abbé Furetiere, one of their own members.

Their history is written with great exactness to the year 1652, by M. Pellisson; improved and continued to the year 1700, by M. l'Abbé d'Olivet: the same is given more fully, by F. le Camus.

The similar *Academy* was founded at Peterborough by the late Emperess, upon a plan proposed by the professor Dacier, and a fund provided for its establishment and support. It is to consist of 60 members.

The royal *Swedish Academy* was formed on the plan of the French academy by Gustavus III., who attached a pension to some of its members. Its object is the improvement of the Swedish language, poetry, and eloquence.

ACADEMY, *Royal Spanish*, is an academy for establishing the Castilian tongue, established at Madrid, on the model of the French academy.—The design of this was laid by the duke d'Escalona, and approved of by the king in 1714, who declared himself protector thereof.—It consists of twenty-four academists; including the director and secretary. Its device is a crucible on the fire, with this motto, *limpia, fija, y da esplendor*: i. e. it purifies, fixes, and gives brightness; which some have criticised. Their object, as marked out by the royal declaration, is to cultivate and improve the national language: in order to which, they are to begin with choosing carefully such words and phrases, as have been used by the best Spanish writers: noting the low, barbarous, or obsolete ones, and composing a dictionary, wherein these may be distinguished from the former, &c. by which means, adds that prince, it will clearly appear, that the Castilian tongue is inferior to none of those most esteemed in the world; and may be employed with advantage either in teaching the arts and sciences, or in expressing the most perfect Latin or Greek originals in exact translations. The academy is to have its own printer; yet not to put any thing to press without the permission of the council. For farther encouragement all privileges and immunities enjoyed by the domestic officers, actually in the king's service, and the royal palace, are granted the academists.

ACADEMIES of *Law*: as that famous one at Beryta, and that of the *Sitientes* at Bologna.

ACADEMY of *Medals and Inscriptions* at Paris, was set on foot by M. Colbert in 1663, and distinguished by its present appellation, in 1691, for the study and explanation of ancient monuments, and perpetuating great and memorable events, especially those of the French monarchy, by coins, relievos, inscriptions, &c. The number of members at first was confined to four or five, but in 1701 was increased to forty; whereof ten were to be honourees, ten pensioners, ten associates, and the same number of novices or elevés, which has been since annexed to the class of elevés. The king nominates their president and vice-president yearly; but their secretary and treasurer are perpetual. The rest are chosen by the members themselves, agreeably to the constitutions given them on that behalf. Their chief work is a kind of medallie history of the reign of Louis XIV. which, after some interruptions, was continued to the advancement of the duke of Anjou to the crown of Spain. Beside which we have several volumes of their essays, under the title of memoirs: and their history, written and continued by their secretaries. Their motto is *velat mori*.

ACADEMIES, *Medical*, as that of the *Naturæ Curiosæ* in Germany: that founded at Palermo, in 1645; another at Venice,

Vellet, in 1701, which meets weekly in a hall near the great hospital; another at Göttingen, in 1715, in the house of M. le Clerc. The colleges of physicians at London and Edinburgh, are also by some ranked in the number of medical academies.

Academy of Nature Curiosity, in Germany, was first founded in 1651, by M. Bausch, a physician, who invited all physicians to communicate their extraordinary cases, and was elected president. Their works were at first published from 1651 to 1678, in 1678, it was proposed to publish a volume of observations every year. The first volume appeared in 1684, under the title of *Ephemerides*, which was continued with some interruptions, and variations of the title, &c. In 1687, this academy was taken under the protection of the emperor Leopold, who granted the members several privileges, and particularly that their presidents should be counts palatine of the Roman empire. From him it has been sometimes denominated the *Leopoldine academy*.

This academy differs from all others, in that it has no fixed residence, or regular assemblies; instead whereof is a kind of bureau, or office, first established at Breslaw, afterwards removed to Nuremberg, where letters, observations, &c. from members and correspondents are taken in. The academy consists of a president, two adjuncts, or secretaries, and colleagues or members. The colleagues, at their admission, oblige themselves to two things; first, to choose some subject out of the animal, vegetable, or mineral kingdom to handle, provided it had not been treated of by any colleague before; the second, to apply themselves to furnish materials for the annual *Ephemerides*. Each member is to bear a symbol of the academy, *viz.* a gold ring, whereon, instead of a stone, is a book open, and on the face thereof an eye: on the other side the motto of the academy, *nunquam otiosus*, i. e. *never idle*. See the history, laws, &c. of this academy, with the names of its members, and the titles of its pieces, in *Ephem. Germ.* dec. 1. an. 1, & 2, Pref. and the continuation of the same in the prefaces and appendices to the ensuing volumes.

Academy, Musical, consists of the managers and directors of the opera.

An academy of this kind, called the *Academy of Ancient Music*, was established in London in 1710, by several persons of distinction, and other gentlemen, in conjunction with the most eminent masters of the time, with a view to the study and practice of vocal and instrumental harmony. This institution, which had the advantage of a library, consisting of the most celebrated compositions both foreign and domestic, in manuscript and in print, and which was aided by the performances of the gentlemen of the chapel royal, and the choir of St. Paul's, with the boys belonging to each, continued to flourish for many years. In 1731, a charge of plagiarism brought against Bononcini, a member of the academy, for claiming a madrigal of Lotti of Venice as his own, interrupted the harmony, and threatened the existence of the institution. Dr. Greene, who had introduced the madrigal into the academy, took part with Bononcini, and withdrew from the society, taking with him the boys of St. Paul's. In 1734 Mr. Gates, another member of the society, and master of the children of the royal chapel, retired in disgust; and it was thus deprived of the assistance which the boys afforded it in singing the soprano parts. From this time the academy became a seminary for the instruction of youth in the principles of music, and the laws of harmony. Dr. Pepusch, who was one of its founders, was active in accomplishing this measure; and by the expedients of educating boys for their purpose, and admitting auditor members, the subsistence of the academy was continued.

The *royal academy of Music* was formed by the principal nobility and gentry of the kingdom for the performance of operas, composed by Mr. Handel, and conducted by him at the theatre in the Haymarket. The subscription amounted to 50,000*l.* and the king, besides subscribing 1000*l.*, allowed the society to assume the title of *Royal Academy*. It consisted of a governor, deputy governor, and twenty directors. On occasion of a contest between Handel and Senesino, one of the performers, in which the directors took the part of the latter, the academy was dissolved, after having subsisted with reputation for more than nine years.

Academy, Naval, as that of Peterburgh, and those in England. See *ACADEMY*.

Academy, Political, such as that of Paris, composed of six persons, who met on certain days each week at the Louvre, in the chamber where the papers relating to foreign affairs were lodged. Here they perused such papers as were put in their hands, by order of the secretary for foreign affairs, who acquainted the king with the progress they made, and the capacities of each, that his majesty might employ them accordingly.

ACADEMIES of Sciences chiefly denote those erected for improving natural and mathematical knowledge, otherwise called philosophical and physical academies: such as the *academy secretorum naturæ*, formed at Naples in the house of Baptista Porta, about the year 1560, the first academy of the philosophical kind. It was succeeded by the

Academy of Lyncei, founded at Rome by Prince Frederic Cesi, towards the close of the same century; several of whose members rendered it famous by their discoveries: the celebrated Galileo Galilei was of the number.

Several other academies contributed also to the advancement of the sciences; but it was by speculations, rather than by repeated experiments on the phenomena of nature; such were the academy of Bessarion at Rome, and that of Laurence de Medicis at Florence, in the fifteenth century; in the sixteenth, that of *Inflammati* at Padua, of *Vegna Juoli* at Rome, of *Ortolani* at Placentia, and of *Umidi* at Florence. The first of these studied fire and pyrotechnia; the second, wine and vineyards; the third, gardens and pot-herbs; the fourth, water and hydraulics. Add to these, that of Venice, called *La Veneta*, founded by Frederic Badoara, a noble Venetian; another in the same city, whereof Campeggio, bishop of Feltro, appears to have been the chief; and that of Cosenza, or la Consentina, whereof Bernadin Telefio, Sertorio Quatromanni, Paulus Aquinas, Julio Cavalcanti, and Fabio Cicali, celebrated philosophers, were the chief members.

The compositions of all these academies of the sixteenth century were good in their kind, but none of them comparable to those of the Lyncei.

Academy del Cimento made its appearance at Florence some years after the death of Torricelli, under the protection of Prince Leopold, afterwards cardinal de Medicis. Galileo, Torricelli, Aggiunti, and Viviani, prepared the way for it; and some of its chief members were Paul del Buono; who, in 1657, invented the instrument for evincing the incompressibility of water, which was a thick globular shell of gold; Alphonfus Borelli, Candide del Buono, brother of Paul, Alexander Marfilii, Vincent Viviani, Francis Redi, and count Laurence Magalotti, were some of its chief members. The latter was secretary of this academy, and published a volume of curious experiments in 1677, under the title of *Saggi di Naturali Esperienze*: a copy of which being presented to the Royal Society, was translated into English by Mr. Waller, and published at London, in 4to. in 1684.

and putting it on a new and more solemn footing. In virtue of that regulation, the academy was to be composed of four kinds of members, viz. *honorary, pensionary, associate, and eleve*.—The first class to consist of ten persons; and the rest of twenty each.—The honorary academists to be all inhabitants of France; the pensionaries all to reside at Paris; eight of the associates allowed to consist of foreigners; and the eleves all to live at Paris. The officers, to be a president, named every year by the king, out of the class of honorary academists; and a secretary and treasurer, to be perpetual.

Of the pensionaries, or those who receive salaries, three to be geometers, three astronomers, three mechanics, three anatomists, three chemists, three botanists; the remaining two, secretary and treasurer.—Of the twenty associates, two to apply themselves to geometry, two to botany, and two to chemistry.—The eleves to apply themselves to the same kind of science with the pensionaries they are attached to; and not to speak, except when called upon by the president.—No regular or religious to be admitted, except into the class of honorary academists; nor any person to be admitted, either for associate or pensionary, unless known by some considerable printed work, some machine, or other discovery.—Farther, no person to be allowed to make use of his quality of academist, in the title of any of his books, unless such book have been read to, and approved by the academy.

The establishment of this academy, as well as of that of the Belles Lettres, was confirmed by royal patent in 1713.

In the year 1716, the duke of Orleans, then regent, made an alteration in their constitution; augmenting the number of honoraries, and of associates capable of being foreigners, to twelve; admitting regulars among such associates; suppressing the class of eleves, and establishing in lieu thereof, a new class of twelve adjuncts, to the six several kinds of sciences cultivated by the academy; and, lastly, appointing a vice-president, to be chosen yearly by the king, out of the honorary members; and a director, and sub-director, out of the pensionaries.

In the year 1785, the king farther confirmed, by letters patent, the establishment of this academy; added classes of agriculture, natural history, mineralogy, and physics; and incorporated the associates and adjuncts, limiting to six the members of each class, viz. three pensioners, and three associates. The academy, by this regulation, was made to consist of eight classes, viz. geometry, astronomy, mechanics, general physics, anatomy, chemistry and metallurgy, botany and agriculture, and natural history and mineralogy. Each class was to remain irrevocably fixed at six members, viz. three pensionaries, and three associates, besides a perpetual secretary and treasurer; twelve free associates, and eight associate foreigners; and the adjunct geographer was henceforth to be called the associate-geographer. These several classes were filled with persons, whose names have been respectable in the commonwealth of letters. Their meetings, which were formerly held in the king's library, have since 1699 been held in a fine hall in the Old Louvre.

This academy has done great things for the service of learning, by the continuation of the MERIDIAN, by sending persons to different parts of the world for making observations; but especially by the excellent writings they have published, either in a separate, or a joint capacity; particularly their MEMOIRS. These have been regularly published every year, some late years excepted, ever since the re-establishment of the academy in 1699. To each volume is prefixed the history of the academy, or an extract of the memoirs; and, in general, of whatever has been read or said at the academy. At the close of the volume are eulo-

giums on such academists as have died in the course of the year. A general Index to the volumes has been published every ten years. In the volume for 1783, &c. the extracts from the registers are omitted, but the closes of distinguished men lately deceased, are continued. M. l'Abbé Rozier has published, in four quarto volumes, an excellent index of the contents of all the volumes, and the writings of all the members, from the commencement of their publications to the year 1770. M. Rouille de Meslay founded two prizes, one of 2500, and the other of 2000 livres, which are alternately distributed every year; the subjects for the first must relate to physical astronomy, and those for the latter, to navigation and commerce. Indeed they have an advantage over most academies, in being defrayed their expences, and even paid for time and attendance. Their history to the year 1697 was written by M. Du Hamel; and since that time continued from year to year by M. Fontenelle, under the following titles: *Du Hamel Historia Regiæ Academiæ Scientiarum, Paris, 4to. Histoire de l'Académie Royale des Sciences, avec les Memoires de Mathématique et de Physique tirez des Registres de l'Académie, Paris, 4to. Hist. de l'Acad. Roy. des Sciences depuis son Etablissement en 1666, jusqu'en 1699, en 13 tomes, 4to.*

A new history, from the institution of the academy to the period from whence M. de Fontenelle commences, has been formed; with a series of the works published under the name of this academy, during the first interval.—Their motto is *invenit & perfectit*. This academy was suppressed; and, in 1793, abolished by the Convention of France; the last volume of its memoirs being that for 1790; and other institutions of various kinds have been established; see INSTITUTE.

The memoirs of the academy, abolished by the edict of the Convention, because it was a royal institution, and royalty was overthrown, are comprehended in 139 volumes in quarto: 11 from the foundation of the academy in 1666 to its renewal in 1699; 92 from 1699 to 1790; the year 1772 containing two: 11 of memoirs presented to the academy; 9 of prizes; 9 of tables to 1780; and 7 of drawings of machines.

The French have also considerable academies in most of their great cities; as, the academy at Caen, established by letters patent in 1705; the royal society of sciences in 1706, at Montpellier, which, since 1708, formed one body with the royal academy of sciences at Paris; *académie des jeux floraux* at Toulouse, besides the academy of sciences and belles lettres, founded in 1750; and other academies at Bourdeaux, founded in 1703; at Soissons in 1674, at Marfeilles in 1726, at Lyons in 1700, at Paris in Bearn in 1721, at Montauban in 1744, at Angers in 1685, at Amiens in 1750, at Villefranche in 1679, at Dijon in 1740, at Nîmes in 1682, at Besançon in 1752, at Chalons sur Maine in 1755, at Rochelle in 1734, at Beziers in 1723, at Rouen in 1744, at Metz in 1760, at Arras in 1773, &c. &c.

ACADEMY, *Royal, of Sciences, at Berlin*, was founded by Frederick I. of Prussia in 1700, on the model of that of England, excepting that, besides natural knowledge, it likewise comprehends the belles lettres. A new form, and a new set of statutes, were given it in 1710; by which it is ordained, that the president shall be one of the counsellors of state, and nominated by the king. The members were divided into four classes; the first, for prosecuting physics, medicine, and chemistry; the second for mathematics, astronomy, and mechanics; the third, for the German language, and the history of the country; the fourth, for Oriental learning, particularly as it may concern the propagation of the Gospel among infidels. Each class to elect a director for themselves, who

who shall hold his post for life. Their meeting to be in the castle called New Marthal; one class to meet every week in their turns. The members of any of the classes to have free admission into the assemblies of any of the rest. The great promoter of this institution was the celebrated M. Leibnitz, who accordingly was made the first director. The academy has published several volumes of its transactions in Latin, under the title of *Miscellanea Berolinensia*. The 1st volume was published in 1710; and, though undistinguished by any peculiar tokens of royal favour, they continued to publish new volumes in 1723, 1727, 1734, 1737, and 1740. At last, however, viz. in 1743, Frederic III. gave new vigour to this academy, by inviting foreigners of literary merit to Berlin, encouraging the culture of science among his subjects, by suitable rewards, and conferring the honour of president of the academy on M. Maupertuis. He also proposed new regulations for the academy, and assumed the title of its protector. The members hold two public assemblies annually; at the latter of which, viz. in May, is given a gold medal, of fifty ducats value, as a prize for a dissertation, the subject of which shall be successively natural philosophy, mathematics, metaphysics, and general literature. Since 1743, this academy has published several volumes of its transactions in French, under the title of *Histoire de l'Académie Royale des Sciences et Belles Lettres, à Berlin*.

Some new arrangements relating to this academy were proposed by his Prussian Majesty, in the year 1798. The economical commission of the academy, which had subsisted to this time, was abolished, and its place supplied by a directory, which should be formed of a president, the four directors of the classes, and two members, to be chosen not from the academy, but men of business, equally distinguished by their literary merit, and capable of preserving the necessary order in the economical state of the academy. The members of the academy were to be either honorary or ordinary. The latter members were divided as before, into four classes: and each class composed of a director and six members, forming an aggregate of 24 academicians, besides the members of the directory. It was proposed that this number should continue invariable, and that no new members should be admitted except in the case of vacancies. The right of electing members is preserved to the academy; whilst the king reserves to himself the right of confirming or rejecting. The large public library at Berlin, as well as the collection of natural curiosities, are united to the academy, and entrusted to its direction. The grand design of the new regulations is to direct the attention of the academy to objects of real utility; to humanise it, as the king expresses himself in his letter to the academy, by giving encouragement to efforts that contribute to the happiness of common life, to the improvement of every thing that concerns its wants, and to its conveniences, by the constant application of the theory of the sciences to things rather than to speculative meditations; to excite the national industry, by furnishing it with the principles suited to that art, which it exercises; to purify the different systems of moral and literary education, from many vague and erroneous principles, which fashion, and the imagination of some enthusiastic pedagogues, have introduced, and which must degrade future generations; and to combat the prejudices and delusions of the people, as well as the licentious and destructive efforts of the false philosophers of the present day.

There are other academical institutions at Berlin, and other parts of the north; several of which have distinguished themselves by their journals, *ephemerides*, &c. The reader will find some account of them under the article

ACADEMY, Imperial, of Sciences, at Petersburg, was projected by czar, Peter the Great, who, during his travels in 1717, having observed the utility of institutions of this kind, determined to establish a similar one in his own country. Wolf and Leibnitz were consulted as to the regulations which were proper to be adopted. The death of Peter, however, prevented the execution of the plan which he had drawn up and signed in 1724. At the close of 1725, his design was happily executed by the munificence of the empress, Catherine I., his wife and successor, on the model nearly of the academy of Paris, whereof the czar was a member. The academy held its first public meeting on the 27th of December, 1725, in the presence of the duke of Holstein, and a large appearance of persons of distinction. The empress settled a fund of 4982*l.* *per annum* for its support; and 15 members, eminent for their talents and learning, were admitted and pensioned under the title of Professors, in the various branches of literature and science; among whom were Nicholas and Daniel Bernouilli, the two De Lilles, Bultinger, and Wolf. The academy languished under Peter II., and was again revived by the empress Anne, who added a seminary for the education of youth. At the accession of Elizabeth, the original plan was enlarged and improved by letters patent in 1747; which, besides the academy, established in connection with it an university, having regular professors, who read lectures; and the academy acquired reputation and vigour by the influx of several learned foreigners. The annual income was increased to 10,659*l.*

The late empress took this society under her own immediate protection; corrected many of its abuses, and infused a new spirit into the researches of its members. In order to encourage ingenious professors to visit the various provinces of her dominions, she granted an extraordinary benefaction of 2000*l.*, which she occasionally renewed. These travellers were instructed by the academy, to prosecute their inquiries into the different sorts of soil and water, the best methods of cultivating barren and desert spots, the local disorders incident to men and animals, and the best means of relieving them, the breeding of cattle, and especially of sheep, the rearing of bees and silk-worms, the proper places for fishing and hunting, the various minerals and plants, and the arts and trades. They were also enjoined to rectify the latitude and longitude of the chief towns, to make astronomical, geographical, and meteorological observations, to trace the course of rivers, to take the most exact charts, and to observe the manners and customs of the different people, their dress, language, antiquities, traditions, history, and religion; and, in a word, to obtain every information which might tend to illustrate the real state of the whole Russian empire. These expeditions have produced, in the course of a few years, a great variety of excellent publications on the several objects enumerated.

The first translations of dissertations were published in 1728, and intitled *Commentarii Academicæ Scientiarum Imperialis Petropolitane ad Ann. 1726*. The publication was continued till the year 1750, when its transactions were called *Novi Commentarii Academiæ, &c.* In 1757, the title was again changed into *Nova Acta Academicæ Scientiarum Imperialis Petropolitane*. Of the commentaries 14 volumes were published. The first of the new commentaries appeared in 1753, and the 25th in 1776. About 30 volumes have been published, and two are printed, in the Latin language, every year, all of which abound with important and useful dispositions upon various parts of science, and natural history. The academy, from the mid-institution of some of its members, viz. for several years, ten by internal elections, which awarded the labours of the academicians, and put a

step to the useful production of its collections. By an edict of the emperor, the jurisdiction of the academy was now extended to all the sciences, and it began to receive a number of professors. It is now the house of the emperor, which is presided over by A. L. L. of the North, &c. published in 1777. The academy is composed of 15 academicians, and a president, who is elected for a life and a vice-president, who is elected for a year. There are also four adjuncts, who are pensioned, attend the sittings of the academy, and are the chief of the academy. The ordinary ones are the president, the vice-president, and the four adjuncts; who are in a manner the chief of what has been done in the private ones. The building, apparatus, &c. of this academy, are extraordinary. They have a fine library, consisting of 15,000 books and manuscripts; an extensive museum, and an observatory, &c. Their motto is *paratum, et their device, a tree bearing fruit not ripe.*

Academy of Sciences, called the *Institut de Belles Lettres*, was founded by Louis XIV. in 1712, for the cultivating of physics, mathematics, anatomy, medicine, chemistry, and natural history. Its history was written by M. de Limiers, from a memoir founded by the founder himself, and published at Amsterdam in 1723. The academy founded not long before by Pope Clement XI. for architecture and painting, was incorporated with this; and for its further encouragement the city purchased and appropriated to its use the palazzo Celesti, that the library, museum, observatory, schools, and the apartments of the professors, might be under the same roof. On the entrance of this edifice is the following inscription: *Bandisq; Scientiarum et Artium Institutionem, ad publicam usum collatam.*

Academy, *Royal and Royal, of Sciences and Belles Lettres, at Lifford*, was founded in 1773; and several volumes of their memoirs have been published.

Academy, *Royal, of Sciences*, at Stockholm, derived its origin from six persons of distinguished learning, one of whom was the celebrated Linnæus; who, in 1739, formed a private society for reading dissertations on literary subjects. As their number increased, it attracted public notice; and the society was incorporated by the king, in 1741, under the title of the *Royal Swedish Academy*. Though it has no pension from the crown, its fund has been gradually augmented to a large sum by legacies, and private donations. The only persons who receive salaries, are a professor of experimental philosophy and two secretaries. Each member resident at Stockholm becomes president by rotation, and continues in office three months. The members, both native and foreign, are admitted without fees. The dissertations read at each meeting are written in the Swedish language, and are collected and published four times in the year; and the annual publications make a volume in 8vo. The first 40 volumes, which were finished in 1779, are called *Transactions*; and from that year, the title was changed into that of *New Transactions*. Any person who sends a treatise, which is thought worthy of publication, receives the transactions for one quarter gratis, and a silver medal of the value of three shillings. All papers relating to agriculture are published separately, under the title of *Ökonomiska Arbeten*. Annual premiums in money and gold medals are distributed by the academy, principally for the encouragement of agriculture and inland trade. The meetings of the academy are sometimes attended by the king.

Academy, *Royal, of Sciences*, at Upsala, took its rise from the occasional meetings of six literati, whom Christian VI. in 1742, employed in arranging his cabinet of medals. With these persons others gradually associated; and they formed a society, under the patronage of the count of Holstein, whose immediate object was to make researches into

the antiquities and history of their country, and to explain them. In 1743, his Danish majesty took the society under his protection, gave it its name, endowed it with a fund, and directed the members to extend their pursuits to natural history, physics, and mathematics. The academy has published 15 volumes in the Danish language; some of which have been translated into Latin.

Academy, *Royal, of Sciences*, at Lisbon, was founded in the year 1779, by the Duke de Lafons, uncle to the queen. The king is the immediate patron, and the founder is president. Twenty-four effective members, divided into three classes, viz. natural sciences, mathematics, and national literature, form the main body of the society; and the residue is composed of 36 free members; a small number of literary foreigners, and a larger one of great personages of the nation, as honorary members; some veteran members and a considerable proportion of extra correspondents. Government allows them a revenue, by means of which they have established an observatory, a museum, a library, and a printing-office. The academy has hitherto directed its attention to the encouragement of many objects, which do not, in other countries, require the care of an academy of sciences. The 1st volume of its memoirs was published at Lisbon in 1797. The memoirs commence at 1780.

Academy, *of Arts and Sciences, American*, was established in 1780, by the council and house of representatives of the province of Massachusetts's bay, for promoting and encouraging the knowledge of the antiquities of America, and of the natural history of the country; for determining the uses to which its various natural productions might be applied; for promoting and encouraging medicinal discoveries, mathematical disquisitions, philosophical inquiries, and experiments, astronomical, meteorological, and geographical observations, and improvements in agriculture, manufactures, and commerce; and in short for cultivating every art and science, which might tend to advance the interest, honour, dignity, and happiness of a free, independent, and virtuous people. The members of this academy are never to be more than 200, nor less than 40.

Academy, *Royal Irish*, sprung out of a society, established at Dublin, about the year 1782, and consisting of an indefinite number of gentlemen, most of whom belonged to the university, who held weekly meetings, and alternately read essays on various subjects. The members of this society, anxious to make their labours redound to the honour and advantage of their country, formed a more extensive plan, and admitting only such names as might add dignity to their new institution, became the founders of the *Royal Irish Academy*, which professes to unite the advancement of science with the history of mankind and polite literature. The first volume of their transactions for 1787 was published in 1788, and the publication has been occasionally continued. We shall here add, that a society was formed in Dublin, similar to the Royal Society in London, as early as the year 1683; but the distracted state of the country was unpropitious to the cultivation of philosophy and literature. The plan was resumed about the beginning of the present century, and the Earl of Pembroke, then Lord Lieutenant, was president of a philosophical Society established in Dublin College. In the year 1740, there was instituted a Physico-historical Society; of which two volumes of minutes are extant; but this society soon declined.

Academy, *of Sciences*, at Althaus, was established in 1763 by Charles Theodore, elector Palatine, according to a plan of the learned Schoplin, and divided into two classes, viz. the Historical and Physical. The latter class was subdivided, in 1780, into the Physical, properly so called, and

Meteo-

Meteorological. The papers of the academy have been published in 11 volumes 4to., under the title of *Anna academica Theodoro-Polonica*. The Meteorologic observations, from 1701 to 1782, form 12 volumes 4to., with the title of *Ephemerides Solares Meteorologicæ Polonicae*.

For a farther account of these institutions, see SOCIETY.

ACADEMY, is also used in England as a kind of college, school or seminary; where youth are instructed in the liberal arts and sciences in a private way; now indeed it is used for all kinds of schools.

There were two public academies in the Roman empire; one at Rome, founded by Adrian, in which all the sciences were taught; and the other at Berytus in Phœnicia, which was principally designed for the education of youth in the science of law. In consequence of the protection that was given to the sciences in the 13th century, academies were erected in various parts of Europe, peculiar privileges of several kinds were granted to the youth who frequented them; and these learned societies acquired, at length, the form of political bodies; *i. e.* they were invested with a certain jurisdiction, and were governed by their own laws and statutes. In the public schools or academies that were founded at Padua, Modena, Naples, Capua, Thouloufe, Salamanca, Lyons, and Cologne, the application of the youth was restricted to certain branches of learning, and thus the course of academical education remained imperfect. The academy of Paris, which surpassed all the rest, both with respect to the number and abilities of its professors, and the multitude of students by whom it was frequented, was the first learned society which extended the sphere of education, comprehended all the sciences, and appointed masters for every branch of education. Hence it was distinguished, before any other academy, with the title of **UNIVERSITY**, to denote its embracing the whole circle of science: and in process of time, other schools of learning were ambitious of forming themselves upon the same model, and of being honoured with the same title. In the 16th century, academies were founded by the Lutherans at Jena, Helmstadt, and Altorf; and by the Calvinists at Franeker, Leyden, Geneva, under Calvin and Beza, and many other places.

Frederic I. king of Prussia, established an academy in Berlin in 1703, for the education of the young nobility of the court, suitable to their extraction. The expence of the students was very moderate, the king having undertaken to pay the extraordinaries. This illustrious school, which was then called the *Academy of Princes*, has now lost much of its first splendor.

The Romans had a kind of military academies established in all the cities of Italy, under the name of *Campi Martii*. Here the youth were admitted to be trained for war at the public expence. The Greeks, beside academies of this kind, had military professors called *Tactici*, who taught all the higher offices of war, &c. &c.

We have two royal academies of this kind; one at Portsmouth, for teaching navigation, drawing, &c. which may be styled a naval or maritime academy, founded by George I. in 1722, and under the direction of the board of admiralty, which gives salaries to two masters; and another at Woolrich, where youth are taught fortification, gunnery, and such branches of the mathematics as are necessary to qualify them for engineers. This was established by George II. in 1741, and is under the direction of the major-general and board of ordnance. None are now educated in this academy, but the gentleman-cadets, to the number of 90 or 100. The masters are now 12; *v. z.* a professor of mathematics, and two other mathematical masters, a professor of fortification and an assistant, two drawing masters,

a French master, with masters for writing, drawing, and chemistry. The institution is supported by a pension of £1000. It has also the benefit of a pension of £1000. It has also the benefit of a pension of £1000. It has also the benefit of a pension of £1000.

The academy of medicine is supported by separate academies, as that of anatomy, chemistry, &c. &c. The principal of these are the Academy of Medicine, the Academy of Surgery, the Academy of Anatomy, the Academy of Chemistry, and the Academy of Botany.

Academy in Holland is confined to a riding school, where young gentlemen are taught the great hunt, and other parts of equestrian exercise, &c. &c.

Academy is also the name of a collection of the Jews; *i. e.* that of the rabbins, who are the heads of the sect, and the heads of their sect in the East, &c. &c. explain to them the Talmud; teach them the Mishna, &c.

Soon after the destruction of Jerusalem, the rabbins of the Jews, they are said to have created a school at Japhne, Lydda, Pithul, and Tiberias; and at these in particular became famous for their learned men, and the compilers of the **MISHNA**, and the **MASORETS**. According to Buxtorf, this academy subsisted in Jereim's time. See Stephanus de Urb. vol. i. p. 482. n. 1.

Of the Babylonian school, the most famous in later times were those which were established in the cities of Sora, Naburden, and Pumbedita. Saadia, a celebrated grammarian, was rector of the academy at Sora in 927. But these academies were demolished by the Mahometan kings of Persia, about the year 1040. See Mafeker's Chron. lib. vol. ii. p. 14.

ACADEMY, or **ACADEMY DRAWING**, in *Painting*, is a drawing, or design made after a model of a naked man or woman, taken after the life; which is usually done on paper, with red or black chalk, and sometimes with pencils or crayons.

ACADIE or **ACADIA**, in *Geography*, a name formerly given to NOVA SCOTIA, or New Scotland, in America. The name was first applied to a tract of country between the 40th and 46th degrees of latitude, granted to De Mons in 1603, by Henry IV. of France.

ACÆNA, *αἰχμή*, in *Mathematics*, a Grecian decemped, or ten-foot rod, used in measuring of their lands. Beverin. Syntag. de Ponderibus, &c. p. 177. Ricciol. Geo. l. ii. c. 4. Salmast. Ex. in Solin. p. 684.

ACÆNA, in *Botany*, a genus of the *monochlamydeæ*, a class and order of plants; the generic characters of which are these: the calyx is a four-lobed pericarpium, with ovate, concave, equal, permanent leaflets; there is no corolla, unless the calyx be considered as such: the flower consists of equal filaments, of middle length, opposite to the calyx, and the anthers are quadrangular, twin, and erect; the pistillum has an obovate, leaved ovum, a very small annular style, and the stigma is a small thick columnar body, divided into many segments; the pericarpium is a dry, obovate, single-celled berry, with spines that are bent backward; and the seed is single. There is only one species, which is a Mexican plant. Miller's Dict. by Martyn.

ACACIA, in *Geography*, a mountain in the south of Persia, the south of the Persian Gulf, &c. &c. It is a good pasture; but a more curious circumstance is, that the people do not keep too near, that they may not be burnt by the fire that comes out of it.

ACAJOU, and **ACAJUTA**, in *Botany, See ANACARDIUM.*

ACALAN-

ACALANDRA. See CALANDRA.

ACALANDRUS, in *Ancient Geography*, a river falling into the bay of Tarentum, not far from the Metapontum. This river is mentioned by Pliny (*Hist. Nat.* l. iii. c. 10. tom. i. p. 167.), and by Strabo, (*Geog.* tom. i. p. 429.) It is now Fiume de Roseto.

ACALEPHE, a nettle. It also signifies a certain fish, the flesh of which is very tender. Likewise a sea-fowl mentioned by Nicander, and a sea-animal, mentioned by Gellius.

ACALOT, an abridgment of ACACALOT.

ACALYPHA, in *Botany*, a genus of plants belonging to the *monadelphia* class, and the natural order of *Trieneæ*, called by Boerhaave, and others, *Ricinocarpos* or *Tick-fruit*. It derives its name *Ακαλήφη*, from its not being pleasant to handle, i. e. *παρα το μη χεῖρι καλὴν αἶσθησις*. Its characters are these: the male flowers are crowded above the female ones; the calyx is a three or four-leaved perianthium, with roundish, concave, equal leaflets; it has no corolla; the stamina have from eight to sixteen filaments, which are short, crowded, and connected at the base, with roundish antheræ. The female flowers are fewer, and received into a large divided involucre. The calyx is a three-leaved perianthium, with subovate, concave, converging, small, permanent leaflets; there is no corolla; the pistillum has a roundish germen, three styles, branching, usually tripartite, and long, and the stigmas are simple; the pericarpium has a roundish, three-furrowed, three-celled capsule, the valves gaping two ways, and the seeds are solitary, roundish, and very large. There are fourteen species. The first sort, or *A. Virginica*, grows naturally in Virginia, several parts of North America, and also in Ceylon: the second, or *A. virgata*, is a native of the warmest countries, and grows plentifully in Jamaica, and its leaves resemble those of the annual nettle, and sting as much: the third, or *Indian Acalypha*, was discovered in great plenty by Dr. Houstoun at La Vera Cruz, and is also found upon dunghills in the East Indies, and its leaves are like those of Mercury, whence these plants have sometimes been called *three-fed Mercury*: the fourth, or *Villous Acalypha*, is found in the woods about Carthage: the fifth is a native of South America, whence it has its name: the rest are all natives of the West Indies. These plants have no beauty to recommend them, and are preserved in some botanic gardens merely for the sake of variety. Martyn's Miller. In the last edition of Linnæus's *Syst. Nat.* by Gmelin, the *Acalypha* is made a genus of the *Monadelphia dodecandria* class and order, and includes twenty-one species.

ACALZIKE, a town and fortrefs of Asiatic Tartary. N. lat. 41° 30'. E. long. 44° 14'.

ACAM. See ACHAM, and AKAM.

ACAMACU, or ACAMAKY, in *Ornithology*, the Brazilian name of the crested MOUCHEROLLE of Buffon; the crested Brazilian FLYCATCHER of Brisson, and the crested Brazilian TODUS, or variety of the TODUS *Paradisæus* of Gmelin, and of the MUSCICAPA *Paradisæi* of Linnæus. It is found in Africa and Madagascar.

ACAMANTIS, in *Ancient Geography*, the name of the island of Cyprus, taken from its western promontory, called *Acamas* and *Cacamo*, now cape Pifanio, or Epifanio, where there was formerly a town of the same name, now a village, called Cruseco. The wood in this part of the island (says Mr. Bruce, *Travels*, vol. i. p. 4-) remains as thick and impenetrable as at the first discovery; and in these woods large stags, and wild boars of a monstrous size, shelter themselves in perfect security.

ACAMAS, in *Ancient History*, the son of Theseus, who followed the other Grecian princes to the siege of Troy,

and was deputed with Diomedes to restore Helen. Laodice, Priam's daughter, had a son by him, called Munitus. He was one of the heroes who were consigned in the wooden horse. One of the tribes of Athens was called *Acamantides* from him, by the desire of the oracle; and he founded a city in Phrygia Major, called *Acamantium*. Homer (*Iliad.* l. ii. 823. and l. xiv. 475-) mentions two other heroes of this name; one a Thracian prince, who came to succour Priam; and another, a son of Antenor.

ACAMATOS, among *Physicians*, means that disposition of a limb, which is equally distant from flexion and extension.

ACAMBOU, in *Geography*. See AQUAMBOE.

ACAMEA, in *Ancient Geography*, a town of Assyria, in the province of Sittacene.

ACANACEOUS, see ACANTHACEOUS.

ACANGA, in *Botany*. See BROMELIA.

ACANGIS, i. e. *Ravagers*, or *Adventurers*, a name given by the Turks to their hussars, or light troops, who are generally sent out in detachments to procure intelligence, harass the enemy, or ravage the country.

ACANNY, or AKANNI, see ACHEM.

ACANOR, a particular sort of chemical furnace. See ATHANOR.

ACANOS, in *Botany*. See ONOPORDUM.

ACANTHA, formed from *ακαν*, *point*, and *ανθος*, *flower*, in a general sense, a spine or prickle, chiefly of plants of the thorny kind.

ACANTHA, in a more particular sense, denotes a spine, or quill of certain fishes, as the echinus marinus, or sea-hedge-hog. Hence the thorn-back, a species of the raja, is by some called *acanthias*, from the two prickles on its back. Rondelet. de Piscib. lib. xiii. c. 2.

ACANTHA, among some *Anatomists*, is applied to the hind or posterior protuberances of the VERTEBRÆ of the back; forming what we call the SPINA dorsæ.

ACANTHABOLUS, compounded of *ακανθα*, a *thorn*, and *βαλλω*, to *cast away*, in *Surgery*, an instrument, wherewith to extract foreign bodies, which by the sharpness of the points have penetrated, and entered any part of the body.

The *acanthabolus* is the same with the instrument which is otherwise called *wolfella*. Its chief use is for extracting fish-bones, or the like, sticking in the œsophagus; as also the fragments of weapons, bones, hair, &c. remaining in wounds. Its figure resembles that of a pair of pincers; sometimes it is also made crooked, for more commodious application to the fauces. Celsus, lib. vii. c. 30.

ACANTHABOLUS is also sometimes used for an instrument, wherewith people pull out the hairs from their eye-brows.

ACANTHACEOUS, among *Botanists*, a term applied to a class of plants, that are armed with prickles; popularly known under the name of the THISTLE kind.

ACANTHALZUCA, the same as *echinopus*, or *globe THISTLE*.

ACANTHARIS, in *Entomology*, a species of the CIMEX, in the Linnæan system, and of the REDUVIUS, in the arrangement of Fabricius, the characters of which are, that it has a spinous thorax, and a ciliated abdomen, with spines. It is found in Jamaica.

ACANTHE, in the *Materia Medica* of the ancients, a name given to the plant we now call the ARTICHOKE.

ACANTHE Arabica, in *Botany*, a name given by some of the Greek writers to a plant called also *leucacanthæ*, and by the Arabian physicians *bunkon*. It was a prickly plant, whose roots were somewhat like those of the cyperus, and composed of several knobs or joints, and of a bitter taste. It was brought for medicinal use from the East Indies, and

some

some parts of Arabia, and was the root of the *amgaila* of Avicenna and others.

ACANTHIA, in *Entomology*, a genus of the class of *Ryn-gota*, in the distribution of Fabricius, and forming a division in the arrangement of the *CIMEX* by Gmelin, in his edition of Linnæus. The *acanthia* of Fabricius have no lip, and Gmelin comprehends under this division the *aperti* the *co-leoptrati*, and the *membranacei*.

ACANTHIAS, in *Ichthyology*, a name given by some authors to the fish, the skin of which is used by our artificers in polishing, and called by them simply fish-skin. In the Linnæan system it is a species of *SQUALUS*, and the *picked dog-fish* of the British zoology. A variety of this is mentioned by Gmelin, and described under the name of *Squalus Fernandinus*. Its dorsal fins are spinose like the other, and its body round and ocellated. It is found in all seas, and rarely in the Baltic. Its length is about three and a half feet. *Acanthias* is also a species of *GASTEROSTEUS*, with four small spines before the dorsal fin, and three rays appertaining to the branchiostegous membrane. It is found in the Danish seas. See *GALEUS Acanthias*.

ACANTHICE, *maslich*, among ancient *Naturalists*, a kind of gum, yielded by the herb helxine. Gaza explains it by *spinalis masticha*. Plin. Hist. Nat. l. xxi. c. 16. Hard. Not. tom. ii. p. 250.

ACANTHINE, in *Ancient Geography*, an island mentioned by Ptolemy, in the Arabian gulph on the side of Egypt.

ACANTHINE, *acanthinus*, denotes a thing relating to, or resembling the herb *ACANTHUS*.

In this sense, we read of *acanthina vestimenta*, *acanthine garments*, of which we have two different explications. Some understand by it a kind of embroidery, wrought in imitation of the Egyptian *acanthus* or thorn, whose small sprigs are much interlaced. Others will have it a peculiar kind of filken stuff, made of the lanugo, or down of a plant of the thistle kind, growing in Sicily and the East. Plin. Hist. Nat. l. xxiv. c. 12. Hard. Not. tom. ii. p. 343.

ACANTHINUM lignum is used by some writers for *BRAZIL* wood.

ACANTHION, among *Naturalists*, a plant of the thorn, or rather of the thistle kind; whose down, being cleansed from the prickles, was manufactured into a kind of stuff, not unlike silk. Plin. ubi supra. See *ONOPORDUM*.

ACANTHIS, in *Ornithology*. See *GOLDFINCH*.

ACANTHOCEPHALUS, in *Natural History*, a name given to the *ECHINORHYNCHUS carpinis*, a species of worm which is found in the intestines of the carp.

ACANTHOPTERYGII, derived from *ακανθα*, a thorn, or prickles, and *πτερυγον*, a fin, in *Natural History*, a term used by Artedi to express one of the general classes or families of fishes; the character of which is, that the rays of the fins are bony, and some of them prickly at the extremities.

ACANTHOS, *ACANTHUS*, or *ACHANTUS*, in *Ancient Geography*, a town of Egypt, near Memphis, now Bifalta; or, according to Savary (v. i. p. 484), corresponding with the present Dachhour, whither the waters of the Nile are conducted by a canal, and near which is the ruin of the temple of Osiris, and to the west of it a great pyramid. (Strabo, tom. ii. 1163.) Also a maritime town of Macedonia, a colony of Andrians; now Erifso: near which was shewn Xerxes's ditch of seven fadua, in order to separate Mount Athos from the continent, and convey his ships, without doubling Athos, into the Singitic bay. Herodotus, l. vii. c. 121, &c. Pliny, Nat. Hist. tom. i. p. 202. *Acanthus* is also a town of Epirus.

ACANTHRUS, in *Natural History*, a name given to the *ECHINORHYNCHUS candidus*, which is found in the intestines of many different species of fish.

ACANTHUS, *Bear's Breech* or *Beane-Usue*, in *Botany*, a genus of the *didynamia angustifolia* class, and belonging to the natural order of *Polypetale*; of which the generic characters are these: the calyx is a perianthium, with leaflets in three alternate pairs, unequal and permanent; the corolla is single-petalled and unequal, having a short tube closed with a beard, no upper-lip, very large under-lip, which is flat, straight, very broad, three-lobed, obtuse, and of the length of the upper-lip of the calyx; the stamina have four filaments, subulate, shorter than the corolla, the two upper rather longer, recurved, and incurved at the top; the anthers are oblong, compressed, obtuse, the lateral ones parallel, and villous before; the pistillum has a central germ, filiform style, of the length of the stamens, and two acute lateral stigmas; the pericarpium is a subovate pointed capsule, two-celled and two-valved, with a contrary partition; alternate claws, curved, and fastened to the partition; the seed is ovate, and gibbous, and single; sometimes double. There are ten species: 1. The *smooth acanthus*, with white flowers, proceeding from about the middle to the top of the stalk, is the species used in medicine under the name of *Branca ursina* or *Brankursine*. It is a native of Italy, about Naples, of Sicily, Provence, and the islands of the Archipelago, and is cultivated in our gardens, and flowers in June and July. Turner (in his Herbal in Hort. Kew.) informs us, that it cultivated in Sion gardens so long ago as the year 1551. The leaves, and particularly the roots, abound with a soft, insipid mucilage, which may be readily extracted, either by boiling, or by infusion. Rectified spirit, digested on the leaves, extracts from them a fine deep green tincture, which is more durable than that which is communicated to spirit by other herbs. *Brankursine* is seldom or ever used medicinally in this country. But where it is common, it is employed for the same purposes to which the Althæa or Marsh-mallow, and other mucilaginous vegetables are applied among us. In foreign countries the cow-parsnep is said to be substituted for it, though it possesses very different properties. The last edition of Linnæus by Gmelin, contains twelve species.

The ancients have not only called the herb bear's breech by this name, but also a thorny tree growing in Egypt.

An accurate examination of the ancient writers will, however, shew very plainly, that they meant two very different vegetables under this name. Virgil has two very different plants under the same name. The *acanthus* with which he adorns the handles of Alcimedon's cups, in the 3d Eclogue, and places in the Corycian's garden, in the 4th Georgic, and the Egyptian *acanthus* of Theophrastus, are two very different plants. Virgil mentions another *acanthus* as being an ever-green plant, and producing berries, or a small round fruit; *baccas semper frondentis acanthi*, are his words; and Theophrastus tells us, that his Egyptian *acanthus* is a prickly tree, and bears pods like those of beans. The Greek sculptors adorned their works with the figure of the latter; as the Gothic did with that of the former, which they represented not only in their capitals, but also in other ornaments. It is plain, that the *acanthus* of Theophrastus is the acacia, a tree, from some species of which we have the gum arabic now in use: and the *acanthus* of Virgil, mentioned in the places above cited, is a garden herb, described by Dioscorides, under the name of *Ακανθος*, which is supposed to be the species of *acanthus* already noticed, though Linnæus takes it to be the fourth species. The other *acanthus*, mentioned by Virgil in the fourth Eclogue, and second Georgic, is the *acanthus* of Theophrastus. See Professor J. Martyn's notes on Virgil.

The leaves of this species of *acanthus* were used by the following round a basket covered with a tile, gave occasion to

Calliandra, and are the common capital. See *Acacia*.
 1. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 2. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 3. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 4. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 5. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 6. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 7. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 8. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 9. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*. 10. The capital of the town of Acapulco, in the province of Mexico, is called *Acapulco*.

The *Acacia* and *Calliandra* are perennial plants, and may be propagated either by seeds, which should be sown in a light dry soil towards the end of March, and left to grow, about six inches asunder, till autumn, when they should be transplanted where they are to remain; or by roots, which may be planted either in spring or autumn for the third sort; but the others must only be removed in the spring, because if they are transplanted in autumn, they may be in danger of being destroyed by a cold winter. These plants take deep root, and when they are once established in a garden, they cannot be easily eradicated. The 5th and 6th species are too tender to thrive out of a stove in England, and cannot be propagated, except by seeds, which do not ripen in Europe. The other sorts must be treated in the same manner with Cape plants.

ACANTHUS, in *Architecture*, an ornament in the Corinthian and Composite orders; being the representation of the leaves of an acanthaceous plant, in the capitals thereof. See *Tab. Archit.*

ACANTHUS Asiaticus, in *Ornithology*, the name given by Gmelin to the *Tringilla fimbria* of Linnaeus, or Siskin of others. See *SPINUS*.

ACANTHUS, in *Ancient Geography*. See *CHALCIDICA*.

ACANTHUS, in *Entomology*, a species of *PAPILIO*, in the division of *Plebeii*, with entire brown wings, blue bands underneath, and yellow limb; found in Surinam.

ACAPALA, or *Atapala*, a town in the province of Chiapa, in New Spain. It is situated on the Tabasco river, five leagues north-west from Chiapa.

ACAPAM, or *ACAPARAMI*, a town of Asia, on the Euxine sea.

ACAPATLI, in *Botany*, a name used by some authors for the plant which produces the long pepper, used in medicine. De Lact. Ind. Occ. p. 231.

ACAPNISTON, *acanthaster*, from *α* and *ναστις*, smoke, a term applied to the excellent honey of Hymettus, in Attica, both by Pliny, l. xii. c. 16., and Strabo, tom. i. p. 613, from the mode of its preparation.

ACAPNOT, *acanthus*, a name of the *SAMPSUCHUS*, or *MARJORAM*; also of dry wood.

ACAPULCO, in *Geography*, a considerable town and harbour in Mexico, situate on a bay of the South Sea, and distant from the city of Mexico about 210 miles, south-east. The haven is large and commodious, and capable of containing several hundred ships; and the entrance is secured by a small island, which runs across it, and forms at each end a deep channel of sufficient breadth for the largest vessels. The only inconvenience is, that ships must enter by

the sea-breeze in the daytime, and go out by the land-breeze in the night, which often is so full of muced each other so much, so that they are frequently blown off to sea, after repeated attempts to make the harbour. Acapulco itself is a mean and ill-built town, and derives its importance and extent from the great trade carried on with the East-Indies and Peru, and the number of warehouses and habitations for strangers which this commerce requires. The harbour is highly constructed on account of the frequent earthquakes to which this country is exposed; and good buildings are the less necessary, as the principal inhabitants retire from the sea-coast, when business does not demand their immediate attendance. Besides, the climate is exceedingly unhealthy, and very prejudicial to strangers. Upon the arrival of the galleons, the town is populous and gay, being crowded with the richest merchants of Mexico, Peru, and even of Chili, who provide themselves with tents in the vicinity of the town, and form a kind of large encampment. For the trade of this town, see *MEXICO GALLON*. Opposite to the town, on the east side, is a strong castle, said to be provided with forty pieces of cannon, and the platform at the end of the town is also mounted with guns; and ships ride near the bottom of the harbour; so that this place is not so easily accessible as some have imagined. The port is a kind of bay surrounded with very high mountains. Two islands, off the fort, parallel to the port, are to be left on the larboard, and within the harbour is a small island near the shore, on the larboard. Within a league of the east of the town, is a very good harbour, called Port Marquis, where the ships from Peru generally run in contraband goods. W. long. 102° 20'. N. lat. 17° 22'.

ACARA, in *Ichthyology*, the name of a fish caught in the fresh waters in the Brazils, and esteemed a very delicate and well-tasted one. It seldom exceeds three or four inches in length, and has a high back like the *PEARCH*. Its mouth is small, and its jaws rough like a file. It has one long back-fin, which is supported by a great number of rigid and prickly rays, and reaches to the tail. Its scales are large; its back is of a glossy brown; its sides and belly white; its tail is not forked. It has a large black spot on the middle of each side, and another near the tail. Its fins are all brown. Marcegrave.

ACARAAYA, the name of a fish caught on the Brazilian shores, and by some called also *garanba*. It grows to three feet in length, and is of the shape of our carp. Its lower jaw is furnished with an even range of sharp teeth, like little needles. Its upper jaw has two very long ones, and beside these, a multitude of other very short ones. Its eyes are large, and their iris red. Its tail is broad, and a little forked. Its scales are of a moderate size, and of a silver hue, with an admixture of purple. Its belly, and the under part of its head, are wholly white; and its fins of a fine pale red, except those under the belly, which are white, with a slight edge of red. It is eaten in Brasil, both fresh and salted. Marcegrave.

ACARAI, in *Geography*, a town of Paraguay, in South America, built by the Jesuits in 1624. N. lat. 26°. W. long. 51° 5'.

ACARAMUCU of Marcegrave and Willughby, in *Ichthyology*, is the *BALISTES Monoceros* in the Linnaean system by Gmelin. See *MONOCEROS*.

ACARAPEBA, the name of an American fish, called also by some *braseme*. It has a somewhat broad and flat body, covered with large scales of a fine silver whiteness. It grows to a foot in length, and to four or five fingers in breadth. It has a large mouth, but without teeth; and its tail is forked. It has one long black fin, the anterior rays, or naves, of which are rigid and prickly, the hind naves soft and

and flexile. The fins are all like the rest of the body, of a pure white. This fish seems to be a kind of *SMARIS*. *Maregrave*.

ACARAPINIMA, the name of a Brazilian fish, of the *CANTHARUS* kind, and seeming to be of the same species with the *cantharus* of the Mediterranean. *Ray*.

ACARAPITAMBA, the name of a fish caught in the Brazilian seas, of an oblong figure, resembling the *MULLUS*, and growing to two feet or more in length. Its mouth and teeth are very small. It has one long fin on the back, running very nearly to the tail, which is supported by rigid and prickly rays. Its tail terminates in two oblique horns. Its scales are large, and of a purplish colour, with a fine admixture of blue; and along the middle of each side there runs, from the gills to the tail, a very broad and beautiful gold-coloured line. Its back, down to this line, is variegated also with small gold-coloured spots; and the sides under the line are very beautifully variegated with small and fine longitudinal, but short gold-coloured lines, of a somewhat paler colour than the broad one. Its belly is white, and its fins yellow. *Maregrave* and *Willughby*.

ACARAPUCU, the name of a Brazilian fish, caught in the fresh waters, and growing to eighteen inches in length. It is of a rounded body: and its mouth is small, and not prominent. It has lips, which it can hide, or suffer to appear, at pleasure, and has no teeth. Its tail is long and forked; its scales are all of a silvery hue. On the back it has a fine golden gloss, shining in the whiteness; and on the sides five or six large blue spots. Its back and side fins are of a pale blue, as is also the tail: the belly fins are yellowish. It is a well-tasted fish. *Maregrave*.

ACARAUNA, of *Maregrave*, *Willughby*, *Ray*, and *Jonston*, is the *CHÆTODON nigriscans* of *Linnaeus*, with a sub-bifid tail, nine spines in the dorsal fin, and a lateral spine on each side of the bifid tail. Its eyes are large, with a silvery iris; the teeth in each mandible are from ten to sixteen, cylindric, and narrow in the lower part, and above wider, very hard, sub-pellucid, and disposed in a series, the fore-teeth being the longest; the tongue is short and thick; the operculum of the gills is long and narrow; the lateral line proceeds from it in a direction parallel to the back: most of the fins have ramose rays; the pectoral and caudal are cinereous, the ventral black; the dorsal and anal white at their base, and in other parts of a dusky hue, and they have bifurcated radii. This fish is found in the Indian, Brasil, and Red Seas, and grows to the length of two feet; it is covered with small scales, blackish above, and whitish beneath, and brown on the sides. It feeds on young crabs and testaceous fish.

The small black *Acarauna* of *Willughby*, is the *CHÆTODON arcuatus* of *Linnaeus*, with an entire tail, eight spines in the dorsal fin, and four white arches, and is called by *Maregrave* and *Ray*, *GUAFERVA*. The *Acarauna altera major* of *Willughby* and *Ray*, is the *CHÆTODON ciliaris* of *Linnaeus*, with an entire tail, fourteen scales in the dorsal fin, spinose opercula, and ciliated scales. This fish is found in India; it is of a cinereous colour, white beneath, the iris of the eyes is reddish; the mouth very small, the lips strong, the mandibles equal, the aperture of the gills large, the operculum furnished with three spines, the lateral line near the back and parallel to it, the anus in the middle of the body, and the fins brown at their edge, with ramose rays, and a black ring before the dorsal fin.

The *Acarauna maculata* is the *CHÆTODON bicolor*. It is allied to the perch, of an oblong shape, thick body, part of which, and the tail, are white, and the other parts brown. It is found in South America and India. *Linn. Syst. Nat.* by *Gmelin*, tom. i. pt. 3. p. 1243—1245—1253—1258.

ACARI Port, in *Geography*, lies on the coast of *POTU*. Vol. I.

S. lat. 15° 50'. W. long. 74° 40'. To the N. W. is the headland of *Morro de Acari*. This port is sometimes called *Port Lomo*.

ACARNA, in *Botany*, a name by which *Theophrastus*, and some other writers, express the common *ARTICHOKE*. See *ATRACTYLIS*, *CARDUUS*, *CARLINA*, and *CNICUS*.

ACARNAN, in *Ichthyology*, the name of a small sea-fish very common in the Mediterranean, and brought to market among the *rubellios*, or *erythrini*, and called by the fishermen by the name *fravolus*, or *ph. redius*. It very much resembles the *erythrinus* in shape; but as that is of a fine red, this, on the contrary, is of a silvery white. Its mouth is moderately large; its teeth slender and pointed; and its eyes large, having fine yellow irises. Its fins are white, but have each a black spot at their origin. It seems doubtful whether this be really any way different from the *erythrinus*, except in colour, which alone is not distinction sufficient to make a species. *Rondelet*.

ACARNANIA, in *Ancient Geography*, the first country of Free Greece, or Greece Proper, bounded by the *Sinus Ambracius*, and the river *Achelous*; the latter of which separates it from *Ætolia*, on the east; and the former from *Epirus*, on the west. *Ptol. Geo. l. iii. c. 15*. *Strabo l. x*. *Pliny, l. iv. c. 1*. *Thucyd. l. ii*. *Pausan. l. viii*. *Acarnania* was a free state, and governed by a prætor, or general assembly, and other subordinate magistrates, of the same description and authority as those of the *Achæans* and *Ætoliæ*. The inhabitants of this country were called *Acarnanes*, as some say, from *ακαρνια*, i. e. people *unshorn*, as the *Curetes* on the other side of the *Achelous* were so called from *καροματα*, i. e. *shorn*. But *Pausanias* says, that they were thus denominated from *Acarnanes*, the son of *Alcmæon*. *Stephan. de Urb. vol. i. p. 49*. *Strabo Geog. tom. ii. p. 690—714*. According to *Lucian* (*Dial. Meret. apud op. tom. iii. p. 298*.) they were noted for effeminacy and incontinence, whence the proverb, *χορμιονος Ακαρνανιος*, *porcellus Acarnanius*. *Ακαρνικος* *πικρος* is likewise proverbial to denote any thing excellent in its kind, because this country was famous for its breed of horses. It is now called *la Carnia* and *il Despotato*.

The *Acarnanians* are represented by *Polybius* (*l. iv. p. 299. ed. Casaub.*) as faithful to their promise, and extremely jealous of their liberty. They derived their origin from different nations, but associated in a general confederacy, and were almost always at war with their neighbours the *Ætoliæ*. They were the only people of any note that did not appear amongst the Grecian forces in their expedition against *Troy*. They were, more than all the other Greeks, attached to the kings of *Macedon*, and principally to *Philip*, the father of *Perseus*, and valued themselves upon an inviolable fidelity in the observance of treaties. The Romans made many attempts to withdraw them from their allegiance, and to deprive *Philip* of his only support. After more gentle efforts had failed, *Lucius Flaminius* resolved to reduce them by force, and laid siege to *Leucas*, their capital. It was at length betrayed by some Italian exiles, who, being acquainted with the place, had introduced many Romans into the city. The *Acarnanians* were surrounded, and those who refused to submit were put to the sword. The reduction of the capital struck such terror into the whole nation, that they deserted *Philip*, and submitted to the Romans, under whose protection they lived according to their own laws till the destruction of *Corinth*, when *Acarnania* became part of the province of *ACHAIA*. *Liv. l. xxxii. c. 4*.

ACARNANIA was also the name of a town in Sicily, famous for a temple of *Jupiter*.

ACARO, in *Geography*. See *AQUAMROE*.

ACARON, in *Botany*, the wild *MYRTLE*.

ACARON, in *Geograph.*. See ACCARON.

ACARON BAR. See BEREDAYEN and.

ACARUS, the Tick or Mite, in *Natural History*, is so called probably from *a carum*, and *areo* to eat, because it is deemed to eat that it cannot be cut, for a genus of insects belonging to the order of *araneæ* in the Linnaean system, and to the class described in the same distribution of Linnæus. The distinguishing characters of this genus are, that the mouth is in the middle, that the humellum is notched and divided into two equal parts; that the first pair of legs is small, equal to the length of the humellum; that the eyes are small, placed at the side of the humellum; and that it has eight legs. Linnæus reckons forty, and Macleay, in the last edition of Linnæus's system, eighty-two species; of which, some are inhabitants of the earth, others of water; some live on trees and plants, others among stones, and others on the bodies of other animals, and even under their skin. They are as follow; viz. *elephantinus*, with an orbicular, depressed, livid body, and a black ovated spot at the base, found in India: *Aegyptius*, ovated and black, with a white margin, a native of Egypt: *REDUVIUS*: *Indus*, oval and ferruginous, with a black ovated spot at the base, found in South America and India: *Americanus*, obovated and ruddy, with white scutellum and joints of the legs, found on the cattle and horses of America: *SANGUISUGUS*: *RICINUS* or TICK: *crassipes*, with the second pair of legs very thick, nimble, gregarious, and found in the soil of Europe, and frequently in that of gardens: *Vespertilionis*, with an angulated thorax and unguiculated legs longer than the body, called the BAT-LOUSE, and found on the murine bat: *passerinus*, found on various sparrows, and called the sparrow-louse: *motatorius*, of a yellow colour, and with its first legs very long and adapted to swift motion, found on mushrooms: *Aphidioides*, red, with the fore-legs long and fit for running; and the hinder part of the abdomen terminating in two horns; and lodging in the putrescent wood of Europe: *coleoptratus*, black, with acute-angled sides, found under the bark of trees in Europe: *ularius*, of a greenish-yellow colour, with a brown spot on each side of the abdomen, found on plants in Europe that are not much exposed to the wind, or placed in a hot-house, which it penetrates with its sting, and suffocates; and frequent on the leaves of the lime-tree in autumn: *ARAC* or MITE: *lactis*, with an ovated, obtuse abdomen, and the hinder part having four declining bristles as long as the body, found in four cream and unwashed milk-veffels: *dyfenteria*, with two bristles to the legs, and four horizontal bristles at the hinder end of the ovated abdomen, of the length of the body, found in beer-casks, &c.: *esulcerans*, with very long setaceous legs, and the two fore-legs short, supposed by some to be the cause of the ITCH, and nesting in the ulcers of this disease, but by others not to be sufficiently distinct from the *A. scabiei*: *goniculatus*, black, with sub-globose joints of the thighs, found on the dead branches of trees: *tinctorius*, with a red hairy abdomen, the hinder part obtuse, and the anterior tibiae of a paler colour, a native of Surinam and Guinea, and lately introduced into the practice of dying: *aquaticus*, with a sanguineous depressed abdomen, covered with a velvety down, obtuse behind, found swimming briskly in the fresh waters of Europe: *holosericus*, with an abdomen like that of the former species, and found in dry situations in Europe and America, generally under the surface of the earth, and sometimes among hay: *baccarum*, with a distended red abdomen, and sides of a darker hue, found on berries, and particularly currants and gooseberries: *muscorum*, with a red abdomen, and hinder legs very long and filiform, found on the mosses of Europe: *BATATAS*: *gymnopteronum*, with a red abdomen, and two

crimson-coloured spots on the sides, found on bees, wasps, the libellula, asilus, and other insects: *coleopiratorum*, with an ovated red body and whitish anus, frequent on beetles, whence the common black beetle is sometimes called the lousy beetle: *rufesfris*, brown, with a dorsal line of two colours, frequent under the stones of Europe: *longicornis*, red, with bifid antennæ longer than the rostrum, found in the rocks of Europe: *littoralis*, ovated and red, with a subulated extended rostrum, found among the rocks on the shores of Europe: *fungorum*, of a reddish-brown colour, with a subglobose, smooth, unspotted abdomen, gregarious, and moving slowly on different fungi: *tremelle*, subglobose, of a black-blueish colour, found on the TREMELLA juniperana: *feaber*, depressed and ash-coloured, and rough sides, found in the earth at the beginning of spring: *salicinus*, red, with a double brown dorsal line, and in the fore-part bifurcated, found swiftly running on the willows: *croceus*, yellow, with a red spot on the sides of the thorax, found on the galls of the WILLOW: *URSELLUS*: *grossus*, ovated, somewhat depressed, of an olive-brown colour, with a blackish scutellum, and the base and apex of a golden copper colour, found on the animals of South America, and supposed to be the same with the *elephantinus*: *undatus*, orbiculated and black, with waves of white on the sides, and a black spot, found in New Holland: *Lipiensis*, ovated and brown, with a thick margin, found at Leipick: *Iguana*, ovated and spotted with gold, with the margin of the abdomen striated and somewhat jagged, fixing itself to the throat of the *lacerta* IGUANA: *Cayensis*, ovated, and varied with gray and white, with the hinder margin elevated, and striated, a native of Cayenne: *lineatus*, ovated and ferruginous, with two white wavy lines, found in America: *aureolatus*, obovated and brown, with two small lines and a palmed spot on the hinder part, of a green and gold colour, a native of America: *holsatus*, ovated and ferruginous, with a brown thorax: *pallipes*, ovated and brown, with the antennæ and legs of a pale white: *hispanus*, ovated and black, with ferruginous legs and white joints, found in Barbary: *HIRUDO*: *vibrans*, roundish, testaceous, and without spots, with the fore-legs longer than the others, found in Cayenne: *domesticus*, white, with two brown spots, an ovated body contracted in the middle, very long hairs, and equal legs, found in the houses of Europe, but supposed not to be different from the *stro*: *scabiei*, white, with reddish legs, and the hinder having four very long bristles, and much less than the *stro*, and found in the ulcers of persons infected with the ITCH, exciting irritation, and supposed to be either the cause, or rather a symptom of the disease: *zosteræ*, roundish and whitish, with a red abdomen, found in the fuci of the Norwegian seas: *phalangii*, ovated and red, with an extended rostrum and long legs, frequent on the phalangii and spiders: *phaetonis*, ovated, and behind acuminate, with the legs fasciculated at their apex, found on the phaeton of the Southern Ocean: *fucorum*, pale-coloured, with two winding black lines and the hinder legs very short and bent, found on the fuci of the seas of Norway: *rufipes*, ovated and white, with ferruginous legs, found in Europe: *lichenis*, with the first and fourth pair of legs longer, and the second thick, found on the lower surface of the lichen: *leucurus*, with the second legs very thick, a testaceous body, and a pale-coloured anus, found on carcasses: *locusta*, with four bristles in the hinder part, and as many on the sides: *conferæ*, ovated and brown, with the second joint of the legs small, and the third furnished at its apex with a long bristle, found in the filaments of the conferva under water, but dying out of the water: *cadaverum*, with a body formed with two lobes and four long bristles to the hinder part of the body, found on the carcasses of insects: *destructor*, ovated, with many long bristles

bristles to the anus, and one to the legs, found on the exuvie of insects in moist places: *crudius*, with the first pair of legs very thick, and clawed, and the second having two very long bristles at their apex, found in books that are kept in moist places: *clavula*, with the hinder part of the anus emarginated, found on the *Alarida arvensis*: *graminum*, red, with the legs of the first pair very long, and the hinder part of the abdomen jagged, found on the leaves of grass: *appendiculatus*, subglobose and crimson-coloured, with long legs of a paler hue, and the hinder legs longer, found under the lichen *pulmonarius*: *ovata*, ovated, fetid and red, with equal legs and several bristles, found swiftly running on the vine: *piger*, red, with paler legs, and the hinder part of the abdomen furnished with small bristles, found upon moss: *denticulatus*, with four teeth to the anterior part of the body, found under garden-pots: *testudineus*, with a smooth abdomen, lodged in the soil at the commencement of spring: *rubens*, red, ovato-oblong, with unequal legs, found under moss: *pregnans*, red, globose and very smooth, scarce visible to the naked eye, found in the soil in spring: *musci*, corneous, hairy and black, found on moss: *linum*: *foliorum*, ovated, greenish, and naked, with all the legs equal, found on the leaves of various plants in summer: *putrescentie*, ovated, greenish, and bristly, with unequal legs, found in the earth: *carduelis*, ovated, greenish and blackish, naked, with unequal inflated legs, found on the *fringilla*: *coccineus*, ovated and of a crimson-colour, with a strait body, lodged on various insects: *vegetans*, crustaceous, brown, emarginated and convex, and plain beneath, found on various insects of the coleoptera order: *sambuci*, red, with pale legs and feelers, with long bristles scattered over the body and legs, found slowly moving on the leaves of the black elder: *mustearum*, found on the *musta*: *acarorum*, hemispheric, pale-coloured and smooth, with equal legs, found on the *acarus crassipes*: *cardinalis*, ovated, downy and red, black below between the legs, and furnished with an ovated black scutellum, found on mosses in the grove adjoining to the Hague.—Aristotle, (Hist. Anim. l. v. c. 32. Oper. tom. i. p. 857. Ed. Du Val.) mentions the acarus bred in wax, as the least object of human sight. These insects, which are often very troublesome on plants and in hot-houses, may be effectually destroyed by the mixture recommended for destroying those on the PINE-apple. The following mixture will be also equally efficacious: Take two ounces of soft green soap, one ounce of common turpentine, and one ounce of flowers of sulphur; pour upon these ingredients a gallon of boiling water, and work the whole together with a whisk, and let the mixture be used warm. This mixture may also be of use for preventing the mildew on the peach and apricot. However, this method should never be practised on fruit-trees near the time when their fruits are ripening. A strong ley made of wood-ashes will likewise destroy the *Acari*; but plants are greatly injured by this, and other briny and spirituous compositions. The *Acari* may be also destroyed in plants, by brushing them with a common painting brush, by often dusting them with flowers of sulphur, by keeping a hot-house in a moist state, by dipping the tops of plants frequently in clear water in which flowers of sulphur and tobacco have been infused, in the hot summer months, and always keeping the hot-house clean.

ACARUS is the name given by Brown (Jam. 418.) to the *Pulex penetrans* of Linnaeus. It is also a species of the *TRICHODA*, in the order of *INFUSORIA*, and class of *WORMS*.

ACASABASTIAN, in Geography, a river in the province of Vera Paz, in Mexico, whose source is not far from

the South Sea, which runs into the Gulf of Mexico. There is a town of the same name situated on its banks.

ACASATHULA, a fortress situated on a point of land, in the province of Guatemala Proper, in Mexico, on a bay of the South Sea, about four leagues from Tuxtla. It receives the greatest part of the treasures from Peru and Mexico. There are three volcanos in its vicinity. N. Lat. 12° 54'. W. Long. 93°.

ACASTA, in Entomology, a species of *PAPILIO*, found in India, with roundish wings, having five transverse spots, and four on the sides, and the under part yellow.

ACASTA, in Mythology, one of the nymphs called OCTASTES.

ACASTUS, in Greek History, the son of Pelops, king of Thebaly, and one of the most famous hunters in his time. He married Atalanta, according to Suidas, an Achaean, as his annotator calls her, who, falling in love with Pelops her son-in-law, and not having her wishes gratified by him, accused him to her husband of a rape; upon which he made war against Acastus, and slew his wife. Suidas, tom. i. p. 365.

ACASTUS, in Entomology, a species of *PAPILIO*, with black wings, the fore-wings having a snowy band, and the hinder green beneath, marked with yellow ridges; found in Surinam. It is also a name given by Cramer to the *Papilio PHIDIAS*.

ACATALECTIC, ACATALECTICUS, formed of the privative *a* and *κατάληκτος*, from *κατάληκτος*, to cease or end, in the Ancient Poetry, a term applicable to such VERSES as have all their FEET and syllables, and are in no respect lame or defective at the end. In the following strophe of Horace, the two first verses are *acatalectic*, and the last *catalectic*:

Solivator aeris hyems, grata vice

Veris & Favoni:

Trabantque fœcis machinae carinas—

ACATALEPSIA, ACATALEPSY, compounded of the privative *a* and *καταλαμβάνω*, *deprehendo*, to find out, in Philosophy, an impossibility of a thing's being conceived or comprehended.

Acatalepsia is synonymous with incomprehensibility.

ACATALUS, in Botany, a JUNIPER berry.

ACATASTATOS, formed of *a* and *καθίσταω*, *constituo*, inconstant, is a physical term, anciently applied to irregular fevers, whose paroxysms are uncertain, and which are indicated by frequent changes in the urine. It is likewise applied to those shivering fits in fevers, which have no constant return, and to turbid urine, that deposits no regular sediment.

ACATECHILI, or ACATECHICHICTLI, in Ornithology, the FRINGILLA Mexicanæ of Gmelin, and the Mexican SISKIN of Latham, is about the size of the siskin, and has the same song, and feeds on the same substances. Its head and the upper part of its body are a greenish brown, and the throat and under part white, shaded with yellow. Its Mexican name *Acatechichiaalli*, signifies the bird that rubs itself against the reeds, and may allude to some of its habits.

ACATERY, or ACCATRY, in the king's household, a kind of check betwixt the CLERKS of the kitchen and the PURVEYORS.

ACATHARSIA, of *a* and *καθάρω*, to cleanse, in Medicine, denotes an impurity of the blood or humours.

ACATHISTUS, *ακαθιστος*, man, a hymn of praise, a solemn hymn, or vigil, anciently sung in the Greek church on the Saturday of the fifth week in Lent, in honour of the Virgin, for having thrice delivered Constantinople from the invasions of barbarous nations.

It was called *ακαθιστος*, i. e. without sitting, because it was celebrated standing: the people stood all night, singing the praises of their deliverers. The same name is also given to

the day whereon it was performed, which is called the feast of *Ascension*.

ACATUM, is the ancient *Navigium*, a kind of boat or pinnace used for military purposes.

The *Acatus* was a species of ship called *Assuric navis*, i. e. first of which were furnished with sails. It was sometimes made use of in battle. Strabo represents it as a kind of privateer, or pirate ship; and Suda, as a fishing vessel.

ACAULIS, and ACUTOSE, in *Botany*, a term applied to certain plants, the flowers of which have no stalk or pedicle to support them, but rest immediately on the ground: of this kind are the caline thistle, and some others.

ACBAB, in *Ornithology*, a name given by the people of the Philippine islands to a bird very like our common hen, which is very frequently wild among them. It lives on rice, and other vegetables, and does a great deal of mischief; but is short-winged, and does not fly well, so that it is easily destroyed.

ACBAR, the name of an idol of enormous size, which the Arabians are said formerly to have worshipped. It was with difficulty that Mahomet restrained them from this species of idolatry. Hyde's *Diff.* vol. i. p. 257.

ACBARABAD, in *Geography*. See AGRA.

ACCA (St.) in *Ecclesiastical History*, bishop of Hagustald, or Hexham, in Northumberland, who succeeded Wilfrid in 709. Besides ornamenting the cathedral, he erected a noble library, consisting chiefly of ecclesiastical learning, and a collection of the lives of the saints. He was accounted a very able divine, and famous for his skill in church music. He wrote several books, particularly *Passiones Sanctorum*, and *pro illustribus Scripturis ad Bedam*. He died in 740, under Egbert. Simeon of Durham relates several miracles performed by his relics.

ACCABA, in *Geography*, the name given by the Arabs to a chain of mountains near the Red Sea; and which formed the easternmost range of the *μῆλαινα ὄρη* of Ptolemy. The castle of *Accaba* is situated below these mountains on the elastic point of the Red Sea. See HOR.

ACCABAAR, in *Natural History*, the *Isis Ochracea* of Linnæus, the red *Indian coral* of Ellis.

ACCABAAR is also a name given to the *ANTIPATHES pennacea* of Linnæus.

ACCABARIUM, in *Natural History*, a name given by Rumphius to the *MADREPORA Oculata* of Linnæus, or the white coral of the shops; and also to the *Isis Hippuris* of the same author.

ACCAD, ACCHAD, or as the LXX has it ARCHAD, in *Scripture Geography*, a town in the kingdom of Nimrod or Babylonia, to the east of the Tigris. Wells (Geog. O. T. vol. i. p. 228) supposes that the city SITTACE or PSITTACE was formerly called by this name, and that ARTACENE, mentioned by Strabo, was formed from *Accad*.

ACCADEMIA, in *Musical Language*, a term used in Italy to denote a private concert.

ACCALIA, in *Antiquity*, solemn feasts, held in honour of Acca Laurentia, wife of the shepherd Faustulus, and nurse or foster-mother of Romulus. She was deified by the Romans, and the flamen of Jupiter once a year offered sacrifices to her on a holiday instituted to her honour.

These were otherwise called *Laurentalia*.—To the same Acca is also attributed the institution of the *FRATRES ARVALES*. Varro, de Ling. Lat. & Scalig. Conject. in Varro.

ACCAPITARE, ACCAPTARE, ACAPTARE, in ancient *Law-books* and records, the act of becoming vassal of a lord, or of yielding homage and obedience to him.

The word is compounded of the Latin *ad, to*; and *caput*,

head; because vassals owned their lords for their head. Whence also the lords are sometimes called *domini capitales*: as those who command in an army are called *capitanei*, *captains*; and in old French, *cheveteines*, *chieftains*, in respect of their foldiers.

ACCAPITUM, a sum of money paid to a vassal, upon his admission to a FEUD.

The word is also written *acapitum*, *acapitamentum*, *acaptio*, *acaptatio*, and *acaptagium*.

ACCAPITUM, in our ancient *Law-books*, signifies RELIEF due to the chief lord.

ACCARBAAR, in *Natural History*, the *GORGONIA Sappo* of Linnæus; and also the *ALCYONIUM arboreum* of the same author.

ACCARBAARIUM, the *GORGONIA Antipalbes* of Linnæus, or the *black CORAL* of other authors.

ACCARISI, Francis, in *Biography*, an ancient civilian in the 16th and 17th centuries, who was born at Ancona, and obtained celebrity as a professor of civil law in the university of Sienna. At first his lectures consisted of illustrations of Justinian's Institutes; they were afterwards extended to the pandects; and at length comprehended civil law in general. After having occupied the chair of law-professor at Sienna with high reputation for twenty years, and resisting many advantageous offers from other Italian universities, he was induced to accept the proposals of the duke of Parma, who, besides pecuniary recompence, tempted him with the title of his counsellor; and he removed to Parma. However, he was soon recalled by the Grand Duke of Tuscany, who assigned him the first professorship in law at Pisa. He died at Sienna in 1622. Gen. Dict.

ACCARON, in *Scripture Geography*, a town of Judea called *Eckron*, 1 Sam. vi. 17. vii. 14. and mentioned in Josephus, Ant. l. vi. c. 1. It was the boundary of Philistia to the north, not far from the sea, and from Bethshemesh, (Joh. xv. 11. 46.) and famous for the idol Baalzebub, who was worshipped here under the same attribute with ACHOR, the god of flies, from which, according to Bryant (*Mythology*, vol. i. p. 83.), this city derived its name. It was about thirty-four miles from Jerusalem. It first fell to the lot of Judah, and was afterwards given to the tribe of Dan. N. lat. 31° 55'. E. long. 34° 57'.

ACCAS Island, in *Geography*, lies off the mouth of Ancobar river, on the coast of Guinea, and extends so near the shore on each side as to render the channel very narrow.

ACCEDAS *ad Curiam*, in *Law*, an original writ, which lies for the removing suits in any court baron, except the county court, into the king's court; upon apprehension of partiality, or false judgment in the other.

A like writ lies for him who has received false judgment in the county court; where it is called *de falso judicio*.

An *Accedas ad Curiam* lies also for justice delayed, as well as falsely given; and is a species of the writ RECORDARI.

ACCEDAS *ad Vicecomitem*, is a writ directed to the coroner, commanding him to deliver a writ to the sheriff, who having a PONE delivered to him, suppresses it.

ACCELERANDO, in *Music*, is an Italian term for accelerating the time in the middle of a piece of music, as *ralentando* is for retarding it. This last is a fashionable effect lately introduced in the performance of music, and much abused by the excess and too frequent use of it. The gradual change of measure, when practised in the midst of a regular movement, seldom produces any other effect on common hearers than that of breaking time. Perhaps in a very pathetic and expressive passage, even in an allegro, when very delicately done from real feeling, the effect may be approved; but the imitators of the licences and retiments

ments of great masters disgrace the compositions which they mean to embellish, and disgust their hearers. Daring imitators of the bold modulation of Haydn, and of the rapid running up and down the keys in half notes, as Mozart did in his juvenile days, have deformed melody, and corrupted harmony. These great masters knew when to stop; but their apes think they never can season their productions too highly; and, it is to be feared, that the lovers of simplicity will never be indulged again with plain food, even by those who have no means of gratifying them with luxuries.

ACCELERATING Force, in *Mechanics*. See **FORCE**.

ACCELERATION, in *Mechanics*, the increase of velocity in a moving body.

Accelerated motion is that which continually receives fresh accessions of velocity, and is either equally or unequally accelerated. If the accessions of velocity be always equal in equal times, the motion is said to be equally or uniformly accelerated; but if the accessions in equal times either increase or decrease, the motion is unequally or variably accelerated. *Acceleration* stands directly opposed to retardation, which denotes a diminution of velocity.

ACCELERATION is chiefly used in *Physics*, in respect of falling bodies, i. e. of heavy bodies tending towards the centre of the earth by the force of **GRAVITY**.

That natural bodies are accelerated in their descent, is evident from various considerations, both *à priori* and *posteriori*.—Thus, we actually find that the greater height a body descends from, the greater impression it makes, and the more vehemently does it strike the plane or other obstacle on which it falls.

Various are the systems and opinions which philosophers have produced to account for this acceleration. Some attribute to it the pressure of the air: the farther, say they, a body falls, the greater load of atmosphere is consequently incumbent on it: and the pressure of a fluid is in proportion to the perpendicular altitude of the column thereof.—Add, that the whole body of the fluid pressing in innumerable right lines, which all meet in a point, viz. the centre of the earth; that point, by the meeting of those lines, sustains, as it were, the pressure of the whole mass: consequently, the nearer a body approaches to it, the effect or pressure of more united lines must it sustain.

But what overturns this account is, that as the pressure of the air downwards increases; so, by the known laws of statics, does the resistance, or the force wherewith the same fluid tends to repel, or drive the body upwards again. Others insist, that the incumbent air is the grosser and more vaporous, the nearer the earth; and filled with more heterogeneous particles, which are not true elastic air: and hence, say they, a descending body, meeting continually with less resistance from the elasticity of the air, and having the same force of gravity still acting on it, must necessarily be accelerated. Hobbes (*Philos. Probl. cap. i. p. 3.*) attributes acceleration to a new impression of the cause which makes bodies fall; which, on his principles, is also the air. As part of this mounts, part also must descend; for reasons drawn from the motion of the earth, which is compounded of two motions, one circular, the other progressive; consequently, the air descends, and circulates at once. As the body, in its fall, receives a new pressure in every point in its descent, its motion, he says, must needs be accelerated.

But what overturns all accounts where the air or atmosphere is concerned, is, that the acceleration holds *in vacuo*, and even more regularly than in air. See **VACUUM**.

The Peripatetic account is worse than this: the motion of heavy bodies downwards, say they, arises from an intrinsic

principle, which makes them tend to the centre, as their proper seat, or element, where they would be at rest: hence, add they, the nearer bodies approach to it, the more is their motion accelerated.

The Gassendians, on the other hand, hold that the earth emits a sort of attractive fluid, innumerable threads of which continually ascend and descend; which threads, proceeding like radii from a common centre, diverge the more the farther they go: so that the nearer a heavy body is to the centre, the more of these magnetic threads it receives; and hence the more is its motion accelerated. But this is refuted by an easy experiment: for if a ball be let fall out of the lowest window of a high tower, and also out of the highest, the acceleration will be very nearly the same in both cases, notwithstanding the greater vicinity to the centre in the one, than in the other case.

The Cartesians account for acceleration, from the repeated pulses of a subtile etherial matter, which is continually acting on the falling body, and impelling it downwards.

After all, the immediate cause of acceleration is not mysterious; the principle of **GRAVITATION** being once admitted, will determine the body to descend, and its motion will be accelerated by necessary consequence.

Suppose a body let fall from on high: the primary cause of its beginning to descend, is doubtless the power of gravity; but when once the descent is commenced, that state becomes in some measure natural to the body; so that if left to itself, it would persevere in it for ever, even though the action of the first cause should cease: as we see in a stone cast with the hand, which continues to move after it is left by the cause that gave it motion.

But, beside the propensity to descend, impressed by the first cause, and which of itself were sufficient to continue the same degree of motion once begun, *in infinitum*; there is a constant accession of subsequent efforts of the same principle, gravity, which continues to act on the body already in motion, in the same manner as if it were at rest. Here, then, being two causes of motion; and both acting in the same direction, the motion they jointly produce must necessarily be greater than that of any one of them.—And the velocity thus increased having the same cause of increase still persisting, the descent must of course be continually accelerated.

For, supposing gravity, whatever it be, to act uniformly on all bodies, at equal distances from the earth's centre; and that the time in which a heavy body falls to the earth be divided into equal parts indefinitely small: let this gravity incline the body towards the earth's centre, while it moves in the first indefinitely small part of the time of its descent; if after this, the action of gravity be supposed to cease, the body would proceed uniformly towards the earth's centre, with a velocity equal to that which results from the force of the first impression.

But now, since the action of gravity is here supposed still to continue; in the second moment of time, the body will receive a new impulse downwards, equal to what it received at first; and thus its velocity will be double of what it was in the first moment; in the third moment it will be triple; in the fourth quadruple, and so on continually: for the impression made in one moment, is not at all altered by what is made in another: but the two are, as it were, aggregated or brought into one sum.

Wherefore, since the particles of time are supposed indefinitely small, and all equal to one another; the velocity acquired by the falling body will be every where proportioned to the times from the beginning of the descent; and the velocity will be consequently proportional to the time in which it is acquired.

Thus

Thus, if a body, by means of this constant force, acquire a velocity of 12 feet in one second of time, it will acquire a velocity of 6 ft. in two seconds, of 9 ft. in three seconds; and all bodies, whatever be their quantity of matter, will acquire, by the force of gravity, the same velocity in the same time. For every equal particle of matter being endued with an equal impelling force, viz. its gravity or weight, the sum of all the forces, in any compound mass of matter, will be proportional to the sum of all the weights or quantities of matter to be moved; consequently, the forces and masses moved, being thus constantly increased in the same proportion, the velocities generated will be the same in all bodies, great or small: *i. e.* a double force moves a double mass of matter, with the same velocity that the single force moves the single mass, &c. or, the whole compound mass falls altogether with the same velocity, and in the same manner, as if its particles were not united, but as if each fell by itself, and all were separated from one another; and being put into motion at once, they would fall together, just as if they were united into one mass.

Galileo, who first discovered the above-mentioned law of the descent of falling bodies, illustrated it nearly in the following manner.

The space passed over by a moving body in a given time, and with a given velocity, may be considered as a rectangle made by the time and the velocity.—Suppose A (*Plate I. Mechanics, fig. 1.*) a heavy body descending, and let AB represent the time of its descent; which line we may suppose to be divided into any number of equal parts, AC, CE, EG, &c. representing the intervals, or moments of the given time.—Let the body descend through the first of those divisions, AC, with a certain equable velocity arising from the proposed degree of gravity: this velocity will be represented by AD; and the space passed over, by the rectangle CAD.

Now, as the action of gravity in the first moment produced the velocity AD, in the body before at rest; in the second moment, the same will produce, in the body so moving, a double velocity, CF; in the third moment, to the velocity CF will be added a farther degree, which together therewith will make the velocity EH, which is triple of the first, and so of the rest. So that in the whole time AB, the body will have acquired a velocity BK.—Again, taking the divisions of the line, *e. g.* AC, CE, &c. for the times, the spaces gone through will be the areas or rectangles CD, EF, &c. So that in the whole time AB, the space described by the moveable body, will be equal to all the rectangles, *i. e.* to the dented figure ABK.

Such would be the case, if the accessions of velocity only happened in certain given points of time, *e. g.* in C, in E, &c. so that the degree of motion should continue the same till the next period of acceleration occurs.—If the divisions or intervals of time were supposed less, *e. g.* by half; then the dentures of the figure would be proportionably smaller; and it would approach so much the nearer to a triangle.—If they were infinitely small, *i. e.* if the accessions of velocity were supposed to be made continually, and in every point of time, as is really the case; the rectangles thus successively produced will make an exact triangle, *e. g.* ABE (*fig. 2.*)—Here, the whole time AB consisting of the little portions of time A 1, 1 2, &c. and the area of the triangle ABE, of the sum of all the little triangular surfaces answering to the divisions of the time; the whole area or triangle expresses the space moved through in the whole time AB; and the little triangles A 1 f, &c. the spaces gone through in the divisions of time A 1, &c.

But these triangles being similar, their areas are to one another, as the squares of their homologous sides AB, A 1, &c. and consequently, the spaces moved are to each other as the squares of the times.

If the velocity were uniform, the space would be equal to the product of the velocity and time; *i. e.* by an obvious notation $S = V \times T$; but, in this case, the velocity increases from 0 till it becomes equal to V, and therefore the space described must be equal to half the above product; *i. e.* $S = \frac{1}{2} V \times T$, and $s = \frac{1}{2} v \times t$, and $S : s :: \frac{1}{2} V \times T : \frac{1}{2} v \times t :: VT : vt$. But $V : v :: T : t$, and $VT : vt :: T \times T : t \times t$; consequently $S : s :: T^2 : t^2$.

Hence we may easily infer the great law of acceleration, viz. "That a descending body uniformly accelerated, describes, in the whole time of its descent, a space which is just half of what it would have described in the same time, with the accelerated velocity it has acquired at the end of its fall." For, the whole space the falling body has moved through in the time AB, we have already shewn, will be represented by the triangle ABE; and the space the same body would move through in the same time with the velocity BE, will be represented by the rectangle ABEF.—But the triangle is known to be equal to just half the rectangle.—Therefore the space moved is just half of what the body would have moved with the velocity acquired at the end of the fall. Hence we infer, that the space moved with the last acquired velocity BE, in half the time AB, is equal to that really moved by the falling body in the whole time AB.

From the preceding principles and reasoning we deduce the following general laws of uniformly accelerated motions: viz.

1. That the velocities acquired are constantly proportional to the times.
2. That the spaces are proportional to the squares of the times; so that if a falling body describe any given length in a given time, in double that time it will describe four times that length, in thrice the time nine times the length, &c.; and universally, if the times be in arithmetical proportion, 1, 2, 3, 4, &c. the spaces described will be 1, 4, 9, 16, &c. Thus, a body, which falls by gravity through $16\frac{1}{2}$ feet in the first second of time, will fall through four times as much, or $64\frac{1}{2}$ feet in 2 seconds, &c. And since the velocities acquired in falling are as the times, the spaces will be as the squares of the velocities: and both the times and velocities will be in a subduplicate ratio, or as the square roots, of the spaces.

3. The spaces described by a falling body in a series of equal moments or intervals of time, will be as the odd numbers 1, 3, 5, 7, 9, &c. which are the differences of the squares or whole spaces, *i. e.* a body which has fallen through $16\frac{1}{2}$ feet in the first second, will fall in the next second through $48\frac{1}{2}$ feet, and in the third second through $80\frac{1}{2}$ feet, &c.

Retaining the above notation, $S : s :: T^2 : t^2$ or $V^2 : v^2$; and $V : v$ or $T : t :: \sqrt{S} : \sqrt{s}$ *i. e.* $S^{\frac{1}{2}} : s^{\frac{1}{2}}$; and the times will be reciprocally as the velocities, and directly as the spaces; for $S : s :: TV : tv$, and $Stv = sTV$; consequently $T : t :: Sv : sV$; or $T = \frac{S}{V}$. When the ac-

celerating forces are different, but constant, the spaces will be as the products of the forces into the squares of the times; and the times will be in the subduplicate ratio of the spaces directly, and of the forces inversely. For when the force is given, the velocity (V) is as the time (T); when the forces are different, but constant, and the time is given, the velocity (V) will be as the force (F). But when neither the force nor the time is given, the velocity (V) will be partly as the time and partly as the force, or as their product ($F \times T$). Thus, $V : v ::$

$F \times T : f \times t$, consequently $F \times T^2 : f \times t^2 :: VT : vt :: S : s$.

Therefore, $T^2 : t^2 :: \frac{S}{F} : \frac{s}{f}$, and $T : t :: \sqrt{\frac{S}{F}}$.

4. If a body fall through any space in any time, it acquires a velocity equal to double that space; *i. e.* in an equal time, with the last acquired velocity, uniformly continued, it would pass through double the space. Thus, if a body fall through $16 \frac{1}{2}$ feet in the first second of time, it will have acquired a velocity of $32 \frac{1}{2}$ with a second: *i. e.* if the body move uniformly for one second, with the velocity acquired, it will pass over $32 \frac{1}{2}$ feet in this second; and if in any time the body fall through 100 feet, then in another equal time, if it move uniformly with the velocity last acquired, it will pass over 200 feet, &c.

To those who disapprove of Galileo's demonstration of the laws of accelerated motion, the following method of illustrating and evincing them, may possibly be more satisfactory. Let the whole time of a body's free descent be divided into any number of parts, each of which is called 1; and let a denote the velocity acquired at the end of the first part of time; then $2a, 3a, 4a$, &c. will represent the velocities at the end of the 2d, 3d, 4th, &c. parts of time, because the velocities are as the times; and for the same reason, $\frac{1}{2}a, \frac{3}{2}a, \frac{5}{2}a$, &c. will be the velocities at the middle point of the 1st, 2d, 3d, &c. parts of time. But as the velocities increase uniformly, the space described in any one of these parts of time may be considered as uniformly described with the velocity in the middle of that part of time; and therefore, multiplying each of those mean velocities by their common time 1, we shall have the same fractions $\frac{1}{2}a, \frac{3}{2}a, \frac{5}{2}a$, &c. for the spaces passed over in the successive parts of the time; *i. e.* the space $\frac{1}{2}a$ in the first time, $\frac{3}{2}a$ in the second, $\frac{5}{2}a$ in the third; and adding these spaces successively to one another, we shall obtain $\frac{1}{2}a, \frac{4}{2}a, \frac{9}{2}a, \frac{16}{2}a$, &c. for the whole spaces described from the beginning of the motion to the end of the first, second, third, fourth, &c. portions of time, *viz.* $\frac{1}{2}a$ in one space of time, $\frac{4}{2}a$ in two spaces, $\frac{9}{2}a$ in three spaces, $\frac{16}{2}a$ in four, &c. and the spaces will be as the numbers 1, 4, 9, 16, &c. which are as the squares of the times.

From this mode of demonstration, all the properties above mentioned will evidently follow; such as, that the whole spaces, $\frac{1}{2}a, \frac{4}{2}a, \frac{9}{2}a$, are as the squares of the times 1, 2, 3, &c. and the separate spaces $\frac{1}{2}a, \frac{3}{2}a, \frac{5}{2}a$, &c. described in the successive times, are as the odd numbers 1, 3, 5, &c. And that the velocity a , acquired in any time 1, is double the space $\frac{1}{2}a$ described in the same time.

From the properties above demonstrated, we obtain the following practical theorems or formulæ for use. Let g denote the space passed over in the first second of time by a body urged by any constant force, denoted by 1, and t denote the time or number of seconds in which the body passes over any other space s , and v the velocity acquired at the end of that time: then we shall have $v = 2gt$, and $s = gt^2$; and from these two equations we obtain the following general formulæ: *viz.*

$$1. t = \frac{v}{2g} = \frac{2s}{v} = \sqrt{\frac{s}{g}}$$

$$2. v = 2gt = 2\sqrt{gs} = \frac{2s}{t}$$

$$3. s = gt^2 = \frac{v^2}{4g} = \frac{tv}{2}$$

$$4. g = \frac{s}{t^2} = \frac{v}{2t} = \frac{v^2}{4s}$$

Hence it appears, that when the constant force 1 is the natural force of gravity, then the distance s descended in the first second, in the latitude of London, is $16 \frac{1}{2}$ feet: but if it be any other constant force, the value of g will be different in proportion as the force is greater or less. See Hutton's Dict. Art. *Motion*, where two propositions are introduced, which we communicated to the author by Mr. Abram Robertson of Christ Church College, Oxford, in which the laws of accelerated motion are demonstrated in a manner somewhat different from that which is above given. See farther on this subject, *Laws of the Descent of Bodies*, and *Laws of Motion, uniformly accelerated and retarded*.

Having above illustrated the laws of accelerated motion, when the accelerating forces are constant, and deduced the formulæ for expressing them in finite determinate quantities, we shall now subjoin those that pertain to the cases of variably accelerated motions. Here the formulæ will be fluxionary expressions, the fluents of which, adapted to particular cases, will give the relations of time, space, velocity, &c. Let t denote the time of motion, v the velocity generated by any force, s the space passed over, and $2g$ the variable force at any part of the motion, or the velocity which the force would generate in one second of time, if it should continue invariably like the force of gravity during that one second, and the value of this velocity $2g$ will be in proportion to $32 \frac{1}{2}$ feet, as that variable force is to the force of gravity. Then, because the force may be supposed constant during the indefinitely small time t , and the spaces and velocities, in uniform motions, are proportional to the times, we shall have two fundamental proportions, *viz.* $v : s :: 1'' : t$, or $s = \dot{v} t$; and $2g : v :: 1'' : t$, or $v = 2g t$: from which are deduced the following formulæ, in which the value of each quantity is expressed in terms of the rest

$$1. t = \frac{s}{v} = \frac{\dot{v}}{2g}$$

$$2. v = 2g t = \frac{2gs}{v}$$

$$3. s = vt = \frac{v^2}{2g}$$

$$4. 2g = \frac{v}{t} = \frac{v^2}{s}$$

These theorems are equally applicable to the destruction of motion and velocity, by means of retarding forces, as to the generation of them by means of accelerating forces. Hutton's Dict. *ubi supra*. Parkinson's System of Mechanics, &c. p. 50.

The motion of a body ascending, or impelled upwards, is diminished or retarded from the same principle of gravity acting in a contrary direction, in the same manner as a falling body is accelerated. See RETARDATION.

A body, thus projected upwards, rises till it has lost all its motion; which it does in the same time that a falling body would have acquired a velocity equal to that with which the body was thrown up. Hence, the same body thrown up, will rise to the same height from which, if it fell, it would have acquired the velocity with which it was projected upwards. And hence the heights to which bodies thrown up with different velocities ascend, are to one another as the squares of those velocities.

ACCELERATION of bodies on inclined planes. The same general law obtains in this case, as in bodies falling perpendicularly; *viz.* that the velocities are as the times, and the spaces descended down the planes as the squares of the times or of the velocities. But the velocities are less, according

to the fur of the plane's inclination, and the spaces be according to the square of the time. See *Inclined Plane*.

ACCELERATION of the Motion of Pendulums. See *PENDULUM*.

ACCELERATION of the Motion of Projectiles. See *PROJECTILE*.

ACCELERATION of the Motion of Compressed Bodies, in expanding or relaxing themselves. See *COMPRESSION*, *DECOMPRESSION*, and *ELASTICITY*.

ACCELERATION, in *Astronomy*, is a term applied to the fixed stars. Thus, the diurnal acceleration is the time by which the stars, in one diurnal revolution, anticipate the mean diurnal revolution of the sun, which is $3^m 55^s \frac{2}{3}$ of mean time, or nearly 3 minutes 56 seconds; i. e. a star rises or sets, or passes the meridian, $3^m 56''$ sooner each day. This apparent acceleration of the stars is owing to the real retardation of the sun; and this depends upon his apparent motion towards the east, which is at the rate of about $59' 8'' \frac{1}{2}$ of a degree every day. In consequence of this, the star which passed the meridian at the same moment with the sun yesterday, is to-day about $59' 8''$ beyond the meridian to the west, when the sun arrives at it; and this distance it will require about $3^m 6''$ for him to pass over; and therefore the star will anticipate the motion of the sun at this rate every day. The true quantity of this anticipation or acceleration, is found by the following proportion, viz. $360^\circ : 59' 8'' \frac{1}{2} :: 24 \text{ hours} : 3^m 55^s \frac{2}{3}$, the acceleration required. This diurnal acceleration serves to regulate the lengths and vibrations of pendulums. If the pendulum marks e. g. $8^h 10^m$, when a fixed star sets or passes behind any intervening object to-day, and on the next day, the eye being in the same situation, the same appearance occur at $8^h 6^m 4''$ by the pendulum, it may be inferred that such a pendulum is truly regulated, or justly measures mean time. See *CLOCK*.

ACCELERATION of the moon, is a term used to express the increase of the moon's mean motion from the sun, compared with the diurnal motion of the earth; so that it is now a little swifter than it was formerly. Dr. Halley (*Phil. Transf.* No. 218) was the first who made this discovery; and he was led to it by comparing the ancient eclipses observed at Babylon with those observed by Albategnius in the ninth century, and some of his own time. He was not able to ascertain the quantity of this acceleration, because the longitudes of Bagdat, Alexandria, and Aleppo, where the observations were made, had not been accurately determined. But since his time, the longitude of Alexandria has been ascertained by Chazelles, and Babylon, according to Ptolemy's account, lies $50'$ east from Alexandria. From these data, Mr. Dunthorne (*Phil. Transf.* No. 492. abr. vol. x. p. 84. &c.) compared several ancient and modern eclipses, with the calculations of them by his own tables, and thus verified Dr. Halley's opinion: for he found, that the same tables represent the moon's place in the ancient eclipses behind her true place, and before it in later eclipses: and thence justly inferred, that her motion in ancient times was slower, but in later times quicker than the tables give it; and therefore, that it must have been accelerated. But he did not content himself with merely ascertaining the fact. He proceeded to determine the quantity of the acceleration; and by means of the most ancient eclipse of which any authentic account remains, observed at Babylon in the year before Christ 721, he concluded that the observed beginning of this eclipse was not above an hour and three quarters before the beginning by the tables; and therefore the moon's true place could pre-

cede her place by computation but little more than $50'$ of a degree at that time. Admitting the acceleration to be uniform, and the aggregate of it as the square of the time, it will be at the rate of about $10''$ in 100 years. M. de la Lande makes it $9''.886$. In Mayer's tables it is $9''$, beginning from 1700.

Dr. Long (*Astron.* vol. ii. p. 436.) attributes the acceleration above described to one or more of these causes: either, 1. the annual and diurnal motion of the earth continuing the same, the moon is really carried round the earth with a greater velocity than it was formerly; or, 2. the diurnal motion of the earth, and the periodical revolution of the moon continuing the same, the annual motion of the earth round the sun is a little retarded; which makes the sun's apparent motion in the ecliptic a little slower than it formerly was; and, consequently, the moon, in passing from any conjunction with the sun, spends less time before she again overtakes the sun, and forms a subsequent conjunction: in both these cases, the motion of the moon from the sun is really accelerated, and the synodical month actually shortened: or, 3. the annual motion of the earth, and the periodical revolution of the moon continuing the same, the rotation of the earth round its axis is a little retarded: in this case, days, hours, minutes, seconds, &c. by which all periods of time must be measured, are of a longer duration; and, consequently, the synodical month will appear to be shortened, though it really contain the same quantity of absolute time as it always did. If the quantity of matter in the body of the sun be lessened by the particles of light continually streaming from it, the motions of the earth round the sun may become slower; if the earth increases in bulk, the motion of the moon round the earth may be thus quickened. M. de la Place (*Mem. de l'Acad. Roy. des Scienc.* for 1786.) has evinced this acceleration of the moon's motion to arise from the action of the sun upon the moon, combined with the variation of the excentricity of the earth's orbit. By the present diminution of the excentricity, the moon's mean motion is accelerated; but, when the excentricity is arrived at its *minimum*, the acceleration will cease: after which, the excentricity will increase, and the moon's mean motion will be retarded. M. de Lambre found, by comparing the modern observations at about the distance of a century, that the secular mean motion of the moon in the last tables of Mayer was too great by $25''$; and that the place of the moon calculated by these tables ought to be corrected by the quantity $-25'' n + 2''$, $135 n^2 + 0''$, $0.4398 n^3$, n being the number of centuries from 1700. M. de la Lande, in his tables of the moon, has thus corrected Mayer's tables. Hence it appears, that the present acceleration of the moon is nothing more than an equation, the period of which is very long. It will be accelerated and retarded by the same quantity; and therefore, if the mean motion be taken for the whole time of acceleration or retardation, it will be found never to vary. Vince's *Astron.* vol. i. p. 206.

ACCELERATION in Music. See *ACCELERANDO*.

ACCELERATOIRES Urinæ, called by Winslow *Bulbo-cavernosi*, and by others *Urinæ stimulators* and *ejaculatores feminis*, in *Anatomy*, a pair of muscles whose office it is to expedite the discharge of the urine and of the semen. These muscles may be said to arise from just before the verge of the anus, where the sphincter ani terminates. They are spread over the bulb and a small portion of the corpus spongiosum urethræ; having that appearance, which anatomists have termed a doubly penniform muscle. From the anterior part of the muscle a fascicula of fibres proceeds on each side, by which the body of the penis is encircled.

When these muscles act, they generally contract in a sudden and convulsive manner, and by this means expel in jets the last portions of urine, or any other fluid which may be contained in the urethra.

ACCIDENTENTES, or **ACCENSORS**, in *Ecclesiastical writers*, a lower order of ministers in the church of Rome, whose office is to light, snuff, and trim the candles or tapers. **SPELMAN**.

The accidententes are much the same with those otherwise called *acolythi* and *cerosarii*.

ACCENDONES, or **ACCIDONES**, in *Roman Antiquity*, a kind of **GLADIATORS**, whose office was to excite and animate the combatants, during the engagement.

ACCENSI, in *Antiquity*, an inferior order of officers, appointed to attend the Roman magistrates, somewhat in the manner of ushers, sergeants, or tip-laves, among us. They were thus called from *accire*, to *find for*: one part of their office being to call assemblies of the people, summon parties to appear before the judges, &c.

ACCENSI also denote a kind of supernumerary soldiers in the Roman armies; whose office was to attend the motions of their principals, and supply the places of those who were killed or disabled by their wounds.

They were thus denominated *quia accensebantur*, or *ad censusum adjiciebantur*: Vegetius calls them *supernumerarii legionum*: Cato calls them *ferentarii*, because they furnished those engaged in battle with weapons, drink, &c. Though Nonnius suggests another reason of that appellation, viz. because they fought with stones, slings, and weapons, *quæ feruntur*, such as are thrown, not carried in the hand. They were sometimes also called *velites*, and *velati*, because they fought clothed, but not in armour; sometimes *adscripti* and *adscriptivi*; sometimes *rorarii*. The *accensi*, Livy observes, were placed in the rear of the army, because no great matter was expected from them: they were taken out of the fifth class of citizens. Festus in voc. *Ferentarii*. Salmas. de Re Milit. Rom. c. 15.

ACCENSI was also an appellation given to a kind of adjutants, appointed by the tribune to assist each centurion and decurion. In which sense, *accensus* is synonymous with *optio*.—In an ancient inscription, given by a Torre, we meet with **ACCENSUS EQUITUM ROMANORUM**; an office nowhere else heard of; that author suspects it for a corruption, and instead thereof reads **A CENSIBUS**. Act. Erud. Leipf. 1701. p. 259.

ACCENSION, **ACCENSIO**, in *Physics*, the act of kindling, or setting a body on fire.

The word is formed of the Latin *accendere*, to kindle; a compound of *ad*, to; and *candere*, to glow. Though some grammarians suspect the primitive signification of *accendere*, to have been, to render famous.

Accension, on other occasions, is called **INFLAMMATION**, **IGNITION**, **CONFLAGRATION**, &c.

Accension stands opposed to **EXTINCTION**.

Chemists furnish us with various instances of the *accension* of cold liquors by bare mixture: as of the acid spirits of minerals, and the essential oils of plants.

ACCENT, in its primitive sense, an affection of the voice, which gives each syllable in a word its due pitch, in respect of height or lowness.

The word is originally Latin, *accentus*, a compound of *ad*, to, and *canto*, to sing. In this sense, accent is synonymous with the Greek *τῶνος*, the Latin *tenor*, or *tonor*, and the Hebrew *גִּיטָה* *gustus*, *tafle*.

The accent, properly, only respects high and low, or acute and grave.—Though the modern grammarians use

it also in respect to loud and soft, long and short; but this confounds accent with quantity.

The difference between the two may be conceived from that which we observe between the beat of a drum, and the sound of a trumpet; the former expresses every thing belonging to loud and soft, and long and short; but to long as there is a monotony in the sound, there is nothing like accent.

The ingenious Mr. Harris (*Philological Inquiries*, p. 64.) compares quantity to musical tones differing in long and short, as upon whatever letter they stand; a tone descending from a minim; and accent to musical tones differing in high and low, as D upon the clef, and a descender from G upon the first, whether its length be the same, or it be long; or short.

ACCENT is also used in *Grammar* for a character placed over a syllable, to mark the accent, i. e. to show that it is to be pronounced in a higher or a lower tone, and to regulate the inflexions of the voice in reading or in speaking. It is distinguished from emphasis, as the former regards the tone of the voice, the latter the strength of it. For other distinctions between accent and emphasis, see **EMPHASIS**.

It has been long disputed among the learned, whether accents were originally musical characters, or marks of **PROSODY**: it is not easy to determine a question concerning which the arguments on both sides are so numerous. But as music, says Dr. Burney, (*Hist. of Music*, vol. i. p. 13.) had characters different from accents so early as the time of Terpander, to whom the invention is ascribed by the Oxford marbles, which place this event about 670 years before Christ; and as accents for prosody are likewise proved to be of high antiquity, there seems to have been no necessity for the antients to use the one for the other. Mr. Weit (*Pindar*, vol. ii. p. 194, 12mo.) maintains, that accents were originally musical notes, set over words, to direct the several tones and inflexions of the voice requisite to give the whole sentence its proper harmony and cadence. The names of the Greek accents, he says, express their musical origin, and correspond exactly to those terms made use of in our modern music; viz. sharp, flat, and a grave, called the *turn*, and consisting, like the circumflex, of a sharp and a flat note. The Abbé du Bos (*Reflex. Crit.* c. iii. p. 85.) asserts, that as poets originally set their own verses, they placed for this purpose a figure, or accent, over each syllable. The learned author of "The Origin and Progress of Language," has also taken pains to prove that the Greek accents were musical notes, invented and accommodated to raise, depress, and suspend the voice, according to a scale of musical proportions.

We reckon three grammatical accents in ordinary use all borrowed from the Greeks, viz. the *acute*, *grave*, and *circumflex*.

The *acute accent* shows when the tone of the voice is to be raised and sharpened. In modern writings it is a small line, or virgula, placed over the vowel, a little sloping or inclined in its descent from right to left, as ('). It is not ordinarily used either in English or Latin: the French indeed retain it; but it is only to mark the close or masculine. The *grave accent* is used when the note or tone of the voice is to be depressed and flattened; and is figured thus (").

The *circumflex accent* is composed of both the acute and grave; it points out a kind of undulation of the voice, which is first raised and sharpened, and then depressed and flattened; or it is an acute tone dying away into a grave, and consequently lengthening the syllable. It is expressed thus (ˆ) or (˘). Upon a nearer consideration of the sub-

jest says a learned writer, "On the Proficiency of the Greek and Latin Language." It appears, that the acute accent, which is a sharp dash of the voice upon some one syllable of the word, is in itself the only positive tone. The grave consists merely in a negation of this acuteness, and is not marked except it be upon the last syllable of certain words; but as to be understood upon every syllable of the word, which carries neither the acute nor circumflex: and it seems to amount to no more than this, that what grammarians call the grave tone, consists in a mere negation of acuteness, and of circumflexion, if that be different from acuteness. Accordingly, the general doctrine of accents is, that, with the exception of fourteen monosyllables in the Greek language, which carry no accent, unless it be in particular circumstances, and for that reason are called *anacatactici*, or *anacatactici*, some one syllable of every word, and one syllable only, bears an accent, either acute or circumflex.

If it be true, that the whole system of pronunciation depends upon three accents, it is no less true, that each of these three admits of several degrees. The acute accent, for instance, may be either higher or lower; may be simply acute, or very acute: and the like holds of the grave and circumflex. So, that each of the three common accents is, as it were, a genus including various particular species; though the ancient Grammarians have not thought fit to annex particular names and figures to all these differences. Vander. Hardt. Arcan. Accent. Græc. 1715, 12mo.

Mr. Sheridan, in his Lectures on Elocution, p. 38, observes, that the meaning of the term accent, among the ancients, was very different from what it is with us. They distinguished accents by certain inflexions of the voice like musical notes; but the manner in which they did it must remain for ever a secret to us; for, with the living tongue perished the tones also, which we in vain endeavour to explore in their visible marks. With us, the term accent denotes a peculiar mode of distinguishing one syllable from the rest; and this distinction is made in various ways: either by dwelling longer upon one syllable than upon the rest, or by giving it a smarter percussive of the voice in utterance. Of the first of these we have instances in the words *glôry*, *fâther*, *hôly*: of the last in *bâttle*, *hâbit*, *bôrrow*. So that accent, with us, is not referred to tune, but to time; to quantity, not quality; to the mere equable or precipitate motion of the voice, not to the variation of notes or inflexions. He proceeds to observe, that the quantity depends upon the seat of the accent, whether it be on the vowel or consonant: if on the vowel, the syllable is necessarily long, as it makes the vowel long; if on the consonant, it may be either long or short, according to the nature of the consonant, or the time taken up in dwelling upon it. By changing the seat of the accent in the instances above specified, we should change their quantity: if, instead of *glôry* we should say *glor'y*, instead of *fâther*, *fat'her*, instead of *hôly*, *hol'y*, the first syllables would become short: and, on the other hand, if we were to dwell on the vowels instead of the consonants in the last instances, they would be changed from short to long, as *bâttle* for *bat'tle*, *hâbit*, for *hab'it*, and *bôrrow*, for *bor'row*. This, he says, is one of the chief sources of the difference between the Scotch and English gentlemen in the pronunciation of English: *i. e.* laying the accent on the vowel instead of the consonant, so as to make syllables long that are short with us. He adds, it is an unerring rule, that whenever the accent is on the consonant, the preceding vowel has a short sound; and there is another inflexible rule in our tongue, that no vowel ever has a long sound in an unaccented syllable; and therefore, if the

accent were properly adjusted, it would prove a master-key to the pronunciation of our whole tongue. In another place, (Art. of Reading, vol. ii.) Mr. Sheridan says, that when the seat of the accent is on a vowel, the syllable is long: when on a consonant, short; and that all unaccented syllables are short.

But the use of accent in our language is not confined to quantity alone. It is also the chief mark by which words are distinguished from mere syllables. The essence of a word, says this author, consists in accent as well as articulation. The Greeks also distinguished words from mere syllables by a certain tone or note annexed to each word, which made their speech more musical or pleasing to the ear, than that of any other nation in the world. These tones they learned from their infancy, and they used them with such accuracy, that even the vulgar among the Athenians would have hissed an actor or actress from the stage, and an orator from the pulpit, on account of a few mistakes in the enunciation of these notes. The wonderful effects of the harangues of the Greek orators on the enraptured minds of their hearers were owing, in a considerable degree, to those artificial musical tones, by which their syllables were so happily diversified. To this purpose consult Dionysius Hal. de Compositione Verborum, apud Oper. tom. ii. p. 17. &c. Ed. Oxon. 1704. This harmony of utterance is not studied by any of the moderns, except the Chinese. Words are also distinguished from syllables by making a perceptible *PAUSE* at the end of each word. Mr. Sheridan is of opinion, that the most evident and precise as well as the most easy and certain mode of distinction, is that of accent; and that it would contribute most effectually both to utility and to ornament.

As to public speakers, who can pronounce English properly, the only rule necessary to be observed by them is to lay the accent always on the same syllable, and the same letter of the syllable, which they usually do in common discourse, and to take care not to lay any accent or stress upon any other syllables. Such persons should recollect, that, in the English language, every word which consists of more syllables than one, has one accented syllable; and that there is seldom or never more than one such syllable in any English word, however long. See PRONUNCIATION.

In the English language there is a remarkable peculiarity of throwing the accent farther back; that is, nearer the beginning of the word than is done by any other nation. In Greek and Latin no word is accented farther back than the third syllable from the end, or what is called the antepenult. But, in English, we have many words accented on the fourth, some on the fifth, syllable from the end, as *memorable*, *convenience*, *ambulatory*, &c. The general effect of this practice of hastening the accent, or placing it so near the beginning of a word, is to give a brisk and spirited, but at the same time a rapid and hurried, and not very musical, tone to the whole pronunciation of a people.

The Hebrews have a grammatical, a rhetorical, and a musical accent: though the first and last seem, in effect, to be the same; both being comprised under the general name of *tonic accents*, because they give the proper tone to syllables: as the rhetorical accents are said to be *euphonic*, inasmuch as they tend to make the pronunciation more sweet and agreeable.

There are four euphonic accents, and twenty-five tonic: however, authors are not agreed as to the number of either class. Of these, some are placed above, and others below the syllables: the Hebrew accents serving not only to regulate the risings and fallings of the voice, but also to distinguish

tinguish the sections, periods, and members of periods, in a discourse; and to answer the same purposes with the points in other languages. Their accents are divided into emperors, kings, dukes, &c. each bearing a title answerable to the importance of the distinction it makes.—Their emperor rules over a whole phrase, and terminates the sense completely; answering to our full point.—Their king corresponds to our colon; and the duke to our comma. The king, however, occasionally becomes a duke, and the duke a king, as the phrases are more or less short.—It must be noted, by the way, that the management and combination of these accents differ in Hebrew poetry from what they are in prose.

The use of the tonic or grammatical accents has been much controverted; some holding that they distinguish the sense, while others maintain that they are only intended to regulate the music or singing; alleging, that the Jews sing, rather than read, the scriptures in their synagogues. The truth seems here to lie between the two opinions: for though we incline to think, that the primary intention of these accents was to direct the singing; yet, the singing seems to have been regulated according to the sense; so that the accents might serve not only to guide the singing, but also to point out the distinctions.—Though it must be confessed, that many of these distinctions are too subtle and inconsiderable; nor can the modern writers, nor the editors of old ones, agree in opinion on this subject: some of them making twice as many of these distinctions as others. The Hebrew accents have, indeed, something common with those of the Greeks and Latins; and something peculiar to themselves. What they have in common is, that they mark the tone; showing how the voice is to be raised and sunk, in certain syllables. What they have peculiar is, that they perform the office of the points in other languages. The six following are of this latter kind, viz. SYLLUK, ATHNACH, REBBIANG, SEGOLTA, ZAKEPH-KACON, and ZAKEPH-GADHOL. To which we might also add, TIPHTHA and SARKA, on account of their occasional application to the same purpose. It is certain the ancient Hebrews were not acquainted with these accents; so that, at best, they are not *jure divino*.—The opinion which prevails among the learned is, that they were invented by the Jewish doctors of the school of Tiberias, called the MASORITES. The learned Hennin affirms them to be of Arabic invention; and to have been adopted and transferred thence into the Hebrew by the Masorites, especially by the celebrated Rabbi Ben Ascher; and it is said they were introduced on occasion of the emperor Justinian's prohibiting the reading of their traditions in their synagogues, or about the middle of the sixth century. However, the revival of the sacred writings by Rabbi Ascher on the part of the Western Jews, and by Rabbi Nephthali on that of the Eastern Jews, was solely employed about the accents and POINTS: and these two Rabbis lived, according to some writers in the 11th century, and according to others about the year 940. See Maselef's Heb. Gram. vol. ii. p. 24. Hennin adds, that they were first brought to their degree of perfection by Rabbi Judah Ben David Chiug, a native of Fez, in the 11th century. It is indeed possible the Jews might borrow their points from the Arabs; but how they should have their accents from them it is not easy to conceive, since the Arabic language has no such thing as accents, either in prose or verse.

The introduction of accents by the Masorites has been the source of great difficulty in learning the Hebrew language, and of equal confusion and error in the interpretation of it. Few of them have now any known use, except that of distinguishing periods. Biblical interpreters are disagreed concerning the position, necessity, and utility of them. The

doctrine of Hebrew accents, has occasioned much dispute amongst learned critics. See Buxtorf's Tiberias, and Everard Vander Haeght's Pref. to the Bible of Antwerp.

As to the Greek accents, now found both in manuscripts and printed books, there has been no less dispute about their antiquity and use, than about the use of those of the Hebrews. On the subject of this dispute we may observe, in general with a learned writer, Bishop Lowth, (Prelim. Diff. to his Isaiah, p. 10.) that there were certain laws of Hebrew metre is very probable, and that the living Greek language was modulated by certain rules of accent, in your dispute; but a man born deaf may as reasonably pretend to acquire an idea of sound, as the critic of these days to attain to the true modulation of Greek by accent, and of Hebrew by metre. To which we may add, that though the ancient Greeks had no accentual marks, they learned those modifications of voice by practice from their infancy; and in pronunciation they are so observed to this day.

Isaac Vossius, in a treatise "*De Accentibus Græcorum*," endeavours to prove that they are of modern invention, and that anciently they had nothing of this kind; but only a few notes in their poetry, which were invented by ARISTOPHANES the Grammarian, about the time of Ptolemy Philopater; and that these were of musical, rather than of grammatical use, serving as aids in the singing of their poems; and very different from those which were afterwards introduced. This appears from inscriptions as well as manuscripts, none of which, till 170 years after Christ, have either accent, spirit, apostrophus, or *iota* subscribed. He adds, that Aristarchus, a disciple of Aristophanes, improved on his master's art; but that the whole of what they both did was only designed to assist youth in the more readily making of verses. The same Vossius shows from several ancient Grammarians, that the manner of writing the Greek accents in those days was quite different from such as are now used in our books. It is alleged by others, that accentual marks, which, they say, were invented by Aristophanes, were not in common use till about the seventh century; at which time they were found in MSS. Amongst those who totally reject the accents, on the supposition that they would confound the quantity, as it is determined by the rules of poetry; we may mention Bern. Seidenberg Spelman, Ger. Jo. Vossius (*De Arte Gram.* l. ii. p. 174), and Salmassius in Epist. ad Sarracum.

Hen. Christ. Hennin thinks, (see his *Ελληνισμος ορθοδος*, seu *Dissertatio de Accenti in Græca Linguam non esse pronuntiandam secundum Accentus*, 1664.) that accents were the invention of the Arabians so late as the eighth century, and that they were only used in poetry; that they were intended to ascertain the pronunciation of the Greek, and to keep out that barbarous, which was then breaking in upon them; that the ancient accents of Aristophanes were perfectly agreeable to the genuine Greek pronunciation, but that the modern ones of the Arabs destroy it. Wetstein, *Greek professor at Bonn*, in a learned Dissertation, endeavours to prove the Greek accents to be of an older standing; and that the Greeks, long before the birth of Christ, regulated their pronunciation by accents, very much like those that are now in use. He says, that they were not always observed in the same manner by the ancients; but thinks that difference owing to the different pronunciation which obtained in the three parts of Greece; and he adds, that accents were not used except in the kind of grammar, which is used in teaching the children of the Greeks. He is not, however, a reasoner for the most accurate, or even the most judicious; so that, though they were wholly in equal length, dependent from each other,

other, without any distinction of words or phrases: so that without accents they could scarcely be intelligible; and that accents were necessary to distinguish ambiguous words, and to point out their proper meaning; and this sentiment he confirms from a dispute on a passage in Homer, mentioned by Aristotle in his *Poetics*, ch. x. Accordingly he observes, that the *Synæresis*, viz. *longæ* tools, but no distinctive accents, have yet invented certain points, placed either above or below the words, to shew their mood, tense, person, or sense. See farther, in his *Dictionario Epitologica de Accentuum* *Grecorum Antiquitate et Utu*. Basil. 1686.

Montfaucon, (*Pal. Chrest.* p. 33) after observing that Aristophanes of Byzantium invented prosody, or accents, adds, that the Greek language was not, before his age, totally destitute of accents and aspirates, because, without these, no language can be pronounced; but, that he directed the regulation of them, invented the marks and forms by which they were to be expressed, and the place in which they were to be introduced. The same sentiments are likewise maintained by Dr. Foster, in his ("Essay on the different Nature of Accent and Quantity. Eton. 1763. ed. 2d.") who explodes the notion that the Greek accent teaches the quantity of pronunciation; and who maintains, with many others, that it is a musical note. Professor Gesner, in a dissertation "*De Accentuum genuina Pronuntiatione*," printed in 1755, has laboured to remove the principal objections against the antiquity of accents, viz. that they do not coincide with the prosody of the Greeks; and are, therefore, to be considered as a modern corruption of the Greek language. His opinion amounts to this, that the accents do not at all determine which syllable is to be pronounced longest; that the accent e.g. of *ἀνδρῶν*, being placed on the first syllable, does not oblige us to pronounce the word as a dactyl; that, as the Greeks spoke more musically than we, they pronounced some syllables more distinctly than others; that they raised their tone and dropped it; and that the elevation and fall of the tone were determined by the accents. See Monboddo's *Origin and Progress of Language*, vol. ii. b. 2. passim. Mr. Marsh, the learned translator of Michaelis's *Introduction to the New Testament*, informs us (vol. ii. p. 892) that Eugenius, a Greek priest and archbishop of Cherson, in reading Greek, distinctly marked by his pronunciation both accent and quantity, lengthening the sound without raising the tone of his voice, when he pronounced a long syllable, which had not an acute accent, and raising the tone of his voice without lengthening the sound, when he pronounced a short syllable which had an acute accent; in the same manner as in music, where the highest note in a bar is frequently the shortest. Hence he infers, that the opinion advanced by Prof. Gesner and Dr. Foster, is not merely theoretical, but confirmed by actual experience. An example of this kind, however, is very rare: because the modern Greeks, in general, pronounce according to accent alone. In England the Greek accents are rejected; and quantity alone, as it is generally supposed, is regarded in pronunciation. But Mr. Marsh observes, that we still pronounce Greek according to accent, though according to rules different from those which are followed by the Greeks themselves. In reading Greek we observe the same rules with regard to the position of the tone, as in reading Latin; and here we do not regulate the tone of the voice merely by the length of the syllables. e.g. *Virtūs*, *prāvūs*, *filūs*, *hōnūs*, are pronounced in the same manner, though they differ in quantity: and *crīmīnīs*, *pātūlīs*, *hōmīnīs*, *lūcidīs*, are pronounced alike, though they vary in quantity. We are therefore directed in placing the accent, or raising the tone of the voice, by some principle

distinct from that of quantity. The rule for placing the accent in Latin words, which has been laid down by Latin grammarians, is the following. In Latin dissyllables the accent is always on the first syllable, whether it be long or short. In polysyllables the accent is on the penultimate, if it be long; but, if it be short, the accent is on the antepenultimate, whether this be long or short. See Diomedes de *Accentibus*, l. ii. p. 426, printed in the *Grammaticæ Latinæ Auctores Antiqui. Op. et Stud. Helæ Putschii*, Hærov. 1695, 4to. See also Quinilian Inst. l. i. c. v. p. 59, Ed. Burman. According to this rule, there is only one case in which accent and quantity must coincide, and that is in polysyllables, which have the penultimate long; but, in polysyllables which have the penultimate short, and in all dissyllables, it is merely accidental, whether accent and quantity coincide or not. This disagreement constitutes the harmony of Latin verse, which would be intolerable if accent and quantity always coincided; as any one will find, who makes an hexameter consisting of six words, of which the first five are dactyls: whereas, those verses are the most harmonious, in which the number of words, where accent and quantity disagree, is equal to the number of those in which they coincide. In the first line of Virgil's *Bucolics*, which is a very harmonious verse, accent and quantity coincide in *Tityre* and *tegmine*, but disagree in *recubans* and *patula*.

The Greeks adopted a very different principle from the Latins in determining the syllable which was to be elevated in speaking; for in *ἀνδρῶν* they raised the antepenultimate, in *ἀνδρῶν* they shortened the penultimate. Thus Diomedes (ubi supra, l. iii. p. 425.) observes, that the acute accent of the Greeks occupied three places, the ultimate, penultimate, and antepenultimate; but amongst the Latins only two places, viz. the penult and antepenult. Since we then, in order to avoid a method attended with some difficulty, regulate the tone of the voice in Greek as we do in Latin, it follows that we read Greek, neither according to Greek accent, nor Greek quantity; but according to the rules of the Latin accentuation. The whole difficulty of the Greek accents, say Messrs. Port Royal, consists in two points; the first, in knowing the quantity of the penultimate and ultimate, and the second, in knowing on what syllable the words should have their elevation by nature; because, even supposing the same quantity, the elevation may not be the same, which never happens among the Latins. This is a difficult and embarrassing business, for which grammarians have given a number of rules and a greater number of exceptions. See Port Roy. Gr. Gram. vol. ii. p. 291, &c.

The best advocates for accents have not contended, that the ancient Greeks used them in common books, much less in letters, but only in their schools; and Michaelis apprehends that they do not occur in any copies of the New Testament still extant, which are antecedent to the 8th century, and but seldom in those which are more modern. He adds, they were not written by the Apostles; but were probably first added by Euthalius in the year 458. See Wetstein's *Prolegomena*, p. 73. His translator, however, has discovered both accents and marks of aspiration in several MSS. which he mentions; particularly the Vatican and the Clarendon. The Alexandrian, Cambridge, and four other MSS. are without accents. Marsh's Transl. of Michaelis's *Introduct.* vol. ii. p. 894. In a treatise de *Rhythmo Græcorum*, not long since published, and ascribed to a learned Prelate of the English church, the author controverts the opinion, *aliam esse in solata oratione scanfione rhythmicam, aliam in metris*, in opposition to Faber, Dacier, Pearce, Clarke, and others. Another learned writer, supposed to be Bishop Horsey, in

his "Essay on the Profodies of the Greek and Latin languages," maintains, that the marks of the accents were introduced in the writing of the Greek language some time before the commencement of the Christian era, and that they exhibit the true speaking tones of the language; such as were used by the Greeks themselves, when it was a living language, spoken in its purity. This writer ably refutes the system of Mr. Primatt, who (in his "Accentus Redivivus," published in 1764,) is an advocate for the antiquity of the accents, and who defends the accented pronunciation of Greek prose; whilst he agrees with the opposers of the Greek accents, that they are not calculated to regulate the recitation of verse. According to Mr. P. verse and prose were pronounced, by the ancient Greeks, by two different rules: the one, by the rule of the Latin accent, which he, as well as most others who disuse the Greek accents, consider as an universal rule of quantity, or metrical recitation: the other, by the proper accents of the Greek language. He is thus reduced to the necessity of adopting the indefensible hypothesis, that it is the nature of the acute accent to lengthen the syllable on which it falls, and yet, with evident inconsistency, he admits, that, in music, length of sound and acuteness of tone are not always united. The learned prelate, just mentioned, condemns the rule, which has been sanctioned by some of the classical scholars of our two universities, that we are to read by accent in prose and quantity in verse; and he observes, that it is not very probable, that any people should have had two pronunciations essentially different, one for prose, and another for verse. He equally condemns the position, that prose as well as verse in Greek must be read by quantity, that is, as he says, by the Latin accent, and thinking that the Greek accentual marks express, as we have already said, the true speaking tones of the language, he proposes rules of recitation, on the supposition that tone was not always laid on connected words, where the accentual marks appear; whose position, however, was not changed, to prevent the confusion which would follow from making the position of the written mark different in connected from what it is in isolated words; and he censures the printing of books unaccented. He also maintains, that, though in placing accent, regard is had to quantity, *euphonia gratia*, and though it may therefore be a symptom of quantity, it is never a cause of it, and never creates it; and he calls the opinion of Mr. Primatt and others, that the acute accent lengthens the tone of the syllable on which it falls, a common prejudice. In order to prevent *accent* from interfering with quantity, he proposes to transpose it: as in the line, Μῆνιν ἄειδε θεὰ Πηληϊάδεω Ἀχιλῆϊ, the word Ἀχιλῆϊ must be pronounced Ἀχιλῆι.

An ingenious writer, viz. Mr. A. Browne, in his observations upon Greek accents, published in the Irish Transactions, vol. vii. p. 359, &c. professes, that he never could assent to a position so contradictory to the testimony of his ear, as that of the acute accent not lengthening the syllable on which it falls; and that his mind was much impressed by an observation of Mr. Primatt, that it is one of the extraordinary powers of the acute accent, even to change the real quantity, and also with his assertion, that the opinion of Mess. De Port Royal, viz. that the accent only raises the voice without giving any duration in pronouncing, is erroneous. Nevertheless, he is disposed to acquiesce in the sentiment, that the accents denote only tone, or elevation and depression of the voice. This writer, conceiving it of importance to ascertain the pronunciation of the modern Greeks, and their mode of using the accents, made some attempts for this purpose. The importance of this inquiry is obvious, because the Greek is at this day a living lan-

guage; whereas the Latin has in this respect been extinct for 1200 years.

The result of his inquiry, after conversing with some modern Greeks, was, that they have not two pronunciations for prose and verse, and that in both they read by accent. But they make accent the cause of quantity, so as to govern and control it; and they make the syllable tone on which the acute accent falls, and they allow the acute accent to change the real quantity. Thus *ποσειδάων* (short, and ἀχλὺς (long, with a marked attention to the situation of the accent with the variety of the voice. Instead of *ποσειδάων* they said *ποσειδών*, and for *ἀχλὺς* they pronounced *Σοφία*. He was assured by them, that verse as well as prose was read by accent, and not by quantity, and they exemplified their mode of reading by reciting several lines of Homer. Our author concludes, upon the whole, that the ancient Greeks as well as the modern read both verse and prose by accent, and that they allowed the accents to control and alter the quantity. Dauber, Pearce, and Clarke admit, that they read prose by accent, not by quantity; and the learned Prelates, to whose opinion and writings we have referred, contend that they could not have had a different mode of reading prose and verse.

To these two propositions Mr. B. accedes, and the combination of them confirms his opinion. He dissents, however, from the inferences deduced from them by their advocates, viz. that verse is not to be read by accent, as the first mentioned gentlemen maintain, or as the Prelates affirm, that, though it is, its quantity is not thereby affected. Our author adds, that the modern Greeks use for accents the word *ὀξεία*, thus confirming the opinion, that there is properly no accent but the acute, the grave being the negation of accent; and that the word *προσῳδία* in the ancient Greek language, is the term used for accents; which word, when translated into Latin, is *accentus* or *adcantus*, implying elevation of voice, or a kind of song, *superadded* or *raised* in the common tone of the voice, and cannot be applied to the grave, which is the negation of any departure from the usual level. He is of opinion, that the circumstance which has been mentioned as the peculiarity of the English, viz. that we always prolong the sound of the syllable in which the acute accent falls, is true with regard to every nation upon earth. It is true of the modern Italians and modern Greeks. In the English language, quantity is not affected, because quantity and accent always agree. The case is the same, as Sir William Jones has shewn, among the Persians; and he observes, with respect to its position, that the Persians, like the French, usually accent the last syllable of the word. We shall here add a remark, though not immediately connected with the subject of this article, suggested to Mr. B. by his conversation with the modern Greeks, that we are much mistaken in our idea of the supposed lofty sound of *ποσειδάων* *θαλάσσης*; as the Borderers on the coast of the Archipelago take their ideas from the gentle laving of the shore by a summer wave, and not from the roaring of a winter ocean; and they accordingly pronounced it *Polyphlivo Thalasses*.

On the subject of Greek accents we may refer to the Port Royal Gr. Gram. vol. ii. p. 288, &c. Labbei Regule Accentuum, Paris 1692. Lamberti Bos Regule Accentuum 1733. Morell's Thesaurus Græcæ Poeseos, an edition of which was printed at Venice in 1767. Franklin de Tonis. Foster, ubi supra. Primatt, &c. &c.

The use of accents to prevent ambiguities is most remarkably perceived in some eastern languages, particularly the Siamese and Chinese. The Chinese only reckon four accents; for which the missionaries use the following marks

a, á, à, â, to which they have added a fifth, thus *æ*. They consider a kind of modulation, so that by prolonging the duration of the sound of the vowel, they vary the tone, raising or falling it by a certain pitch of voice; and then calling it a sort of *note* or *flang*. The same sound *æ*, according to the accent affixed to it, signifies *God*, a *dark* *æ*, *the* *æ*, and a *gay* *æ*. If they deviate ever so little from the accent, they say quite a contrary thing to what was intended. Thus, not to compliment the person with whom you are conversing with the title of Sir, you call him a *beast* with the same word, by merely a slight variation of the tone. Spizel. de Re. Liter. Sinenf. p. 106. Buffon. Du d. Litt. Sinenf. p. 388. Le Compte, Nouv. Mem. sur la Chine, tom. i. p. 270.

The Siamois are also observed to sing rather than talk. Their alphabet begins with six characters, all only equivalent to K, but differently accented. For though in the pronunciation the accents are naturally on the vowels, yet they have time to diversify such of their consonants as are in other respects the same. De la Loubiere du Royaume de Siam, tom. ii. § 8.

As minutely as the accents of words have been studied, those of sentences seem to have been utterly overlooked; yet it may be observed, that all mankind lower the voice at the end of a period, and elevate it in interrogations, and the like. See Bacon de Augm. Scien. l. vi. c. 1. Elem. Crit. vol. ii.

ACCENT is applied, not very properly, to the characters which mark the quantities of syllables, or the time during which the voice is to dwell upon them. The spurious accents answer to the characters of time in music, as crotchets, quavers, &c. The genuine accents rather answer to the musical notes, sol, fa, &c. Such are the long accent, which shews that the voice is to stop on the vowel, and is expressed thus, (ˉ): and the short accent, which shews that the time of pronunciation ought to be shorter, and is marked thus (˘). Some even rank the hyphen, diastole and apostrophe, among accents.

ACCENT also denotes a certain inflexion of the voice; or a peculiar tone, and manner of pronunciation, contracted from the country, or province, where a person was bred. In this sense, we say, the Welsh tone or accent, the Northern accent, the Gascoign accent, Norman accent, &c. See PRONUNCIATION.

ACCENT is also a tone or modulation of the voice, frequently used as a mark of the intention of the speaker, and giving a good or evil signification to his words. One may give offence with the softest and most soothing words imaginable, by a proper management of the accent and manner of pronouncing them. The accent frequently gives a contrary sense to that which the words themselves naturally imported.

ACCENT, in Music. In the mechanism of melody, or measured musical tones, musicians have long agreed to regard the *first* and *third* notes of a bar, in common time, whether vocal or instrumental, as accented, and the *second* and *fourth* notes as unaccented. In triple time, divided into three portions, the *first* note and *last* are accented, the *second* unaccented. But these accents are variously modified; often to produce some comic effect, as wantonly limping to ridicule lameness. If the *third* note in triple time is accented in serious music, it is always less forcibly marked than the *first*. In the speech or elocution of the natives of every country, and almost in every province of a country, there is a peculiar tone or tune, by which nice observers discover the residence of the speaker. A native of Scotland, *e. g.* however carefully educated, and accurate his

pronunciation, has a cantilena, a tone of voice, by which an Englishman discovers his country. The language that is the most forcibly and frequently accented, is indisputably the best fitted to receive musical tones. When it was said in a conversation with Metastasio on the subject of languages, that the Italian was the best calculated for music of any dialect in Europe, he cried out "*e majore flupa*," it is music itself. Another Italian (Eximeno) observed, that the conversation of a Roman matron, *valutarie*, is equal to an air. In setting songs, the structure of the verse regulates the musical accents; and instrumental music is but a succedaneum to vocal. It may be said, therefore, that no music, even for instruments, is so generally pleasing as that which can be sung. The genius of instruments, and abilities of performers, require more notes to display their powers, than a human voice can, with propriety, attempt to execute. In very rapid divisions, ascending or descending the scale in notes of equal length, no regard is had to accents; and, though the execution may be neat and articulate, an Italian, fond of simplicity, would say of it, as of a snake misapplied; *non dice niente*, it says nothing. Without accent there is no more melody in song, than in the humming of a bee; and without the regular arrangement of long and short syllables, there can be no versification. There are as many different accents in music as in speech, or modes of enforcing or enfeebling the meaning of words. There is a *yes* that says *no*, and a *no* that says *yes*. There are accents of spirit and accents of violence, of tenderness and of friendship. The voice of a feeling finger can modulate all these shades, or affect the hearer on the side of intellect as well as of sense. Dionysius Halicarn. regards accent as the source of all music. Accents is a poetical name for verse itself.

"Wings on your wings to heav'n her accents bear
Such words as heav'n alone is fit to hear."

Passions and affections are the food of vocal music. Dryden's Virgil, part. iii.

"Give to the musician (says Rousseau) as many images and sentiments to express as possible; for the passions sing, the understanding only speaks."

"Accent, according to Holder (Elements of Speech), as in the Greek names and usage, seems to have regarded the tune of the voice; the acute accent raising it in some certain syllables to a higher, *i. e.* more acute pitch, or tone, and the grave depressing it lower, and both having some emphasis, *i. e.* more vigorous pronunciation." See ACCENT in Grammar.

The variety of instrumental expression produced by the different manner of using the same passage or groupe of notes on the violin and violoncello, on the flute by the *coup de langue*, on the hautboy by the pressure of the lip, is beyond calculation. Articulation, emphasis, pointed bowing, flurring, tonguing, &c. are all technical terms, which will be severally explained, as connected with accent.

ACCENT, in Poetry. See REST and VERSIFICATION.

ACCEPTANCE, the act of receiving or admitting.

Acceptance, among *Civilians*, is the concurrence of the will, or choice of the donee, which renders the act complete; and without which the donor may revoke his gift at pleasure.

In beneficiary matters, the canonists hold, that the acceptance should be signed at the same time with the resignation, not *ex intervallo*.

ACCEPTANCE, in *Common Law*, denotes a tacit agreement to a preceding act, which might have been defeated and avoided were it not for such acceptance.—If a man and his wife, seized of land in the right of the wife, make a joint lease, or scoffment by deed, reserving rent; the man dying,

dying, and the wife receiving the rent; such receipt is deemed an acceptance, and shall make the lease good: so that she shall be barred from bringing the writ, *Cui in vita*.

So if a lessee for the term of twenty years, accept a lease of the same land for ten years: by the lessee's acceptance of the new lease, the term of twenty years is determined in law. 2 Roll. Abr. 469.

ACCEPTANCE, in *Commerce*, is particularly used in respect of bills of exchange.—To *accept a Bill of exchange*, is to sign or subscribe it; and thereby become principal debtor of the sum contained therein: with an obligation to pay or discharge it at the time prefixed.

The acceptance is usually performed by him on whom the **BILL** is drawn; upon its being presented to him by the person on whose behalf it was drawn, or by some others by his order.

A small matter amounts to an acceptance, so that there be a right understanding between both parties; as, "Leave your bill with me, and I will accept it;" or, "call for it to-morrow, and it shall be accepted." This obliges as effectually by the custom of merchants, and according to law, as if the party had actually subscribed, or signed it, which is usually done.

But should a man say, "Leave your bill with me; I will look over my accounts and books between the drawer and me, and call to-morrow, and accordingly the bill shall be accepted." This shall not amount to a complete acceptance; for this mention of his books and accounts was really intended to give him an opportunity of examining if there were effects in his hands to answer; without which perhaps he would not accept the same; and so it was ruled by the Lord Chief Justice Hale, at Guildhall, London.

A bill may be accepted for part; because the party, upon whom the same was drawn, had no more effects in his hands; which being usually done, there must be a protest, if not for the whole sum, yet at least for the residue; however, after payment of such part there must be a protest for the remainder.

Bills payable at sight are not to be accepted; as being to be acquitted at their presenting; or in defect of payment, to be protested.—In bills drawn for a certain number of days after sight, the acceptance must be dated; because the time is to be accounted therefrom.—The form of this acceptance is *accepted such a day*; and then the signature.

Bills drawn, payable on a day named, or at **USANCE**, or double usance, need not be dated; usance being reckoned from the date of the bill itself.—On these it is sufficient to write, *accepted*, and the signature.

If the bearer of a bill be contented with an acceptance to be paid in twenty days after sight, where, in the bill itself, only eight days are expressed, he runs the risque of the twelve additional days: so that if the acceptor fail he has no remedy against the drawer. And if the bearer contents himself to receive a less sum than is expressed, in part, he is to stand the chance of the rest.

ACCEPTATION, in *Grammar*, the SIGNIFICATION of a word; or the sense wherein it is taken and received.

ACCEPTILATION, in the *Civil Law*, an acquittance given without receiving any money, or a declaration of the creditor in favour of the debtor, signifying, that he is satisfied for his debt, and forgives all farther claim, or demand; though in reality no payment has been made.

ACCEPTOR of a bill of exchange, the person who accepts the bill. See **ACCEPTANCE**.

ACCESS, in a general sense, signifies the approach of a thing towards another.

In which sense, access stands opposed to *recess*.

We sometimes say, the access of light, the access of the moon, the sun, planets, &c. but more properly, the approach of bodies, the approach of the moon, the approach of the sun, &c. Geometrists speak of a line called the curve of equal access, or APPROACH.

ACCESS, in a more particular sense, denotes entrance, or admission.

We say such a person has access to the prince: the access on that side was very difficult, by reason of rocks, &c.

ACCESUS, in *Medicine*, denotes a fit, or return of some periodical disease.

We say an access of the gout, but especially of an ague, an intermitting fever, an epilepsy, &c. an access of madness; sometimes also a prophetic access, a cold access, &c. Access is frequently confounded with paroxysm: but they are different things; an access being frequently the beginning or first onset of a disease, a **PAROXYSM** the height of it.

ACCESSIBLE, something that may be approached, or to which we may have access.

Such a place, a fortress, is accessible from the seaward; *i. e.* the passage to it is practicable. See **FORTIFICATION**.

In surveying, it is such a place as will admit of having a distance measured from it; or such a height or depth as can be measured by a proper instrument: for the means of doing which, see **ALTIMETRY**, **ALTITUDE**, **DISTANCE**, **HEIGHT**, and **LONGIMETRY**.

ACCESSION, in a general sense, is the act of approaching or going to a place, person, or thing. It is more particularly used for the act whereby a thing is joined, or united to something that existed before.

ACCESSION, in *Politics*, is used for the act of engaging and becoming a party, in a treaty before concluded between other powers; on the same conditions as if originally comprehended in the treaty itself: such as the accession of the States General to the treaty of Hanover, of the Czarina to the treaty of Vienna, &c. It likewise signifies a prince's succeeding to the government upon the death of his predecessor.

ACCESSION, in the language of the *Conclave*, is a method of electing a pope, by procuring for some candidate two-thirds of the voices, upon which the rest are enrolled by way of accession.

ACCESSION, in the *Civil Law*, denotes a method of acquiring property in certain things, by virtue of their connection with other things, which already belong to us.

Accession is effected divers ways, whence arise several species of it, simple and mixed, natural and artificial, discrete and concrete accession. See **ALLUVION** and **SPECIFICATION**.

ACCESSION, in *Medicine*. See **ACCESS**.

ACCESSORIUS Flexor digitorum pedis, in *Anatomy*, a name given by Dr. Hunter to that portion of muscle which was described by Sylvius, and generally distinguished by the title of *Massa carnea Sylvii*.

ACCESSORII musculi ad sacro-lumbarem. See **SACRO-LUMBARIS**.

ACCESSORY, or **ACCESSARY**, something that accedes, or is added to another more considerable thing: in which sense the word stands opposed to **PRINCIPAL**.

ACCESSORY, in *Grammar*, is used by Mr. Harris to denote such words as are significant by relation in opposition to principal, which is applicable to words that are significant of themselves. See **WORD**.

ACCESSORY, or *Accessory*, in *Common Law*, is chiefly used for a person guilty of a felonious offence, not principally, but by participation; as, by advice, command, or concealment.

There are two kinds of accessories; *before* the fact, and *after* it.—The first is he who commands, or procures another to commit felony, and is not present himself; for if he be present, he is a principal.

The *second* is he who receives, assists, or comforts any man that has done murder, or felony, whereof he has knowledge. A man may also be accessory to an accessory, by aiding, receiving, &c. an accessory in felony.

An accessory in felony shall have judgment of life and member, as well as the principal, who did the felony, but not till the principal be first attainted, and convicted, or outlawed thereon.—Where the principal is pardoned without attainder, the accessory cannot be arraigned; it being a maxim in law, *Ubi non est principalis, non potest esse accessorius*. But if the principal be pardoned, or have his clergy after attainder, the accessory shall be arraigned. 4 & 5 W. & M. cap. 4. And by stat. 1 Anne, cap. 9. it is enacted, that where the principal is convicted of felony, or stands mute, or challenges above twenty of the jury, it shall be lawful to proceed against the accessory in the same manner as if the principal had been attainted; and notwithstanding such principal shall be admitted to his clergy, pardoned, or delivered before attainder. In some cases also, if the principal cannot be taken, then the accessory may be prosecuted for a misdemeanor, and punished by fine, imprisonment, &c. Stat. ibid. See Stat. 5 Anne, cap. 31. In the lowest and highest offences there are no accessories, but all are principals: as in riots, routs, forcible entries, and other trespasses, which are the lowest offences.—So also in the highest offence, which is, according to our law, high treason, there are no accessories. Cok. Littlet. 71.

Accessories, in petty treason, murder, and in felonies of several kinds, are not to have their clergy.—There can be no accessory before the fact in manslaughter; because that is sudden and unpremeditated.

ACCESSORY *by statute*, is such a one as abets, advises, aids, or receives one that commits an offence, which is made felony by statute.

ACCESSORY *nerves*, ACCESSORIUS *Willisii*, or *Par Accessorium*, in *Anatomy*, a pair of nerves, which, arising by several filaments from the medulla spinalis of the neck, and having advanced to the first vertebra, where each of them is fixed to the posterior side of the ganglion of the nervus suboccipitalis, or tenth pair, ascend through the great foramen of the os occipitis into the cranium; and communicating with the 9th and 10th, pass out again close to the 8th pair. Afterwards turning backward, and perforating the musculus sterno-mastoideus, they terminate in the trapezius, having first distributed some branches to the rhomboides. Physiologists have been at a loss to account for the singular origin and course of these nerves. The ancients considered them as branches of the 8th pair. Willis also considered them as appendages to that pair, and called them *accessorii*. They are sometimes called the *spinal* pair, but as this denomination comprehends the nerves of the spine indiscriminately, Willis's name is more appropriate, and therefore it has been generally preferred. See *Origin and Course of the Nerves*.

ACCESSORY, among *Painters*, an epithet given to such parts of a *HISTORY* piece, as serve chiefly for ornament, and might have been wholly left out: such as *vases*, *armor*, &c.

ACCHO, in *Geography*, a port called by the Greeks *PTOLEMAIS*, and now *ACRE*.

ACCI, in *Ancient Geography*, a town in the confines of *Bætica*, supposed to be *GUADIX*, in the province of *Granada*, in Spain. It was also called *Colonia Accitana*, and its

inhabitants were denominated *Gardenienses*, and the colony *Colonia*, because it was formed from two legions, viz. the third and the sixth.

ACCIACATURA, in *Music*, is a term, as it should seem, by the little success of those who have attempted it, difficult to be defined by words, or to be exemplified in notes. It is putting down with any interval the half note below it, and instantly taking off (as if it were red hot) the finger which has struck the lowest of the two notes, continuing the sound of the other note, till the harmony is changed. An organist never puts down a single flow note on his instrument without touching, at the same time, the semi-tone below, and sometimes keeping it on, or making a beat with the forefinger, while the thumb remains firm on the principal sound. The term acciacatura, though uncommon, is not new; as it occurs in "l'Armonico Pratico" of the eminent opera composer Francesco Gasparini, the master of *Dominico Scarlatti*, and of the celebrated singer *la Faustina*: this tract, which is in fact a treatise on accompaniment, was first published at Venice in 1703. The technical term *acciacatura* is derived from *acciacare*, to *bruise*, *crush*, or *jam down*. Gasparini compares it to the hasty bite of an insect, that instantly flies away. See pl. i. No. 1. *Music*; some examples from the 5th edition of this excellent little tract, printed in 1764.

ACCIAIOLI, DONATUS, in *Biography*, a learned Florentine of the 15th century, was born in 1428, and distinguished by the honourable employments which were assigned him in his native country, and by the probity and disinterestedness of his character. He published commentaries on the ethics and politics of Aristotle, which he collected from the lectures of Argyropolus the Byzantine, and translations of the lives of Alcibiades and Demetrius from Plutarch, to which were added those of Hannibal and Scipio, and of Aretino's twelve books of the history of Florence, printed at Venice in 1476. He also wrote an Abridgment of the Life of Charlemagne, and some other Treatises. Having been sent to France by the Florentines to sue for succour from Louis XI. against Pope Sixtus IV. he died on his journey at Milan, in 1473; but his body was carried to Florence, and buried in the church of the Carthusians. His daughters, like those of Aristides, were married, and portioned at the public expence, as an acknowledgment of his services. His funeral eulogium was pronounced by Christopher Landini, and an elegant epitaph by Politian, was inscribed on his monument. Gen. Dict.

ACCIAIOLI, Zenobio, a learned Dominican, of the same family with the former, continued to enjoy the office of library-keeper to Pope Leo X. from the year 1518, to his death in 1520, as some say, in 1537 according to others, at the age of 58. He learned Greek and Hebrew towards the close of his life, translated several of the fathers, and wrote several orations and poems, sermons on the Epiphany, and some other pieces. He likewise collected a volume of Politian's Greek epigrams, which were published in 1495. Bayle.

ACCIAIOLI, Angelo, cardinal, legate, and archbishop of Florence, died in 1407. He preserved the Florentines in their obedience to the pontiff Urban VI. when attempts were made to seduce them in favour of Clement VII. He wrote a work, with a view of healing schism, which then rent the church.

ACCIAIOLI, Renatus, descended from a noble family of Florence, achieved the conquest of Athens, Corinth, and a part of Bæotia, at the beginning of the 15th century. Having no male issue by Euboia, his wife, he bequeathed Athens

Athens to the Venetians, Corinth to Theodosius Paleologus, who had married his eldest daughter; and he gave Boeotia to Anthony, his natural son, who also made himself master of Athens; but it was taken from his successors in 1455, by Mahomet II.

ACCIDENCE, *ACCIDENTIA*, a name chiefly used for a little book, containing the first elements, or rudiments of the Latin tongue.

ACCIDENS, in *Philosophy*. See **ACCIDENT**.

Per ACCIDENS, is frequently used among philosophers to denote what does not follow from the nature of a thing, but from some accidental qualities thereof, in which sense it stands opposed to *per se*, which denotes the nature and essence of a thing.

Thus fire is said to burn *per se*, or considered as fire, and not *per accidens*; but a piece of iron, though red hot, only burns *per accidens*, by a quality *accidental* to it, and not considered as iron.

ACCIDENT, in the *popular* sense of the word, signifies a **CONTINGENT** effect, or something produced casually, and without any foreknowledge or design in the agent that produced it.

ACCIDENT, in *Grammar*, denotes a property attached to a word, without entering into its essential definition. Thus every word, whatever be its signification, will be primitive, derivative, simple or compound, which are the accidents of words. Besides, each particular species of words has its accidents: e. g. those of the noun substantive are gender, declension, and number, and the adjective has another accident, *viz.* comparison.

ACCIDENT, in *Heraldry*, is an additional note or mark in a coat-armour, not necessarily belonging to it; but capable either of being retained, or omitted, without altering the essence of the armour. Such are **ABATEMENTS**, **DIFFERENCES**, and **TINCTURE**. Edmonson observes, that accidents of arms, though frequently mentioned by authors, can have no meaning in blazonry.

ACCIDENT, in *Logic*, something additional, or super-added, to a **SUBSTANCE**; or not essentially belonging to it, but capable, indifferently, either of being or not being in it, without its destruction. The schoolmen distinguish three kinds of accidents, *verbal*, *predicable*, and *predicamental*. *Verbal accident* stands opposed to essence; and in this sense the adjuncts to a thing, though substances themselves, are denominated its accidents. Thus a man's cloaths which are not essential, but adventitious or accessory to his person, are accidents. *Predicable accident* is used in opposition to *proper*.—Such is any common quality; as whiteness, heat, or the like. These are called in the schools, *predicable accidents*, because usually laid down and explained in the doctrine of predicables. They may either be taken in the **ABSTRACT**, as whiteness, learning; or in the **CONCRETE**, as white, learned. If taken in the *abstract*, as is done by Porphyry, the accident is defined as above, that which may either be present, or absent, without the destruction of its subject. If it be taken in the *concrete*, accident is usually defined by the schoolmen, to be something capable of being predicated contingently, of many, in respect of quality.—As learning, which may probably be predicated of you, him, &c. *Predicamental accident* is a mode or modification of some creating substance, inhering or depending thereon, so as not to be capable of subsisting without the same. In this sense, accident is opposed to substance.—Whence, as substance is defined a thing that subsists in itself, and the *substratum* of accidents; so an accident is said to be that *cujus esse est inesse*: and therefore Aristotle, who usually calls sub-

stances simply *esse*, entities, beings; commonly calls accidents, *esse inesse*, entities of entity; requiring some substance wherein to reside, as their subject of adhesion. So that accident has an immediate and essential dependence on its substance; both as to its production, its continuation, and its effects; it arises or is deduced from its subject, is produced or fulfilled by it; and cannot be affected by what alters, or affects, the subject. The old schoolmen, however, will not have accidents to be mere modes of matter, but entities really distinct from it: and, in some cases, separable from all matter.—But the notion of real accidents, and qualities, is now exploded. Aristotle and the Peripateticks had some kind of classes of *predicamental accidents*; others reduced them into a less number. The term *abject accident* is used in the Romish theology for a predicamental accident, which subsists, or may possibly subsist, at least occasionally, and by some supernatural power, without a subject.

Such, they contend, were the accidents of the bread and wine in the eucharist, e. g. the colour, flavour, figure, &c. thereof, which remain after the substances they belonged to are changed into other substances, of flesh.

The Cartesians universally combat the notion of absolute accidents; it being their doctrine, that the essence of matter consists in extension; and that accidents are only modifications thereof, in no wise distinct from it; an accident therefore without a subject must be a contradiction.—And hence Cartesianism is branded as contrary to the Roman catholic faith.

Various expedients have been invented by the Cartesians, to account for transubstantiation, &c. without the hypothesis of absolute accidents.—Some hold that the usual impressions are made on the sense by the immediate agency of God; and without any thing remaining of the former nature. Others ascribe the whole to heterogeneous matter contained in the pores of the bread, &c. which remaining unaltered by the transubstantiation, produces the same sensations as the bread produced.

ACCIDENT, among *Physicians*, is sometimes used for what is more generally called **SYMPTOM**.

ACCIDENTS, in *Astrology*, denote the most extraordinary occurrences in the course of a person's life: such are a remarkable instance of good success, a signal deliverance, a dangerous sickness, &c.

ACCIDENTAL, in a *general* sense, signifies something that partakes of the nature of an accident; or, what is not essential to its subject, but is indifferent. Thus, whiteness is accidental to marble; and sensible heat to iron.

ACCIDENTAL, in *Philosophy*, is applied to that effect, which proceeds from a cause occurring by **ACCIDENT**, without being subject, according to appearance, to general laws or regular returns. In this sense, accidental is opposed to constant and principal. Thus, the sun's less or greater distance from the earth is the constant and chief cause of the heat in summer, and cold in winter; whereas winds, snow or rain are accidental causes, which often alter and modify the action of the principal cause.

ACCIDENTAL colours, so called by M. Buffon, are those which depend upon the affections of the eye, in contradistinction to such as belong to the light itself. The impressions made upon the eye by looking steadfastly on objects of a particular colour are various, according to the single colour, or assemblage of colours, in the object; and they continue for some time after the eye is withdrawn, and give a false colouring to other objects which are viewed during their continuance. M. Buffon has endeavoured to trace the connection which these accidental colours have with those

that are natural, in a variety of instances. The subject has likewise been considered by M. de la Haze, and M. Eijmus; and M. d'Arcy has conceived a machine for measuring the duration of the above-mentioned impressions on the eye; and he entered in the result of several trials, that the effect of the action of light on the eye continued about eight thirds of a minute. See *Acc.* Part. 1743, and 1765. Nov. Com. Petrop. vol. 10. And for an abstract, Priestley's *Hist. &c. of Discoveries relating to Vision, &c.* p. 631.

ACCIDENTAL POINT, in *Perspective*, for point in the horizontal line, in which, a right line drawn from the eye, parallel to another right line, intersects the picture or perspective plane. This is also the accidental point of all other lines parallel to the original line, since the same line drawn from the eye is parallel to them all; and the representation of all these parallels, when produced, concur in the accidental point. See **PERSPECTIVE**.

ACCIDENTAL DISPOSITIONS and AFFECTIONS, in *Astrology*, are certain casual dispositions and affections of the planets, whereby they are supposed to be either strengthened or weakened, by their being in such a house of the figure.

ACCIDENTAL, in *Music*, is an epithet added to such sharps, flats, and naturals, as occur not at the clef, and which imply some change of key or modulation different from that in which the piece began. In the key of C natural, for instance, an accidental C[♯], implies the key of D minor; a D[♯], the key of E; an F[♯], that of G major; and g[♯], the key of A minor. In like manner a flat placed before B, implies the key of F major, or D minor, &c.

ACCIPENSER, in *Icthyology*. See **ACIPENSER**.

ACCIPESIIUS, a name given by Athenæus and others of the Greek writers to the **STURGEON**, called by others *Cnifera*.

ACCIPITER, a name given by Gallius and some others to the fish, called by others the *milvus* and *lucerna*. It is a species of **TRIGLA** in the systems of Artedi and Linnæus.

ACCIPITRES, or RAPACIOUS BIRDS, in the Linnæan system of *Ornithology*, the first order of birds; the characters of which are, that the bill bends downwards, that the upper mandible is dilated a little on both sides towards the point, or armed with a tooth-like process, and that the nostrils are wide; the legs are short and strong: the feet are of the perching kind, having three toes forwards and one backwards; the toes are warty under the joints, with claws hooked and sharp at the points. The body, head and neck are muscular, and the skin very tough. The birds of this order subsist by preying on other animals, and on dead carcases, and they are unfit for food. They live in pairs, and are monogamous; and build their nests in lofty situations. The female is generally larger and stronger than the male, and usually lays four eggs at a time. This order corresponds to that of **FLAMÆ** and comprehends four genera, viz. **VULTUR**, **FALCO**, **STRIX**, and **LANIUS**. Mr. Latham has removed this last genus to the order of **PICÆ**.

ACCIPITRINA, in *Botany*, a name by which some authors have expressed the hawkweed, and others, the flaxweed or *sophia chinensis*. See **ELIERACIUM** and **STYMBIDIUM**.

ACCISMIUS, denotes a signed refusal of something which a person earnestly desires. The word *accisus* is supposed to be derived from *acca*, the name of a foolish old woman, famous in antiquity for an affectation of this kind.

Accismus is sometimes considered as a virtue, sometimes as a vice, which Augustus and Tiberius practised with great success. Cromwell's refusal of the crown of England may

be brought as an instance of an *accismus*. In *rhetoric*, the term is used for a species of irony.

ACCIUS, *Lucius*, in *Biography*, a Latin tragic poet, who, according to St. Jerome, was born in the year of Rome, 583, B.C. 170. Several of his tragedies were founded on the most celebrated stories which had been represented on the Athenian stage, as *Andromache*, *Andromeda*, *Atreus*, *Clytemnestra*, *Medea*, *Meleager*, *Philoctetes*, the civil wars of Thebes, &c. He also composed one dramatic piece entirely Roman, called *Brutus*, which related to the expulsion of the Tarquins. Some say that he wrote comedies; and the *Wedding* and the *Merchant* are ascribed to him. See *Vossius de Poet. Latin.* p. 7. Besides his dramatic writings, he left other works, particularly his *Annals*, mentioned by *Macrobius*, *Priscian*, *Festus*, and *Nonius Marcellus*. He was much applauded by *Decimus Brutus*, who was consul in the year of Rome 615, for the verses which he wrote in his praise; and he was so much esteemed by the public, that a comedian was punished for only mentioning his name on the stage. However, he has been censured by some for the harshness of his style, though he was generally allowed to be a very considerable poet. The particular character of Accius seems to have been that of vigour and sublimity. *Horace* styles him *altus*, *elevated*, and *Ovid*, *animosus*, *spirited*: the latter applies the epithet *atrox*, *cruel*, to his works, which is thought to refer to the subjects of them, or the great catastrophes treated of by the Greek Dramatists. *Cicero* (*De Clar. Orat.* apud *Oper.* tom. i. p. 395, Ed. *Genev.*) speaks with derision of one Accius, who had written history: and some have supposed that, as Accius had written *Annals*, he refers to him; but this is not probable, as *Cicero* himself, *Horace*, *Quintilian*, *Ovid* and *Paterculus* have expressed themselves in terms of distinguished applause of the Accius, that is the subject of this article.

There was also another Accius, or *Atius*, called *Pisauriensis* from *Pisaurium*, the place of his nativity, who was esteemed a good orator, against whom *Cicero* defended *Aulus Cluentius*. See *Cicero de Clar. Orat.* § 78, apud *Op.* tom. i. p. 473. *Orat. pro Cluent.* apud *Op.* tom. v. p. 57, &c. *Valerius Maximus* mentions a poet of this name, who was accustomed not to rise when *Julius Cæsar* entered the assembly of the poets, as he reckoned himself, in that place, his superior. *Gen. Dict.*

ACCIUS, *Zucchus*, an Italian poet of the 16th century, who is said to be the author of Italian sonnets by way of paraphrase on the fables of *Æsop*, on which *Julius Scaliger* bestows great commendation.

ACCLAMATION, a confused noise, or shout of joy, by which the public express their applause, esteem, or approbation of any thing.

Acclamation, in a more proper sense, denotes a certain formula of words, uttered with extraordinary vehemence, and in a peculiar tone, somewhat resembling a song frequent in the ancient assemblies.

Acclamations were usually accompanied with applauses, with which they are sometimes confounded, though they ought to be distinguished; as acclamation was given by the voice, applause by the hands; besides, acclamation was also bestowed on persons absent, applause only on those present. Acclamation was also given by women, whereas applause seems to have been confined to men.

Acclamations are of various kinds; *ecclesiastical*, *military*, *nuptial*, *funeral*, *synodical*, *scholastic*, *theatrical*, &c.

Bishops, and other ecclesiastical officers, were elected by the acclamations of the people. We meet with loud acclamations, musical and rhythmical acclamations, acclamations

of joy and respect, and even of reproach and contumely. The former, wherein words of happy omen were used, were also called *laudationes* & *bona vota*, or good wishes: the latter, *exsecrationes* & *consilia*. Of this latter kind of acclamation Suetonius has given an instance, (Opus. vol. ii. p. 1056, Ed. Pitisc.) on occasion of the decree for demolishing the statues of Domitian, when the senate rejoiced, and uttered very bitter and contumelious acclamations against the deceased. The formula used for this purpose of acclamation was repeated several times, so that we find in Roman writers, *acclamatum est quinque et viginti*, i. e. five and twenty times; and, on some occasions, much more frequently. The emperor Claudius suppressed those insolent acclamations, which custom had introduced into the senate, and becoming the gravity of that respectable body. But that custom, founded on flattery, prevailed again in succeeding times; and historians have given us such instances as fully justify Claudius's contempt of it.

The acclamations of the theatres, which were at first confused and tumultuous shouts, became in process of time a kind of regular concerts. Nero contributed very much to this improvement of them. When this emperor played in the theatre, a signal was given by clapping; upon which 5000 soldiers, called *Augustiani*, began to chant his praise, which the spectators were obliged to repeat. This business was conducted by a music-master, called Mefochorus, or Pausarius. The servile band was divided into chorusses, who practised a kind of measure in their applauses, and modulated their noise in different ways: the chief of each chorus had a salary of 40,000 sesterces.

The honour of acclamations was chiefly appropriated to emperors. On them it was bestowed to the most extravagant excesses. The talk of applause was not abandoned to the rude and spontaneous voices of the croud. Persons of all factions and parties vied with each other on this occasion; and after conflicts which had shaken the capitol, insensibly sunk into the emulation of servitude. From either side they echoed in responsive melody the praises of the emperor; their poets and musicians directed the choir, and long life and victory were the burthen of every song. The same acclamations were performed at the audience, the banquet, and the church; and they were repeated in all languages by the mercenaries, who sustained the real and fictitious character of the nations in whose respective languages they were pronounced. Constantini Porphyrogenitus has reduced this science of form and flattery into a pompous and trifling volume, which, says Mr. Gibbon, the vanity of succeeding times might enrich with an ample supplement. But this writer very justly observes, that the calmer reflection of a prince would surely suggest, that the same acclamations were applied to every character, and every reign; and if he had risen from a private rank, he might remember that his own voice had been the loudest and most eager in applause, at the very moment when he envied the fortune, or conspired against the life of his predecessor. Decl. and Fall of the Rom. Emp. vol. x. p. 128. 8vo. In proof of this it may be remarked, that the acclamations of the populace were conferred on the stupid Vitellius, and the cruel Nero, as well as on Trajan, who merited the title of *optimus*. In the latter instance, however, they were received with lively feelings of satisfaction and delight, to which the former were utter strangers. His subjects were frequently heard to exclaim in his presence, "Happy citizens! Happy emperor! Long may he lead this great and virtuous life! Long may he hear our ardent wishes for him!" At which tender expressions Trajan blushed, and shed tears of joy; for he was sensible, it was to himself, and not to his fortune, that

they were applied; and the senate, after obtaining the prince's leave with great difficulty, ordered such acclamations to be inscribed on places of public resort, that they might be a permanent monument and motive of emulation for succeeding emperors, and a lesson to teach them to distinguish between flattery and the language of the heart.

The honour of acclamations was not wholly restricted to emperors. It was also conferred on their children and favourites, and on the magistrates who presided at the games. With the exception of instances of such kind, the practice of shouting did not exist, as in the case of the Gauls and the Romans of the Quirinal. The custom of shouting at a man was, *ἐπὶ τῷ ἀνδρὶ βοῆς ἐγένετο*, i. e. there was a shout, and that shout was not confined to the circus, were not excluded from this honour.

The Greeks were accustomed to practise acclamation on extraordinary occasions, as well as the Romans. Plutarch mentions an acclamation so loud, in consequence of Flaminius's restoring liberty to Greece, that the birds fell from the sky with the shout.

The Turks observe a similar ceremony on the sight of their Emperors and Grand Viziers to this day; and the practice of saluting kings, conquerors, and distinguished persons, with some form of acclamation, is very general in all ages.

Authors and poets, who recited their works in public, were always anxious to obtain this honour; and their admirers endeavoured to render it in the most solemn and respectful manner. Sometimes presents enforced the invitations that were designed for convening numerous assemblies for this purpose. The acclamations, like those of the theatre, were attended with music, and they were adapted to the person, and to the subject; so that philosophers, orators, historians, and poets were differently distinguished. One of the most usual forms was *σφαις, sfais*, repeated three times; but Martial comprehends other customary forms in the following verse:

"*Graviter, cito, n'quies, Euge, Boate.*"

Acclamations made also a part of the ceremony of marriage.

Acclamations, which were at first practised in the theatre, and which passed from hence into the senate, and other departments of civil society, were, in process of time, received into the acts of councils, and the ordinary assemblies of the church. Chrysostom reproved, and checked acclamations of this kind; but Augustine received them very willingly. Sermons were applauded with the hands and feet, by leaping up and down, and exclaiming "orthodox," and by shaking the loose garments, moving volumes, and waving handkerchiefs. See Lardner's works, vol. iii. p. 81. But their principal use has always been at the solemn entries of princes and heroes; where they are usually attended with good wishes, prayers, vows, &c. Antiquity has transmitted to us several forms of acclamation, some of which we have already recited. The Hebrews used to cry, "Hosanna;" the Greeks, "*Ἀγαθὴ τύχη*, good luck." The Romans addressed their princes, generals, &c. with such expressions as these; "*Dilectis nobis servent; vestra salus, nostra salus*;" i. e. "May the gods preserve you for us; your safety, our safety." The acclamations of the army were generally, "*Io triumphus*," or "*Salve Imperator*." See Schlegel. de Acclam. Veter. Gen. 4to. 1665. Pitisc. lex Ant. tom. i. p. 122. Ferrar. de Acclam. et Plaus. lib. i. cap. 8. Suicer. Thef. verb. *χρηστος*. Aquinas Lex. Milit. tom. i. p. 6. Bingham Orig. Eccles. lib. xiv. cap. 4. §. 27.

ACCLAMATION is also applied among the antiquaries to certain medals, on which the people are represented expressing their joy for some considerable favour. In this sense acclamation is also used to denote the vows represented on

medals, for the prosperity of the emperor and commonwealth.

ACCLAMATION also denotes a method of election, practiced in the academy of *Monte*.

ACCLAMATION, in *Rhetoric*, is a figure of speech, thus called by the Latins, and by the Greeks, *epithrotonema*.

ACCLIVUS, in *Anatomy*, a muscle, otherwise called obliquus externus.

ACCLIVITY, the slope, or slope, of a line or plane inclined to the horizon, upwards. The ascent of a hill is an acclivity; the descent of the same a declivity. Some writers of fortification use the term acclivity for *talus*.

ACCO, in *Geometry*. See *ACRO*.

ACCOLA, composed of *al*, *co*, and *colo*, to dwell, in a general sense, denotes an inhabitant, or any certain place, or contribution to *colony*, who dwelt in it; according to the verse,

"Colony propriam, propriam colit incolæ terram."

ACCOLADE, a ceremony anciently used in the conferring of knighthood.

The word literally denotes an embrace, being formed of *ad*, *col*, and *de*, or *collo*, neck.

Antiquaries are not agreed, wherein the *accolade* properly consisted. The generality suppose it to be the embrace, or kiss, which princes anciently gave the new knight, as a token of their affection.—Whence the word *accolade*, q. d. a clasping, or taking round the neck. A very ingenious author will rather have it to be a blow on the chine of the neck, given on the same occasion. Fauchet seems to reconcile the two opinions: he supposes it to be the kiss; but withal, imagines the kiss to be intended as a stroke on the cheek, *En leur baissant sur la joue*.—The ceremony being only an imitation of that practised among the Romans, in the manumission of their slaves, where it is known a blow was given. Skinner. Cafeneuve. Orig. Franc. Colomb. Theat. d'Honneur.

As for the *accolée*, or blow, John of Salisbury assures us, it was in use among the ancient Normans: by this it was that William the Conqueror conferred the honour of knighthood on his son Henry.

At first, it was given with the naked fist; thus Lamberthus Andensis, describing the manner in which Baldric, count de Guines, was created knight by Thomas à Becket, says, *eidem comiti in signum militie gladium lateri et calcaris sui militis pedibus aptavit, & alapam collo ejus infixit*. But this was afterwards changed into a blow with the flat of the sword, on the shoulder of the knight.

Salmonet, and after him the continuators of Moreri, mention an order in England, called knights of the *accolade*; so called from the manner of their creation. The order here meant is that of knights bachelors, or *equites aurati*. But the name, if ever, is now no longer known among us.

ACCOLE'E is sometimes used as synonymous with ACCOLADE.

Accolée is also used in Heraldry, in divers senses, when two things are joined together, as two shields divided at the flanks, they are said to be *accolée*. It moreover is also applied to lions, dogs, and other animals, which have collars, or crowns about their necks; as the lion in the arms of Ogilvy; others use the term *accolée*, when two keys, battoons, maces, swords, &c. are fastier wife, behind the shield. Nisbet's Essay on Armor. English heralds ordinarily say, *collared*, or *gorged* with an open crown, instead of *accolée*.

ACCOLTI, *Benedict*, the Younger, in *Biography*, was grandson of *Benedict Accolti*, the elder, who flourished about the year 1376, was born at Arezzo, in 1415, and

was distinguished about 1450, when he is said to have succeeded Poggius as secretary to the Republic of Florence. He wrote "Four books concerning the war which the Christians carried on against the Infidels, in order to recover Judea and the holy sepulchre;" which work was printed at Venice in 1532, 4to. and serves as the ground-plot to Tasso's Jerusalem delivered; and also an account "of the excellent personages of his time," in the form of a dialogue, printed at Parma, in 1692, 8vo. He died in 1466.

ACCOLTI, *Benedict*, was also nephew, or, as some say, grandson to Peter Accolti, and was born at Florence, in 1497. He made a great progress in the study of the law, and became so much a master of the Latin tongue, that he was called the Cicero of the age. He was also distinguished by a very retentive memory. The ecclesiastical honours which he enjoyed were very considerable. Leo X. gave him the bishopric of Cadiz, Adrian VI. that of Cremona, and the archbishopric of Ravenna; and Clement VII. created him a cardinal. At the request of this pontiff, he wrote a treatise in vindication of the right of the pope to the kingdom of Naples. He left several other works, and particularly several pieces of poetry. He died at Florence in 1549. Gen. Dict.

ACCOLTI, *Francis*, the brother of the former, was professor of jurisprudence in several academies, and styled the prince of lawyers. He is said to have possessed a vigorous understanding, comprehensive knowledge, and powerful eloquence. He aspired to the purple under the pontificate of Sixtus IV.; and by a sordid parsimony amassed large treasures. He was born about the year 1418, and died about the year 1470. He left behind him several treatises of law, and translations of some of the works of Chrysostom. Voss. de Hist. Lat. l. iii. c. 7. Gen. Dict.

ACCOLTI, *Peter*, the son of *Benedict* the younger, was born at Arezzo about the year 1455, and died at Rome in 1532. He was professor of law, and taught with great applause. He was employed by the popes, and raised successively to several bishoprics, and became a cardinal in 1511. He wrote several historical tracts. His brother, *Benedict*, duke of Nepi, was celebrated for the extent of his erudition, and the excellency of his poetical talents. Pope Leo X. in 1520, created him prince of the state of Nepi. His *Virginia*, a comedy printed in 1553, 8vo.; and his poems, at Venice, in 1519, and 1553, were much applauded by his contemporaries. *Benedict Accolti* is said to have taken a lead in a conspiracy against pope Pius IV. and to have been brought to capital punishment in 1562. Gen. Dict.

ACCOMA, in *Geography*, a town of New Mexico, in North America, situated on a high mountain, with a strong castle, which is the capital of the province. It was taken by the Spaniards in 1599. W. long. 104° 15'. N. lat. 35°.

ACCOMACH County, in Virginia, is situated in a peninsula, bounded on the north by Maryland, east by the ocean, and west by the Chesapeake bay, and contains 13,959 inhabitants, of whom 4262 are slaves.

ACCOMMODATION, in *Philosophy*, the application of one thing by analogy to another. To know a thing by accommodation, is to know it by the idea of a similar thing referred to it.

ACCOMMODATION is also used in *Theology*; thus, a prophecy of scripture is said to be fulfilled properly, when a thing foretold comes to pass; and improperly, or by way of accommodation, when an event happens to any place or people, like to that which occurred some time before to another. This method of explaining scripture by accommodation,

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tion, serves as a key for solving some of the greatest difficulties relating to the prophecies. This convenient principle of accommodation is applicable to those passages, in which are used the strong expressions, "then was fulfilled" that which was spoken by the prophet," or "this was done that it might be fulfilled which was spoken by the prophet." Wetstein, in his note to Matth. i. 22. (vol. i. p. 237-8.) has produced, in support of this principle, an example from Ephrem Syrus, and similar expressions from other writers. This principle of accommodation has been adopted, not only by Wetstein, but by Grotius, by Nicholls in his "conference with a theist," (vol. i. p. 335.) Michaelis in his "Introduction to the New Testament," (see Marsh's Transl. vol. i. p. 214.) and particularly by Dr. Sykes, who has illustrated, defended, and applied it in the introduction to his "Paraphrase on the Hebrews," §. 3. p. 28, &c. and in his "Truth of the Christian Religion," ch. 13, 14, 15.

Dr. Eckermann, professor of divinity in the university of Kiel, extends the doctrine of accommodation to every quotation in the New Testament without exception, proceeding on the hypothesis, that the Old Testament contains no prophecy, which literally and immediately relates to the person of Jesus Christ. On the contrary, Dr. Owen in his "modes of quotation used by the evangelical writers," §. 5. entirely rejects the principle of accommodation, admitting, as many others have done, a typical meaning, in order to resolve the difficulties that occur in the explication of particular passages. Dr. Sykes observes, that if we were better acquainted with the Jewish phraseology, we should less hesitate in admitting the above mentioned principle. As for the particular term "fulfilled," he says, the Jewish writers often meant no more by it than the happening of a similar event, or an exact agreement in particular circumstances of latter things with former. An ingenious and much admired writer (see Paley's View of the Evidences of Christianity, vol. ii. p. 298.) speaking of those quotations in the Old Testament found in the New, some of which are applied in a sense and to events apparently different from that which they bear, and from those to which they belong in the original, observes, "it is probable to my apprehension, that many of those quotations were intended by the writers of the New Testament as nothing more than accommodations. They quoted passages of their scripture which suited, and fell in with, the occasion before them, without always undertaking to assert, that the occasion was in the view of the author of the words. Such accommodation of passages from old authors, from books especially which are in every body's hands, are common with writers of all countries; but in none, perhaps, were more to be expected than in the writings of the Jews, whose literature was almost entirely confined to their scriptures." This writer adds, "those prophecies which are alleged with more solemnity, and which are accompanied with a precise declaration, that they originally respected the event then related, are, I think, truly alleged. But, were it otherwise, is the judgment of the writers of the New Testament, in interpreting passages of the Old, or sometimes, perhaps, in receiving established interpretations, so connected either with their veracity, or with their means of information concerning what was passing in their own times, as that a critical mistake, even were it clearly made out, should overthrow their historical credit? Does it diminish it? Has it any thing to do with it?"

The question of fact, whether the Jewish Rabbins, in quoting passages from the Old Testament with a formula of this kind; "In this the Scripture was fulfilled," did consider those passages as having themselves reference to the

event to which they applied them, or grounded the quotation on a mere parity of circumstances, has been accurately examined by Surenhusius in his *Ratio scripturæ*, printed at Amsterdam in 1713. In his third thesis, "De formula allegandi," he compares the expression "הוּא הַמְּבִיאוֹתָ" with Rabbinical Hebrew formulas of a similar kind; and concludes upon the whole, that the expression is not only allusive, but demonstrative. See QUOTATION.

The primitive church accommodated multitudes of Jewish, and even heathen ceremonies and practices to Christian purposes; but the Jews had before done the same with regard to those of the Gentiles: some will even have circumcision, the tabernacle, brazen serpent, &c. to have been originally of Egyptian use, and only accommodated by Moses to the purposes of Judaism. Saurin's Dissert. Old Test. tom. i. p. 506. Spencer de Leg. Hebr. Disc. i. lib. 3. p. 32. Middleton's Letters from Rome in his Works, vol. iii. p. 63.

This accommodation, in the most extensive sense of the term, is the subject of two prize dissertations in Teyler's Theological society; and the discussion of it by Van Hemert, professor of Philosophy and Literature in the society of Remonstrants in Amsterdam, and De Vos, minister of the Baptist congregation in the same city, may be found in the 12th volume of these Dissertations. The learned Professor had prepared the way for this discussion by an oration which he had delivered upon being appointed to this office. In this discourse he maintains, that Christ, who was the wisest and best of all teachers, adapted both the manner and matter of his instructions to the capacity and habits of his hearers. With regard to the former there can be no dispute; and, as to the latter, he observes, that our Saviour manifested an evidently intended condescension to the ignorance, imbecility, and prejudices of his hearers. Whilst he avoided the discussion of subjects that were superior to the capacity of his disciples, and that philosophical train of reasoning, which would have been unintelligible to them; he made use of arguments, which, coinciding with their popular notions and national prejudices, were likely to make the deepest impression on their minds; without warranting them to conclude, that these notions were in themselves just, or that he approved them as such. That our Saviour never attempted to correct those errors of his countrymen which related to opinions merely philosophical, is abundantly evident; but there were others that might be supposed to have a more intimate connection with religion, which, however, for wise reasons, he did not think it proper to reform; either because he did not deem them of importance, or because, by opposing them, he might have unnecessarily irritated the minds of his hearers, and have rendered them averse from his instructions. In proof of this observation the Professor refers to the conversation of Christ with the woman of Samaria, his discourse with the Sadducees concerning the resurrection, his answer to the mother of Zebedee's children, and his reply to his disciples, when they believed his appearance to be that of a ghost, or spectre. He distinguishes, however, between what is essential to religion itself, and what relates merely to theology, or the mode of teaching it. The strict propriety and absolute necessity of this kind of accommodation he vindicates by a survey of the stupid ignorance and inveterate prejudices of the Jewish nation. As proofs that our Saviour condescended to found his arguments even on the erroneous notions of his countrymen, when they suited his purpose, and did not interfere with the essential doctrines of the Gospel, he refers to Matt. xv. 26, Mark vii. 27; to his distinction of the precepts of the law into greater and less, Matt. v. 19; and to his using the term gehenna, and the judicial style of the Sanhedrim, in Matt. v. 22.

The apostles and evangelists also imitated his example, of which instances occur in 1 Thess. v. 23. Coloss. i. 16. Eph. vi. 12. 1 Tim. ii. 10. Rom. viii. 38. 1 Pet. iii. 22. In relation to this, the writers of the New Testament conform to the opinion of some of the Jews, (says this author) in attributing evil to evil spirits, to demons and devils, and those which represent the devil as the principle of evil, instigating mankind to sin. Thus, he adds, were opinions which properly related to philosophy, and did not materially affect religion; and yet, if it was believed that these malignant agents were under the control of divine power, and might be vanquished by good men. The Professor is of opinion, that the existence of such a malignant being, exerting an influence over the minds of men, and impelling them to vice and misery, is utterly inconsistent with the perfection of the Deity, with the wisdom of the divine government, and with the free and moral agency of man. The Jews had derived from the Chaldeans a notion, that the air was peopled with demons, and that some of these were confined in dark prisons, in the infernal world; and some commentators have supposed, that what the apostles Peter and Jude have said concerning the punishment of angels, was borrowed from the apocryphal book of Enoch, which might probably have been written by some Hellenistic Jew. Of the acquiescence of the writers of the New Testament in the current, but erroneous notions of their countrymen, this author mentions St. John's account of the wonderful virtues of the pool of Bethesda, and what St. Luke says of the Sadducees in Acts xxii. 8. There are also many cases, in which Christ used, what logicians call, the *argumentum ad hominem*; of which there is a striking example in the answer given to the Pharisees, when they accused him of casting out devils by Beelzebub. Thus also, in the parable of the rich man and Lazarus, Christ founded his description of the future state of reward and punishment on the notions of the Jews concerning their paradise and gehenna, which were nearly the same with those of the Greeks and Romans concerning the Elysian fields and Tartarus. See also Luke xxii. 30. The acquiescence of Christ and his apostles in the prejudices of their countrymen is also evident in the quotations from the books of the Old Testament. These, as their classic authors, the Jews cited on every occasion; but being, like all the orientalists, very fond of allegory, they supposed that, beside the obvious and literal meaning of these writers, which they considered as comparatively of little value, there was a hidden and mysterious sense which referred to the Messiah and his kingdom. With this custom, says the Professor, though in itself injudicious, the writers of the New Testament judiciously complied. Hence, he adds, most of, if not all, the passages of the Old Testament, which are quoted in the New, are adduced in a sense very different from their primitive signification, and form a kind of *argumenta ad hominem*, founded on the principles of those to whom they were addressed. Of the same kind of accommodation to Jewish prejudices the author deems the condescension of St. Paul in adopting the puerile allegories of the rabbies concerning Sarah and Hagar in Gal. iv. 24; and that of the apostles Peter and Jude, in referring to a story, related in some apocryphal book, of a dispute between the archangel Michael and the devil about the body of Moses. Such are the outlines of the Dissertation above cited, in which the author produces other instances of accommodation. The Pharisees believed the metempsychosis or transmigration of souls (see Josephus Bell. Jud. l. ii. c. 8); and M. Hemert. imagines, that they applied this hypothesis to the prophecy in Malachi iv. 5, and that our Lord did not contradict it in

his discourse with his disciples, Matt. xvi. 14. And again, he apprehends, that in Matt. xi. 14, Christ not only forbears to correct this notion of the Jews, but indirectly allows it, as what he did not at that time think proper to oppose; and shews them that, even on this hypothesis, the prophecy of Malachi was fulfilled. The blended accounts that are given of the destruction of Jerusalem, and of the resurrection and last judgment in Matt. xx. 34, &c. are considered by this writer as acquiescence in the popular notion, with a view of animating the first Christians to constancy and diligence amid the peculiar difficulties which they had to encounter. The Professor having by such modes of reasoning stated the fact, proceeds to inquire how far this hypothesis of accommodation to popular notions may be extended, consistently with the veneration and esteem due to the character of our Saviour and his apostles. Whilst our Lord generally left physical errors uncontradicted, he constantly opposed those prejudices and mistakes that were contrary to the persuasion of God's impartial love to all mankind, or detrimental to the nature and principles of practical piety and virtue. In answer to the objections which may be alledged against his hypothesis, the Professor begins with evincing the absurdities to which those have been reduced, who have endeavoured to vindicate the philosophical accuracy of the Scriptures. In accommodating their instruction to the different capacities of those to whom they were communicated, and adapting them to the peculiar character of their age and nation, as well as to their particular prejudices and habits, Christ and his apostles did no more than what might be expected from wise teachers, endued with a divine commission; and they who on this account object to them, manifest an ignorance of the human heart, as well as of the office of an instructor of mankind. They also misapprehend the design of Christ's mission; which was not to make his hearers philosophers, nor even to instruct them in all those particular truths which may be considered as influencing religious opinions. Mankind in general, and the Jews in particular, were not qualified to receive such instruction. Without this accommodation the design of our Lord's mission would have been counteracted and defeated, if either he or his apostles had encountered every error of the age and nation to which they were sent. To those who alledge that, among the instances cited by the author, of popular errors, in which Christ and his apostles are supposed to have acquiesced, there are some which relate to the essential doctrines of the gospel; he replies, that while he allows that important truths might sometimes be inculcated on the attention of the people, by arguments founded on their own erroneous notions, he absolutely denies that these notions themselves have any necessary connection with the essential truths of the gospel. Perhaps, he adds, it may be asked, whether the existence and power of the devil be not religious tenets?—but by whom, or on what foundation, were these ever made articles of Christianity? Does the belief of such an enemy of mankind at all contribute to promote that integrity, and that sanctity of heart and conduct, which the Saviour came to establish? Or is not this notion rather calculated to fill the weak and superstitious with vain terrors? For this reason, says this professor, the apostles, though they did not contradict the popular notion, took care to obviate its pernicious consequences by always representing the devil as vanquished by Christ. Is the belief of demons that inhabit the air, that haunt the desert, or that insinuate themselves into the bodies of men and afflict them with diseases, an essential doctrine of the gospel? May we not believe the Christian doctrine of a future state of retribution, without acquiescing in the notions of the Jews concerning paradise

and gehenna, and cultivate a firm hope of the resurrection of the dead by Christ, without believing that the archangel will sound a trumpet to awaken us from the sleep of death? Is it necessary to our belief that Jesus is the Christ of God, that we refer to him all those passages which the Jewish doctors, and, after their example, the Jewish converts to Christianity, from their love of allegories and types, explained as relative to him? &c. &c. In a word, if we consider the genuine nature of our religion, as taught by our divine master, we shall see, says the author, that none of the instances, in which it has been here supposed, that Christ and his apostles commended their instructions to the prejudices and notions of their countrymen and contemporaries, have any necessary connexion with the design of the gospel, or interfere with any of its essential truths. The Professor proceeds to specify some rules by which we may discriminate those passages of scripture that may be considered as instances in which the sacred writers acquiesce in popular prejudices; and he closes with some observations on the utility of this hypothesis of accommodation in explaining the scriptures. M. De Vos traces nearly the same ground of argument; but without extending the hypothesis of accommodation so far or so intrepidly controverting received opinions; opinions which the reader of this article will not incautiously reject, and without the previous hesitation and subsequent examination which they demand.

ACCOMMODATION, in *Law*, is used for an amicable agreement or composition between two contending parties. Thus we say, the process is become so intricate and perplexed that there is no hope of getting out of it but by an accommodation. These accommodations are frequently effected by means of compromise and arbitration.

ACCOMPANIMENT, something attending or added as a circumstance to another; either by way of ornament, or for the sake of symmetry, or the like.

ACCOMPANIMENT, **ACCOMPAGNAMENTO**, **ACCOMPAGNATURA**, in *Musick*, implies the instruments that *accompany* the voice, solo, or concerto, to sustain the principal part, whether vocal or instrumental, as well as to enrich the harmony.

The *Crusca Dictionary* gives no authority from early writers in Italian, of *accompagnamento*, *accompagniment*, being used as a technical term. In the fourth and last acceptance of the verb *accompagnare*, it is only said, in general, to be a musical term, signifying "to play on an instrument in harmony with the voice;" and this definition appears in no edition anterior to that of 1746.

Italian musical terms have now been adopted by all Europe; yet we are acquainted with no professed musical dictionary in that language. But the words peculiar to the art being taken from the common language of the country where it was first cultivated, they need no explanation to the natives; yet, in other countries which have derived their knowledge, or at least, their taste, from the Italians, these words are become technical, and need a glossary.

To write, make, or compose, an accompaniment, are synonymous terms with musicians, for setting, or adding parts for violins, flutes, or other instruments, to a melody, vocal or instrumental, in order to be performed with it. In the early operas the accompaniments were very thin. In the first operas, indeed, none appeared, except in the symphonies and chorusses; but, in process of time, as dramatic music advanced towards perfection, it was found that effects could be produced by the orchestra which were picturesque, coloured sentiments, and augmented auricular pleasure. A simple melody, unless performed by a great singer, became insipid. But, though much ingenuity and

science appear in a rich and full accompaniment *on paper*, yet in performance, the composer and the orchestra frequently abuse their power, and tyrannise over the voice, which they should cherish, and diffuse the poetry by compensation and notes, which they should help to express and enforce. And it is a general complaint at the opera, when a *cantata*, or vocal part is good, and performed by a singer of the first class, that the *accompaniments* are too loud, *troppo allegro*, say the French, and *troppo cantato*, cry the Italians.

Accompagnement likewise another word, in French, which, by being in chord, the whole harmony, or whole, the called *trio*. This chord is composed by thirds over the base, which finger is the place of the right hand on the keyboard.

The rules for *accompaniment* are not, with respect to harmony, but their use depends on the taste and judgment of the performer. Some, fond of crowded harmony, and a full sound, be too loud or full; while others, who prefer a simple and beautiful melody to the most artificial combination of sounds, almost think harmony a grievance. There are who prefer a meagre and monotonous accompaniment in triplets; and others imagine that the voice is best supported by being accompanied in unison. But Rousseau, in enumerating the qualifications of an *accompanier*, has settled this point: "Whoever undertakes to accompany a song or solo, must be a consummate musician, well skilled in harmony, and the construction of the several parts; should have a nice and cultivated ear, a hand prepared for all difficulties of execution in the base, and modulation into different keys, with a sound judgment and good taste. It is the business of the *accompanier* on the organ, harpsichord, or pianoforte, to give the pitch to the several instruments, and the time to the whole band; to have always under his hand the note which the finger is about to deliver, in order to correct, if false, and enforce, if feeble; and, at the beginning of an air or movement, to mark with energy and precision the several portions of the bar, that the orchestra, if a quick air, may proportion the rapidity to the abilities of the finger; and, whether quick or slow, indicate such a specific motion as suits the genius of the composition, and the design of the composer. But, above all, whoever is *accompanying* another to whom the principal melody is assigned, should remember, that he is a servant, an humble attendant on a temporary superior, and should suppress all ambition of shining at the expense of the voice or instrument which he *accompanies*."

A great player accustomed to be listened to with delight, and applauded with rapture, seldom accompanies well: his fingers itch to be in action, and to call the attention of the audience from the principal performers to himself.

No general rules can be given for accompanying that will be applicable on all occasions. After the harmony is well known, and the hand well exercised, experience, good sense, and propriety must do the rest. *Accompaniment*, though it require little brilliancy of execution, is the last thing which a practical musician acquires. There is nothing which a singer so much dreads as an ignorant or injudicious accompanier. If ignorant himself, the singer wants assistance; if his taste is refined, and his voice good, all his art and natural powers are destroyed by a clumsy *accompaniment*.

Nothing but consummate experience, and a familiar acquaintance with all styles, with the best compositions of great masters, and the being able to grasp at a single glance a whole line of a score, and occasionally select the most important passages in the instrumental parts to play with the right hand, instead of the chords, can completely qualify a performer

performer on a keyed-instrument to accompany a good or a bad singer.

Rousseau, though no deep theorist, had a very good taste in music, and excellent views concerning its refinements and effects; and, in his "Letter on French Music," the best piece of criticism on the art, perhaps, that has ever been written, speaking of *accompaniment* on the harpsichord, he says: "when burletta operas were first performed at Paris, every one was struck at seeing the manager's son, a child of ten years old at most, accompanying the singers, and producing with his little fingers effects so different from those of M. Noblet, the usual performer on the harpsichord, a good harmonist, and exact in giving the full complement to each chord. But what was my surprise in watching the hands of the little man, and observing that he hardly ever gave the whole harmony to the base; but suppressing many of the sounds, and frequently using only two fingers, with one of which he generally played the octave to the base, and with the other the interval most important in the melody! What! says I to myself, has a mutilated harmony more effect than one that is complete? And do our thorough-bass players, by giving the full chords produce only a confused noise, while this child with fewer sounds enforces the melody more, and renders the *accompaniment* more useful and agreeable? This was a problem which I was unable to solve; but I became more sensible of its importance afterwards, by observing that all the Italians accompany good singers in the same manner as this infant did; and upon the same principle as the composers have their scores thin, often making the tenor play only in octaves above the base, and the second violin in octaves below the first. I remembered that I had read somewhere in Rameau, that every concord had a different character, or power of affecting our sensibility, peculiar to itself; that the effect of the 3d was different from that of the 5th, the 4th from the 6th. In the same manner 3ds and 6ths minor must produce different affections from those of 3ds and 6ths major. These facts once established, it evidently follows, that even discords and every kind of interval will be included in the rule: an idea which reason confirms, since, when the relations are different, the impression cannot be the same."

The reasoning of the citizen of Geneva on this principle is very specious and ingenious. "I see clearly," continues he, "that, by adding concord to concord, injudiciously, though agreeable to the doctrine of chords, by augmenting the harmony, we may weaken and counteract the effect of each sound. If the entire and pure effect of a 5th, be necessary for the expression which I want, I risk the weakening this impression by a 3d sound, which, dividing the 5th into two 3ds of different kinds, though when struck together the harmonical effect is good, yet they may mutually diminish the peculiar effect of each other. In like manner, if the simultaneous impression of the 5th and two 3ds were necessary to my design, I should fail in producing the effect I intended by retrenching either of the 3ds from the chord. This reasoning becomes still more intelligible, applied to discords."—"It follows from all this, that, after having well studied the elementary rules of harmony, the musician should not hastily lavish it inconsiderately, nor believe himself a composer because he can crowd the chords with unmeaning notes; but, before he begins to combine sounds, he should apply himself to a much longer and more difficult study: that of the different impressions which the concords, discords, and all the intervals make on the ear of sensibility, and often say to himself, that the great art of a composer consists no less in discerning what sounds occasionally to

suppress, than what to admit. It is in studying and turning over incessantly the master-pieces of Italy, for vocal music, (and of Germany for instrumental, he would now have added) that a composer would learn to make this exquisite choice, if Nature has given him sufficient genius and taste to feel its necessity; for the difficulties of the art are only perceived by those who are able to vanquish them; and such will not treat with contempt the vacant lines in a score; but, seeing with what ease a mere Tiro might fill them up, they will suspect, and seek the reasons for this seeming simplicity: so much the more admirable, as it conceals prodigies under a feigned negligence, and that *Parte che tutto fa, nulla si senopre*. These seem to me (continues Rousseau) the causes of those surprising effects which the Italian music produces, though much less crowded with harmony than ours, (that is, the old French music) of which the effects are so small and the labour so great. This does not imply that a score should never be full, but that it should be filled with choice and discernment; neither is it to say that to accomplish this, the musician should make all these reflexions; but that he should feel the result. It is his business to have genius and taste to find these effects, and that of the theorist to seek and explain whence they arise."

To *accompany* recitative on a keyed-instrument, where no regular time is observed, and the singer utters in musical tones, a soliloque or dialogue, under no more restraint, as to measure, than if he were declaiming in common speech, the instrumental accompanier must attentively read the words, and strike the chord firmly which is given to the most accented and energetic part of a verse or period, exactly when it is pronounced by the singer, except at a close or termination of a scene or period, when two chords are given without the voice: one to the base of the 5th of a key, with a sharp 3d, and the other usually to the key note, in whatever key the modulation is carried; but this expectation is often disappointed, except at the close which immediately precedes the air.

We shall pursue the subject of ACCOMPANIMENT still further, under the articles HARMONY, CHORDS, THOROUGH-BASE, REGLE DE L'OCTAVE, FIGURING A BASE, and RECITATIVE.

ACCOMPANIMENTS, in *Heraldry*, are all such things as are applied about the shield by way of ornament, as the belt, mantlings, supporters, &c. A thing is also said to be accompanied when there are several bearings or figures about some principal one, as a saltier, band, fess, chevron, or the like.

ACCOMPANIMENTS, in *Painting*, denote such objects as are added by way of aptitude or ornament to the principal figures; as dogs, guns, game, &c. in a hunting-piece.

ACCOMPLICE, compounded of *ad, to, con, together*, and *plicare, to fold*, in *Law*, one that has a concern in a business, or that is privy in the same design or crime with another. See ACCESSORY.

By the law of Scotland, the accomplice can only be prosecuted after the conviction of the principal offender; unless the accession of the accomplice be immediate, *in ipso actu*, so as in effect to render them co-principal. By the general rule, the accomplice suffers the same punishment with the principal offender. Yet if he be remarkably less guilty, justice will not permit equal punishment. The council of Sens, and several other synodical statutes, expressly prohibit the revealing of accomplices. See DISCOVERY of accomplices.

ACCOMPLISHMENT, in a general sense, the entire execution, atchievement, or fulfilling of something proposed, or undertaken.

ACCOM-

ACCOMPLISHMENT, in *Theology*, is principally used in speaking of events foretold by the Jewish prophets, in the Old Testament, and fulfilled under the New. In the writings of biblical commentators and critics, we read of a literal, mystical, typical, single and double accomplishment. Prophecy may be accomplished either directly or by way of **ACCOMMODATION**. See **PROPHECY**.

ACCOMPLISHMENT is more particularly used for any personal endowment, mental or corporeal.

ACCOMPT. See **ACCOUNT**.

ACCORD, in *Law*, is a verbal agreement between two, at the least, to satisfy an offence which the one hath committed against the other; whether it be a trespass, or the like; for which the one agrees to make, and the other to accept, a certain satisfaction.—This, if executed, becomes a good bar in law to any suit to be brought for the same matter. Accord with satisfaction is a good plea in personal actions, where damages only are to be recovered, and in all actions, which suppose a wrong, *vi et armis*, where a *capias* and *exigent* lay at the common law, in trespass and ejectment, detinue, &c. So in an appeal of *Maimem*. But in real actions, it is not a good plea. 4 Rep. i. 9. 70. 9 Rep. 77. By several late statutes, particularly 11 Geo. II. c. 19. in case of irregularity in the method of distraining, and 24 Geo. II. c. 24. in case of mistakes committed by justices of the peace, even **TENDER** of sufficient amends to the party injured is a bar of all actions, whether he thinks proper to accept such amends or not.

ACCORD, in *Music*, is more usually called **CONCORD**. It is also used by old authors for **CHORD**.

The word is formed, according to some, from the latin *ad, to*, and *cor*, the *heart*; but others, with greater propriety, derive it from the French *corde*, a *string*; on account of the agreeable union between the sounds of two strings struck at the same time. Whence also some of the consonants in music are called *tetrachord*, *hexachord*, &c. which are a fourth and a sixth.

ACCORDARE, *Ital.* }
ACORDER, *Fr.* } to tune instruments.

ACCORD, in *Painting*, denotes the harmony that prevails among the lights and shades of a picture.

ACCORDS, **STEPHEN TABOUROT**, *Seigneur des*, in *Biography*, an advocate in the parliament of Dijon in France, was born in the year 1549. The lordship of Accords is an imaginary fief or title, derived from the device of his ancestors, which was a drum, with the motto, *à tous accords*; "chiming with all." S. Accords was a man of genius and learning, but too much addicted to trifles, and to a licentious mode of writing. This appears from his piece entitled "Les Biguarres," printed at Paris in 1582; and another called "Les Touches," published at Paris in 1585, which is a collection of witty poems indelicately written. Bayle.

ACCOSTED, in *Heraldry*, a term not often used, but of the same signification with **COTTISED**.

ACCOUCHEUR, and **ACCOUCHEUSE**, *Fr.* a man or woman practising midwifery.

ACCOUCHMENT, *Fr.* the act of delivery.

ACCOUCHMENT *prematuré*, **AVORTEMENT**, or **FAUSSE COUCHE**, *Fr.* the premature exclusion of a fœtus.

ACCOUNT, or **ACCOMPT**, of *ad, to*, and *computus*, a *computation*, in *Arithmetic*, a calculation, or computation of the number or order of certain things; as the computation of time, &c. There are various ways of accounting, as by enumeration, or telling one by one; and by the rules of arithmetic, addition, subtraction, &c.

ACCOUNT, in *Chronology*, is nearly synonymous with
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STYLE. We account time by years, months, &c. the Greeks accounted it by olympiads; the Romans by indictions, lustris, &c.

ACCOUNT is also used in respect of a **COMPANY** or society, when two or more persons have received or disbursed money for each other; or when this has been done by their order or commission.

ACCOUNT, or **ACCOUNTS**, is also used collectively, for the several books or registers which merchants keep of their affairs and negotiations.

There are divers kinds of accounts among merchants, as *personal*, *real*, *imaginary*, *general*, *particular accounts*, &c.

ACCOUNTS, *personal*, are those which discover what each person, or subject, with whom a man has dealings on credit, owes to, or has owing to him.

ACCOUNTS, *real*, are those whereby a dealer discovers what effects are on hand at any time, and what is gained or lost on each.

Every account is distinguished into two parts, for which two opposite pages are assigned of one folio or opening; the name of the person with whom a man has account being written on the top of each, with the word debtor on the left side, and creditor on the right.

ACCOUNT, *personal*, is to contain on the debtor side what the person owes me, and the payments I make to him; and on the creditor side, all that I owe to him, and the payments he makes of his debts to me.

ACCOUNT, *real*, must contain on the debtor side the quantity and value of what was upon hand at the beginning of the account, and all afterwards received, with the costs and charges thereof; and on the credit side, the quantity and value of what is disposed of or any way taken out of it, with the returns made by it.

ACCOUNTS, *imaginary*, are then brought in to make a balance between credit and debt, and in cases where the real and personal accounts will not in the articles belonging to them make, as they usually do, such balance.

The chief of these is the account of *profit and loss*; on the debtor side of which are entered all losses, and on the creditor side all gains. Such also is the *stock account*, &c.

ACCOUNTS, *fundry*, when one account is balanced by fundry, *i.e.* when one is debtor or creditor for a sum, and fundry accounts creditors or debtors for the parts of the sum; it is entered under the head of *to*, or by, *fundry accounts*.

ACCOUNTS, *general*, are those where all the goods of the same name are put into one account.

ACCOUNTS, *particular*, are those where each species, or subdivision of things under the same name, have their separate account.

ACCOUNT, *open*, is used for an account not liquidated or settled.

ACCOUNT, *in bank*, is a fund of money, which merchants, or others, place in the common cash of a bank, to be in readiness for the payment of bills of exchange, or promissory notes, purchases, and other debts contracted in the course of business.

ACCOUNT, *current*, amounts to the same with an open account.

ACCOUNT, *opening an*, with any one, signifies the placing him, for the first time, in the great book. This is done by writing his name, surname, and place of residence in large characters, and afterwards charging him with articles, either of debtor or creditor, as affairs turn up. When an account is opened with any person in the great book, his name is at the same time to be entered in the index or alphabet book, with the page wherein his account is to be found.

ACCOUNT, *placing a sum to an*, is to enter down in the
S. great

great book the several particulars for which a person becomes either debtor or creditor.

Account, examining an, is the reading it exactly over, pointing the several articles, and verifying the computation, in order to find whether there be any error, and whether the sum total, or the balance, be just.

Account, calling up, or closing an, is the stating and settling of it, to find the balance: this is called also *balancing* or *settling an account*.

Accounts are *closed* in the great book, on two occasions: the first, when it is required to terminate an affair entirely, either with debtors or creditors, in order to learn what is due. The second, when it is necessary to carry on the account to another page of the same book, or to a new book, for want of room.

Account, balance of an, is the sum by which the debt exceeds the credit, or *vice versa*, upon stating or settling of it.

Account of sales, is an account given by one merchant to another, or by a factor to his principal, of the disposal, charges, commission, and net proceeds of certain merchandize, sent for the proper, or company, account of him, who consigned the same to such factor or vender.

When the like account is inland or domestic, the same is transmitted in the current money of that country wherein the business is transacted. As from a Blackwell-hall factor to the clothiers in the country, or from the warehousemen in town, who deal by commission for the country manufacturers.

Account, money of, is an arbitrary species, contrived for the facilitating, and expediting the taking, and keeping of accounts. Such are pounds sterling in England; livres and sols in France; roupees in India; milrees in Portugal.

Accounts, books of, of merchants and tradesmen, are considered as a sort of private instruments, and in the civil law, and law of merchants, are allowed to make a half proof. The reason is, that merchants are often under a necessity of dealing on trust without note or writing. Hence the suppletory oath of the merchant, with his book of accounts, is admitted abroad as a full proof against his chapman. But in England this is under some limitation. See stat. 7 Jac. I. cap. 12. which confines this species of proof to such transactions as have happened within one year before the action brought; unless between merchant and merchant, in the usual intercourse of trade.

Account, or Accompt, in a legal sense, is a particular detail or enumeration, delivered to a court, a judge, or other proper officer or person, of what a man has received or expended on the behalf of another, whose affairs he had the management of.

In the REMEMBRANCER'S office in the exchequer, are entered the states of all the accounts concerning the king's revenues; for customs, excise, subsidies, &c.

The great accounts, as those of the mint, wardrobe, army, navy, tenths, &c. are called *imprest accounts*.

All accounts which pass the remembrancer's office are brought to the office of the clerk of the PIPE. See TALLY and AUDITOR.

Account, in Common Law, denotes a writ or action which lies against a person, who by his office ought to give an account, but refuses.

A writ or action of account properly lies only against bailiffs, receivers, and guardians in socage; though others are also brought in as a secondary intendment.

By 4 and 5 Anne, actions of account may be brought against the executors and administrators of guardians, bailiffs, receivers, &c. and by one joint-tenant, &c. against

the other, his executors and administrators, as bailiff, for receiving more than his share: however, actions of account are now very seldom used; the most ready and effectual way of settling matters of account being by bill in a court of equity.

Accounts, chamber of, in the former French polity, is a sovereign court of great antiquity, where the accounts relating to the king's revenue were delivered in, and registered. This answers pretty nearly to the court of exchequer in England.

There are presidents of accounts, masters of accounts, correctors of accounts, &c.

ACCOUNTANT, or *ACCOMPTANT*, in a general sense, denotes a person skilled in accounts. In a more limited sense it is applied to a person, or officer, appointed to keep, or make up the accounts of a company, office, court, or the like.

Thus there are accountants in the custom-house, the excise, bank, South-sea, and East India-house.

ACCOUNTANT-General, an officer in the COURT of CHANCERY, appointed by act of parliament, to receive all monies lodged in court, instead of the masters, and convey the same to the bank of England for security. Counterfeiting the hand of the accountant-general is felony without clergy, by 12 Geo. I. c. 32.

ACCOUNTANTSHIP, the act of keeping and balancing accounts. See BOOK-KEEPING.

ACCOUNTS, Public, Commissioners of, are five persons appointed by letters patent under the act of 25 Geo. III. c. 52. who are invested with the powers formerly entrusted to the AUDITORS of the *imprest*, and who receive salaries paid out of the aggregate fund, not exceeding in the whole 4000*l*. They hold their office *quamdiu se bene gesserint*, except two of them, who are comptrollers of the army accounts, and who continue commissioners so long only as they are comptrollers. The Treasury likewise appoints officers, clerks, &c. to make up and prepare for declaration the public accounts of the kingdom, and all charges are allowed out of the aggregate fund to an amount not exceeding 6000*l. per annum*, which sum precludes all fees and perquisites. The purposes for which these commissioners are appointed are "to examine and state in what manner, and at what times, the receipts, issues, and expenditures of the public monies are now accounted for; and to consider and report, by what means and methods the public accounts may, in future, be passed, and the accountants compelled to pay the balances due from them, in a more expeditious, more effectual, and less expensive manner." The commissioners have already made a great number of reports.

ACCOUTREMENT, an ancient term used for an habiliment; or a part of the apparatus and furniture of a soldier, knight, or even of a gentleman.

The word is formed from the ancient German, *kuster*; whence *coustre*, a name used in some cathedrals in France, e. g. at Bayeux, for the sacristan, or officer, who has the care of furnishing, and setting out the altar, in the church: called in German *kuster*, *wanktor*.

ACCRETION, of *ad*, *to*, and *crescere*, *to grow*, in *Physics*, the growth or increase of an organical body, by the accession of new parts: also a growing together, as of the fingers to one another.

Accretion is of two kinds; the one consisting in an external apposition of new matter. This is what we otherwise call, *juxtaposition*; and it is thus, stones, shells, &c. are supposed to grow.

The other is by some fluid matter received into proper vessels, and gradually brought to adhere, or grow to the sides

sides thereof. This is what we call *introfufception*; and it is thus that plants and animals are nourished.

ACCRETION, in the *Civil Law*, denotes the union or ACCESSION of a thing vague or vacant, to another already occupied or disposed of.

A legacy given to two persons jointly, *tam re quam verbis*, falls wholly to him that survives the testator, by right of accretion. ALLUVION is another species of accretion.

ACCROCHE', in *Heraldry*, denotes a thing being hooked into another. Coats Herald.

ACCROUCHING, in old *Law* books, the act of encroaching or usurping on another's right; and particularly the attempt to exercise royal power, which was a very vague charge, and led to a multitude of constructive treasons. These are limited and defined by stat. 25 Ed. III. cap. 2. The word is originally French, *accrocher*, which signifies to fasten a thing by a hook.

ACCURIE, or ACCREW, in *Law*, is understood, of a part that accedes to, or follows the property of, another part or person.

ACCRUED, in *Heraldry*, a term applied to a tree full-grown.

ACCUBATION, a posture of the body, between sitting and lying.

The word is compounded of *ad, to*; and *cubo, I lie down*. *Accubation*, or *accubitus*, was the table posture of the Greeks and Romans; whence we find the words particularly used for the lying, or rather, as we call it, sitting down to meat.

The Greeks introduced this posture. The Romans, during the frugal ages of the republic, were strangers to it. But as luxury got footing, this posture was adopted, at least by the men; for as to women, it was reputed an indecency in them to lie down among the men; though afterwards this too was got over. But children did not lie down, nor servants, nor soldiers, nor persons of meaner condition; but took their meals sitting, as a posture less indulgent.

The Roman manner of disposing themselves at table was this; a low round table was placed in the *cenaculum*, or dining-room, and about this usually three, sometimes only two beds, or couches; according to the number of which, it was called *biclinium*, or *triclinium*. These were covered with a sort of bed-cloaths, richer or plainer, according to the quality of the person, and furnished with quilts and pillows, that the guests might lie the more commodiously. There were ordinarily three persons on each bed; to crowd more was esteemed *fordid*. In eating they lay down on their left sides, with their heads resting on their pillows, or rather on their elbows. The first lay at the head of the bed, with his feet extended behind the back of the second; the second lay with the back of his head towards the navel of the first, only separated by a pillow, his feet behind the back of the third; and so of the third, or fourth. The middle place was esteemed the most honourable. Before they came to table they changed their cloaths, putting on what they called *cenatoria vestis*, the dining garment, and pulled off their shoes, to prevent soiling the couch. Pitisc. *Lex. Ant.*

ACCUBITOR, an ancient officer of the emperor of Constantinople; whose business was to lie near the emperor. The accubitor was the head of the youths of the bed-chamber, and had the *cubicularius* and *procubitor* under him.

ACCUMULATION, compounded of *ad, to*; and *culmus, heap*; the act of heaping, or amassing several things together.

ACCUMULATION, in a *legal* sense, denotes a concurrence of several titles to the same thing; as, when a person claims lands, a benefice, or the like, in virtue of several titles, or pretensions of different kinds; as, g. by death, by renunciation, &c. Or it denotes a concurrence of several circumstances to the proof of one fact; thus, we read of accumulative treason; which is, where a fact is not treason itself, but becomes so by an accumulation of circumstances.

The earl of Stafford was condemned of accumulative treason; none of the facts alleged against him amounting singly to treason. But his attainder was reversed by 13 & 14 Car. II. cap. 29.

ACCUMULATION, in the ancient *Agriculture*, denotes the operation of covering up the roots of trees, by throwing on them the earth that had been before dug from them; in which sense, accumulation stands opposed to *ARREQUATION*. Pliny Nat. Hist. vol. ii. p. 88. Ed. Harl.

ACCUMULATION of arms, *acculatio armum*, in *Heraldry*, is what the moderns call *QUARTERING* of arms. Nat.

ACCUMULATION of Degrees, in an *University*, is used for the taking of several degrees together, and with fewer exercises, or nearer to each other, than the ordinary rules allow of.

ACCURSED; something that lies under a curse, or sentence of EXCOMMUNICATION.

In the Jewish idiom, *accursed* and crucified were synonymous. Among them, every one was accounted accursed, who died on a tree.

This serves to explain the difficult passage in Rom. ix. 3. where the apostle Paul wishes himself *accursed after the manner of Christ*, i. e. crucified, if happily he might by such a death save his countrymen. The preposition *ἀπὸ* here made use of, is used in the same sense, 2 Tim. i. 3. where it obviously signifies *after the manner of*.

ACCURSIUS, in *Biography*, a professor of law in the 13th century, born in Florence, who, on account of his great authority, was called the idol of the lawyers. Three other lawyers of eminence had the same name.

ACCURSIUS, *Maximianus*, a famous critic of the 16th century, born at Aquila, in the kingdom of Naples. His *Diatribæ*, printed at Rome in 1524, fol. on Aufonius, Solinus, and Ovid, evince his distinguished erudition. In his edition of Ammianus Marcellinus at Augsburg, in 1533, there are five books more than in any preceding ones, and he says that he had corrected 5000 errors. Although his predominant passion was the collecting of old MSS. he nevertheless made Latin and Italian verses, was master of the French, German, and Spanish languages, and understood optics and music. Having been charged with plagiarism in his edition of Aufonius, he purged himself by oath. Bayle.

ACCURSIUS, or Accorso, *Francis*, the elder, an eminent lawyer, was born at Bagnolo, near Florence, in 1182, and became professor of law in the university of Bologna, where he had studied. He undertook the great work of forming into one consistent and harmonious whole, the numerous comments on the Code, the Institutes and the Digest. This work, intitled, "A perpetual Commentary," was much valued, and is printed with the "Body of Law," published in six volumes folio, at Lyons, in 1627. Accorso died very rich, in 1260. His son, the younger Francis Accorso, succeeded him in the chair of law; and, in 1273, accompanied Edward I. on his return from the crusades to England. Gen. Dict.

ACCUSATIO, among *Physicians*, is a word of the same import as INDICATION.

ACCUSATION. compounded of *ad*, to; and *causari*, to plead, in the *Civil Law*, the charging any person with a criminal action, either in one's own name, or on behalf of the public.

By the Roman law, there was no public accuser for public crimes; every private person, whether interested in the crime or not, might accuse, and prosecute the accused to punishment, or abolition. Cato, who was esteemed the most innocent person of his age, had been accused forty-two times, and absolved as often. But the accusation of private crimes was never received unless from the mouths of those who were immediately interested in them. Thus, none but the husband could accuse his wife of adultery. Indeed, it was not properly an accusation, except in public crimes; in private ones, it was called simply **ACTION**, or intending an action, *in iudicio actionem*, or *litem*. When the accused accuses the accuser, it is called recrimination, which is not admitted till the accused has been first purged.

The ancient Roman lawyers distinguished between *postulatio*, *delatio* and *accusatio*: for, first, leave was desired to bring a charge against any one, which was called *postulare*; then he, against whom the charge was laid, was brought before the judge, which was called *deferre*, or *de iudicio delatio*: lastly, the charge was drawn up, and presented, which was properly the *accusatio*. Voss. Etym. Lat. The accusation properly commenced, according to Pædianus, when the *reus*, or party charged, being interrogated, denied he was guilty of the crime, and subscribed his name to the *delatio* made by his opponent. Calv. Lex. Jur. p. 17.

The accusers, or actors, as they are called, were, by the laws of Pompey, A. U. C. 702, allowed two hours for pleading their cause, and the party charged three hours for a reply. Dion. Cass. lib. xl. 52. tom. i. p. 255, Ed. Reimari. They had a recompence assigned them, part of the property of those who were condemned, and they were frequently honoured with the superior offices of the state. Ib. tom. i. p. 100. 485. 867. 887, &c.

By the cruel laws of the **INQUISITION**, the accused is forced to accuse himself of the crime objected to him. There are three ways of entering an information in the tribunal of the inquisition. The first, by way of inquisition, when a private person, applying to the inquisitor, declares he will neither be denunciator, nor accuser, but that common fame gives out, that such and such a person is a heretic: the second, by way of accusation, when the informer takes on him the office of accuser, which rarely happens, because in this case, the accuser is obliged to prove, and exposes himself to the *lex talionis*, if his information should prove false. The last, and most usual way, is by denunciation, that is by naming those who know the fact.

It has formerly been the custom in some parts of Europe, where the accusation was very heavy, either to decide it by combat, or at least to make the accused purge himself by oath; which, however, was not admitted, unless a certain number of his neighbours and acquaintance swore together with him.

In the French law, none but the procureur general, or his deputies, can form an accusation, except for high treason, and coining, where accusation is open to every body. In other cases, private persons can only act the part of denouncers, and demand reparation for the offence, with damages.

In Britain, by Magna Charta, no man shall be imprisoned or condemned on any accusation, without trial by his peers, or the law: none shall be vexed with any accusation, but according to the law of the land; and no man may be molested by petition to the king, &c. unless it be by indictment or pre-

sentment of lawful men, or by process at common law. Promoters of suggestions are to find security to pursue them; and if they do not make them good, shall pay damages to the party accused, and also a fine to the king. No person is obliged to answer upon oath to a question whereby he may accuse himself of any crime.

Writers on politics treat of the benefits and inconveniences of public accusers. Various arguments are alleged, both for the encouragement and discouragement of accusations against great men. Nothing, according to Machiavel, tends more to the preservation of a state, than frequent accusations of persons trusted with the administration of public affairs. This, accordingly, was strictly observed by the Romans, in the instance of Camillus, accused of corruption by Manlius Capitolinus, &c. Accusations, however, in the judgment of the same author, are not more beneficial than calumnies are pernicious, which is also confirmed by the practice of the Romans. Manlius, not being able to make good his charge against Camillus, was cast into prison. Mach. de Repub. l. i. c. 7. p. 35. Solon facilitated public accusations, because they are more necessary in a democracy than under any other form of government. Without this formidable check, the general liberty would be perpetually endangered by the liberty of each individual. At Athens, if an accuser had not the fifth part of the votes on his side, he was obliged to pay a fine of a thousand drachmas. Æschines, who accused Ctesiphon, was condemned to pay this fine. At Rome, a false accuser was, by the Roman law, branded with infamy, by marking the letter K on his forehead. Guards were also appointed to watch the accuser, in order to prevent his corrupting either the judges or the witnesses. See Monteq. Spirit of Laws, vol. i. p. 283.

ACCUSATIVE, in *Grammar*, the fourth case of nouns that are declined. Its use may be conceived from this, that all verbs which express actions that pass from the agent, as, to beat, &c. must have subjects to receive those actions, or imply effects that are produced by them; so that such verbs evidently require after them a noun, or name, to be the object of the action expressed. Hence, in all languages which have cases, the nouns have a termination, which they call accusative; as, "*Achilles vulneravit Hectorem*:" "*Achilles wounded Hector*:" here the accusative denotes the subject. "*Lyfippus fecit statuas*:" "*Lyfippus made statues*:" here the accusative denotes the effect. In whatever other manner, says Mr. Harris, (Hermes, p. 283.) whether figuratively, or with prepositions, this case may have been used, its first destination seems to have been that here mentioned, and hence he forms its character and description. Accordingly, the accusative is that case, which to an efficient nominative and a verb of action, subjoins either the effect or the passive subject. But it has been alleged, that this description does not give us an appropriate and discriminating character of the accusative, and sufficiently distinguish it from the **DATIVE**. E. G. "*Antonius lesit Ciceronem*," and "*Antonius nocuit Ciceroni*," are expressions of the same import; and in each the action of hurting is conceived as proceeding from Antony to Cicero. It has, therefore, been reasonably affirmed, that the only thing essential to these two cases is the apposition or junction of one object with another; and they denote this much in the same manner, although from the custom of language they may not be indifferently subjoined to the same verb. See **CASE**.

In English, we have nothing to distinguish this case from the nominative; but as we ordinarily place words in their natural order, it is easily discovered: the nominative constantly preceding, and the accusative following the verb.—

Thus,

Thus, when we say, "the prince loves the princess," and "the princess loves the prince;" the prince is the nominative in the first, and the accusative in the last; and the princess the accusative in the first, and the nominative in the second.

ACE, a card or die, marked only with one point.

ACE, in *Ancient Geography*, a name given by several of the ancient writers to the city afterwards called **PTOLEMAIS**, and now **ACRE**. Strabo. *Geog.* vol. ii. p. 1099.

ACELA, a city of Lycia.

ACELDAMA, was a place without the south wall of Jerusalem, beyond the river of Siloam, and was called the Potter's field, (Matt. xxvii. 7—10.) because they dug out of it the earth of which they made their pots, and the Fuller's field, because they dried their cloth there; but being afterwards bought with the money by which the high priests and rulers of the Jews purchased the blood of Jesus Christ, it was, by the Providence of God so ordering it, called *Aceldama*, i. e. the field of blood. Acts i. 19.

ACELIUM, or **ACETUM**, a town of the Venetian territory, now called *Aculo*, or *Afolo*, situate to the west of Trevigi, at the source of the rivulet Musone. E. long. 13°. N. lat. 45°.

ACENTETUM, or **ACENTETA**, in *Natural History*, a name given by the ancients to the purest and finest kind of rock crystal. They used the crystal in many ways; sometimes engraving on it, and sometimes forming it into vases and cups, which were held next in value to the *Murrbina vasa* of those times. The crystal they obtained from the mines of Cyprus was much esteemed, but often faulty in particular parts, having hairs, cracks, and foulnesses, which they called salts, in the midst of the large pieces. Pliny tells us (N. H. vol. ii. p. 769. Ed. Hard.) that when it was used for engraving, the artist could conceal all these blemishes among the strokes of his work; but when it was to be formed into cups and precious vases, they always chose the *acentetum*, i. e. the pure crystal, which had no flaws nor blemishes.

ACEPHALI, or **ACEPHALITÆ**, a term that frequently occurs in *Ecclesiastical History*, as the denomination of various sects: particularly—1. Of those who in the affair of the council of Ephesus, refused to follow either St. Cyril, or John of Antioch. 2. Of certain Christians of the fifth century, who at first followed Peter Mongus, but afterwards abandoned him, upon his subscribing the council of Chalcedon, and were thus deprived of their chief; being generally of the opinion of Eutyches, that there was only one nature in Christ. This sect was afterwards divided into three others, who were called Anthropomorphites, Baranaphites and Efsianists; and these again, in the following century occasioned new factions, frequently mentioned by the ancient writers. However, these numerous branches of the Eutychian faction declined gradually in the next century; and the influence of the famous Baradæus chiefly contributed to their extinction by the union which he established among the members of that sect. 3. Of the adherents of Severus of Antioch; and of all in general who refused to admit the council of Chalcedon.

ACEPHALI, in *English History*, a name given to the levellers in the reign of Henry I. who were reckoned so poor, that they had not a tenement by which they might acknowledge a superior lord. In this sense the term is used in our ancient law-books, for persons who held nothing in fee, either of king, bishop, baron, or other feudal lord.

ACEPHALUS, or *Accephalous*, composed of the privative *a*, and *κεφαλη*, head, something that wants a head. Pliny represents the **BLEMMYES** as a headless, or acephalous nation. Ctesias and Solinus mention others in India, near the Ganges, without a head, and with their eyes in

their shoulders. Mela, Strabo, Stephanus Byzantius, Vopiscus, and other writers, furnish similar relations; and some modern travellers pretend that they have found people of the same description in America. The origin of this fable has been variously explained. Bachelin and others take it metaphorically, affirming that the *Accephali* had flat heads, or conducted themselves with less pride than others. In this opinion Bochart seems to have concurred. See **BLEMMYES**. Olearius ascribes it to the defects of such persons; alleging, that the Samogitians being short of stature, and covering their heads with hoods in winter, seemed at a distance as if they were without heads. Laffau says, that the term *Accephali* was merely a designation of people whose heads were depressed below their shoulders. However, in his epitome of Raleigh's voyage to Guiana, he met a people discovered by that traveller in the province of Irripinama, between the lakes of Panama and Cassipa, who had no head or neck: and Hondius, in his map, marked the place, and delineates the figures of these monsters. However, De Laet (*Descr. Americ.* l. xvii. c. 22.) rejects the story, and relates, that those who dwell on the banks of Caora, a river that flows out of the lake of Cassipa, had their heads so far sunk between their shoulders, that many believed they had their eyes in their shoulders, and their mouths in their breasts. But though the existence of a nation of *Accephali* be ill-warranted, naturalists furnish several instances of individuals born without heads, by some lusus or aberration of nature. Wepfer gives a catalogue of such acephalous births from Schenckius, Licetus, Paræus, Wolfius, Mauriceau, &c. Acephalous worms, or what are deemed such, are frequent. The *lumbricus latus*, or joint worm, was long taken to be acephalous. The first who ascribed a head to it was Tulpus, and after him Fehr; the former even makes it biceps, or two-headed. See **TÆNIA**.

ACEPHALUS, *Clerk*. See **CLERK**.

ACEPHALUS is also used in *Poetry*, for a verse which is defective in the beginning. Some also give the name *ακεφαλος* to all verses which begin with a short instead of a long syllable: as

Ἐπειδὴ νῆός τε καὶ Ἑλλήσποντος ἱκανό. Iliad. l. xxiii. v. 2. In the beginning of this verse we have an Iambus instead of a Spondee.

ACER, **MAPLE**, in *Botany*, so called, as some say, from *acris*, denoting the hardness of the wood, or according to others, from *acre ingenium*, because the common maple was much employed by ingenious artificers in fine works, a genus of the *Monocia* order and *polygamia* class of plants, and belonging to the natural order of *Tribolata*. Its generic and essential characters are these: it hath hermaphrodite and male flowers on the same tree; the hermaphrodite calyx is a one-leaved, five-cleft, acute, coloured, flat, and entire at the base, permanent perianthium; the corolla has five petals, ovate, broader outward, obtuse, scarcely larger than the calyx, and spreading; the stamina consist of eight or ten subulate short filaments: the antheræ are simple, and the pollen cruciform; the pistillum has a compressed germ, immersed in a convex, perforated, large receptacle: the style is filiform and daily progressive; the stigmas are two or three, pointed, slender, and reflex; the pericarpium is composed of as many capsules as stigmas, with one seed in each, coalescent at the base, roundish, compressed, and each terminated by a very large membranous wing; the seeds are solitary and roundish: the male flowers are the same with the hermaphrodites, except that they have neither germ nor style, but only a bifid stigma. On the unfolding of the flower the stigma only appears, and a few days after, the style. The hermaphrodite flowers in the

the same united are often of two kinds; the lower ones form a hemispherical, of which the authors do not doubt, but the pull grows into a butt; the upper ones make a hemispherical, of which the authors scatter their doubt, and the pulls do not grow, but fall off. Mr. Martyn in his much-improved edition of Miller's Dictionary, enumerates and describes twenty species. In the last edition of Linnaeus by Gmelin, the *Acer* is a genus of the *Octandria Monogynia* class and order, including twenty species. For the properties and uses of the several species, and the method of propagating and cultivating them. See MAPLE and SYCAMORE.

ACER. See BANISTERIA and TRIOPTERIS.

ACERIS, *Phalena*, in *Natural History*, a species of PHALENA, found on the Acer, Esculus, and Juglans.

ACERATOS, *ακρατος*, from *α* negative and *κρατος*, or *κραταιος*, to mix, unmixed, uncorrupted, is applied sometimes to the humours of the body by Hippocrates. Paulus Ægineta mentions a plaster under this name. See ACERIDES.

ACERB, a compound taste, consisting of sour, with the addition of a degree of roughness, and astringency; such as that of unripe fruit.

ACERIDES, *ακραδες*, from *α* neg. and *κρατος*, wax, denote plasters made without wax.

ACERINA, in *Ichthyology*, a name given by Pliny, and others of the old naturalists, to the fish now called the *Cernua* and *Aurata fluviatilis*, and in Eng^d and the *Ruff*. The acerina of Gmelin's Linnæan system is a species of PERCA, whose dorsal fin has 31 rays and 17 spines. It approaches to the *Cernua* in many respects, but differs from it in the number of rays and spines of the dorsal fin, and the size of its head, which is longer. It is found in the Euxine sea, and the lake of Mæotis, and the rivers that run into them.

ACERNO, in *Geography*, a small city of Naples, with a bishop's see, about 12 miles N. E. of Salerno. E. long. 15° 6'. N. lat. 40° 45'.

ACERNO is also the name given by the Portuguese, on the first discovery of it in the 15th century, to the island now called the *Ile of FRANCE*.

ACEROSE leaf, in *Botany*. See LEAF.

ACEROSUS, *χαuffy*, is an epithet, denoting the brownest and coarsest sort of bread, made of flour not separated from the bran.

ACEROSUS, in *Natural History*, a name given by Vogel in his Mineralogy to a species of TALC.

ACERRA, in *Antiquity*, a kind of altar, erected among the Romans near the bed of a person deceased; on which his friends daily burned incense till the time of his burial. The Chinese have a similar custom. They erect an altar to the deceased in a room hung with mourning; and upon it they place an image of the dead person, to which every one that approaches it bows four times, and offers oblations and perfumes. The original intention of the practice was, without doubt, to overcome any offensive smell that might proceed from the corpse.

By the laws of the 12 tables, the erecting of acerræ was prohibited.

The Acerra also signified a little pot, wherein the incense and perfumes were put, to be burnt on the altars of the gods, and before the dead. It appears to have been the same with what was otherwise called *thuribulum* and *pyxis*.

We find mention of acerræ in the ancient church. The Jews also had their acerræ, in our versions rendered censers; and the Romanists still retain them under the name of incense-pots. In Roman writers, we frequently meet with *acerra plena*, a full acerra; for understanding which it is to be observed, that people were obliged to offer incense in proportion to their estate and condition; the rich in larger

quantities, the poor only a few grains: the former poured out acerræ full on the altar; the latter took out two or three bits with their fingers. Pitisc. Lex. Aut. Brisson. de Formul. l. i.

ACERRA, in *Geography*, a walled town of Naples in the Terra di Lavoro, situate on the river Agno, seven miles N. E. of Naples. It is the residence of a bishop, and has the title of an earldom. E. long. 14° 30'. N. lat. 40° 55'.

ACERRÆ, in *Ancient Geography*, the name of a town on the Clunius in Campania, now ACERRA. It was a Roman colony, and its inhabitants were reckoned a brave people: "Acerranis plus animi, quam virium erat," says Livy, l. xxiii. c. 17. tom. iii. p. 739, Ed. Drakenb. This was also the name of another town, now called *La Girola*, or *Ghera*, which retains some trace of the original name, in the territory and to the S. E. of Lodi, where the river Serio falls into the Adda, to the W. of Cremona, and N. of Piacentia. It was formerly a place of considerable importance. Its siege by the Romans is particularly described by Polybius, l. ii. p. 121. Ed. Casaub.

ACERRI, a town of Spain, belonging to the Lacetani; probably *Gerri*.

ACESÆ and ACESAMENÆ, cities of Macedonia.

ACESCENT, a word used to denote any thing which is turning sour or acid, or which is slightly acid. It is only applied properly to denote the first of these two meanings. The second may be better expressed by either of the words acidulous, or subacid.

ACESINES, in *Ancient Geography*, a large and rapid river of India, which Alexander passed in his expedition into that country; and on the bank of which he built a city under the direction of Hephæstion. The kingdom of Porus, whom he vanquished, and which, according to Strabo, contained about 300 cities, lay between the Hydaspes and this river, which, after receiving the former and other considerable rivers, emptied itself into the Indus. Its situation is not precisely known. Arrian says, (De Exped. Alex. l. v. p. 222. Ed. Gronov.) that, where Alexander passed it, its breadth was 15 stadia, its course very rapid, and the channel full of large and sharp rocks. It was subject to extraordinary inundations, rising at the summer solstice 40 cubits and overflowing the adjacent plains. Theophrastus (Hist. l. iv. c. 12) speaks of the reeds that grew near this river; and Pliny (H. N. l. xxxvii. c. 12. tom. ii. p. 796) says, that this and the Ganges furnished gems. We read of trees near this river of such magnitude, that 50, some say 400 horsemen might lodge under the spreading branches of one of them; and that they produced long pods of honey, which proved fatal to those who eat it. Strabo, Geog. vol. ii. 1014—1022. Some have supposed that the Acesines of Arrian was the river now called Rauwæ; but major Rennell, in his Memoir, gives good reasons for concluding that the modern Jenaub was the Acesines of the ancients.

ACESINUS, a river of Sarmatia, called by Pliny PANTICAPES.

ACESIUS, in *Biography*, a bishop of Constantinople, in the reign of Constantine, was a disciple of Novatus, who founded a sect whose tenet was, that those who had fallen from the faith in time of persecution, or, who after baptism had committed any mortal sin, were not to be admitted to the communion of the church, even on their exhibiting tokens of sincere repentance. Constantine was so much displeased with the severity of this sect, which discouraged repentance, that, after questioning Acesius concerning it, he said, "then, Acesius, make a ladder for yourself, and go up to heaven alone." This story is related by Socrates (l. i. c. 10.) and Sozomen (l. i. c. 22); but disputed by

Valesius,

Valesius, (Annot. p. 9), and defended by Bafnage, Ann. 325, No. 33. Bayle. Lardner's Works, vol. iii. p. 224, &c.

ACESTA, of *αἰσθησις*, to cure, signifies curable distempers.

ACESTA, in *Ancient Geography*, a name given by Virgil (*Æn.* 5. v. 718) to a town called SEGESTA.

ACESTRÆ, in *Entomology*, a species of PAPILIO, found in India, with subdentated wings the anterior black, with a yellow base and band, the posterior yellow, with brown bands under the body.

ACESTIDES, a name given to the chimneys of furnaces where brass was made; contrived narrow at the top, for receiving and collecting the fumes of the melting metal, that CADMIA might be produced in greater quantities.

ACESTIS, *αἰσθησις*, a factitious sort of CHRYSOCOLLA, made of Cyprian verdigrise, the urine of children, and nitre.

ACESTRIDES, female physicians. Midwives were so called among the Greeks.

ACETABULUM, in *Antiquity*, a little vase or cup, used at table for serving up things proper for sauce, or seasoning; much after the manner of our salts and vinegar cruets. Hence, Agricola, in his Treatise of Roman measures, takes the name to have been formed from *acetum*, vinegar, supposing that it was principally destined to serve vinegar.

ACETABULUM also denotes a Roman measure, used both for liquid and dry things, chiefly in medicine. The acetabulum contained a cyathus and a half, as is proved by Agricola, from two verses of Fannius; who, speaking of the cyathus, says it weighs ten drachms; and the oxybaphus, or acetabulum, fifteen, or about one eighth of a pint.

“Eis quinque hunc faciunt drachmæ, si appendere tentes;
Oxybaphus fiet, si quinque addantur ad illas.”

Du Pinet, in his Treatise of weights and measures, prefixed to his translation of Pliny, makes the acetabulum of oil weigh two ounces and two scruples; the acetabulum of wine, two ounces, two drachms, a grain, and a third of a grain; and the acetabulum of honey, three ounces, three drachms, a scruple, and two siliquæ.

ACETABULUM, in *Anatomy*, a name given by Latin writers to that cup-like cavity of bones formed for ARTICULATION, which the Greeks called Cotyle or Cotyledon, from its supposed resemblance to a certain small measure. When the round head of one bone is lodged in a spherical cavity of another, the joint admits of motion in almost every possible direction. This species of articulation is technically termed ENARTHROSIS. See JOINT. See also COTYLEDON.

ACETABULUM is also used by *Anatomists*, in the same sense with COTYLEDON. It signifies also a glandular substance, found in the PLACENTA of some animals.

ACETABULUM, in *Botany*, a species of PEZIZA; so called from its resemblance to a cup. It is sessile and externally angulated, and has ramose veins.

ACETABULUM is also a species of LICHEN; and it is a name given to the COTYLEDON and CRASSULA; and with the epithets *marinum minus* to the ANDROSACES, *sic* NAVEL-WORT, or UMBILICUS *marinus*. See TUBULARIA.

ACETARIA. See SALLET.

ACETARIUM *scorbuticum*, in the *Materia Medica*, a kind of pickle, in which Dr. Bates advises scorbutic patients to dip their victuals before they eat it. It is thus made. R. fol. cochlear. marin. ℥ij. Sacchar. alb. ℥vi sal cochlear. ℥i bene contund. simul et adde succ. aurant. ℥vi. Motherby's Dict. by Wallis.

ACETARY is used for an inner part in the structure of certain fruits, thus called from the sourness of its taste. The acetary of a pear is a globular part, lying within the calcareous or choak, and surrounding the core. It is of the same substance with the parenchyma, or pulp, only that the bladders of which it consists are smaller, and rounder than those of the PARENCHYMA; from whence, however, it seems to be derived. On this account it is also sometimes called the inner parenchyma. The quince also has an acetary, resembling, though less than, that of a pear.

ACETRI *Spinus*, spirit of vinegar; made by drenching copper-slings with distilled vinegar, then evaporating it till the fumes of the vinegar cannot be smelt; the saturation and evaporation to be again repeated, till the menstruum be fatiated; which being then distilled, the spirit comes over. Its qualities and uses are much the same with those of the distilled vinegar; excepting that it is more powerful.

AC ETIAM, in *Law*, a clause devised by the officers of the King's Bench, and added to the usual complaint of trespass, in order to maintain the jurisdiction of this court over civil injuries without force; of which statute, 2. 13 Car. II. c. 2. had nearly deprived it. The bill of Middlesex having been framed only for actions of trespass, a defendant could not be arrested and held to bail upon it for breaches of civil contracts. To remedy this inconvenience the above clause was adopted: the bill of Middlesex commanding the defendant to be brought in to answer the plaintiff of a plea of trespass, *ac etiam*, and *et c.* to a bill of debt; and thus the complaint of trespass gives cognizance to the court, and that of debt authorizes the arrest. In imitation of this Lord Chief Justice North directed, that in the common pleas, besides the usual complaint of breaking the plaintiff's close, a clause of *ac etiam* might be added to the writ of CAPIAS; and this was done in order to save the suitors of his court the trouble and expence of suing out special originals.

ACETIC ACID, in *Chemistry*, *Radical vinegar*, *Acide Anacides*, *Vinagre radical*, *Vinagre de Venus*. If any quantity of crystallized acetite of copper (distilled verdigrise) be distilled in a glass retort, with a regulated heat, till at length the bottom of the vessel is nearly red hot, the equilibrium of the affinity between the component parts of the salt will be destroyed, and several new substances in consequence produced. The proportion of these on 1000 parts of the salt, according to an accurate analysis of Cit. Adet, will be 486 acetic acid, 312 brown oxyd of copper mixed with charcoal, 118 hydrogen and carbonic acid gas, and about 84 of the acetite of copper, will remain undecomposed. In order to be fully aware of what takes place in these changes, it is necessary to observe, that the crystallized acetite of copper contains hydrogen and oxygen forming the water of crystallization, hydrogen, carbon, and oxygen forming acetous acid, and copper, with about 25 per cent. of oxygen. By the process of distillation, the acetous acid appears to be decomposed by the separation of part of its hydrocarbonous base, and at the same time the oxyd of copper is brought to a lower state of oxydation: part of the carbon becomes acidified at the expence of the copper, and, uniting with the hydrogen, forms hydrocarbonous gas; the remainder of the carbon is found in the retort, mixed with the oxyd of copper, and possesses the properties of a pyrophorus. Thus it seems that acetic acid differs from acetous, in a larger proportion of oxygen to the base, which is effected not by an addition of oxygen, but by a diminution of the base. Acetic acid may also be procured by distilling together acetite of lead, of soda, potash, or lime, with sulphuric acid; the product is however, in this case, contaminated by sulphureous acid gas; but this may be in part prevented, by adding

adding to the materials some black oxyd of manganese. M. Badoher proposes to obtain acetic acid, by distilling equal parts of sulphat of copper, and acetite of lead: the acid thus produced costs only a fourth of that which is formed from acetite of copper. In its general properties, acetic acid is very similar to acetous acid, yet differing from it in the following particulars.

The active acid qualities of this fluid bring it to a near resemblance with some of the mineral acids; it is corrosive, and intensely acid to the taste, exhales a pungent almost suffocating odour, and has nothing of the spirituous flavour of distilled vinegar: its specific gravity is 1.0626. With earthy and alkaline bases it unites readily, forming the genus of neutral and earthy acetats, the properties of which have been but very little examined. It dissolves copper, and certain other metals which are not soluble in acetous acid, and it is capable of partly decomposing and uniting with alcohol, forming acetic ETHER.

This acid is of some use in the laboratory, and is employed occasionally in medicine, as a stimulant application to the nostrils in fainting fits; for this purpose some acetite of potash is put into a smelling-bottle, and a little sulphuric acid is poured upon it. *Annales de Chimie.* xxvii. 299. xxviii. 113. Fourcroy, *Syst. des Connaiss. Chim.* viii. Gren's *Chem.* ii.

ACETITE OF POTASH. *Kali. acetatum*, Lond. Pharm. *Lisiva acetata et Tartar. regenerat.* Edin. Pharm. *Acétite de Potasse. Terra foliata Tartari. Digestive salt of Silvius.*

This salt occurs native in the sap, and certain other vegetable juices, and also in the urine of some quadrupeds: it is prepared artificially by adding to pearlash, or carbonat of potash, distilled vinegar, till the liquor contains a slight excess of acid; if the salt is wanted in a solid state, evaporation in a glass or silver vessel must be had recourse to; when a pellicle appears on the surface, the process should go on at a very gentle temperature, till all the moisture is exhale; there will remain a white micaceous salt, which must immediately, while warm, be put into a well-closed vial. The salt may also be obtained cheap and pure, by adding sulphat of potash to acetite of lime, evaporating to dryness in a water-bath, and dissolving out the acetite of potash by hot alcohol.

Acetite of potash has a lively penetrating odour, and a sharp taste; but leaving an alkaline impression on the palate: it crystallizes in needles and plates, the form of which has not been ascertained.

This salt has a strong affinity for water, deliquiating readily in the air: it requires 1.021 parts of this fluid at 50° Fahren. for its solution, and, while dissolving, absorbs caloric: from its hot saturated solution in alcohol, crystals may be obtained by cooling.

Of the alkalies and alkaline earths, barytes alone is capable of decomposing acetite of potash, setting at liberty the alkali, and forming with the acid acetite of barytes.

The sulphuric, nitric, muriatic, fluoric, phosphoric, oxalic, tartareous, arsenic, succinic and malic acids, are each capable of separating the acetous acid from its alkaline base: all the easily soluble sulphats, and several other neutral salts effect the same by double affinity.

Acetite of potash, subjected to dry distillation, yields hydrocarbonous gas, an ammoniacal liquor mixed with empyreumatic oil, sublimed crystals of carbonat, or acetite of ammonia, and there remains in the retort, charcoal, with potash, partly caustic, and partly carbonated. The appearance of ammonia in this process, is a circumstance well worthy of accurate investigation: it was first observed by Beaumé, and afterwards by Morveau, and seems likely to

throw much light on one of two very important questions, viz. Is azot a compound? Is ammonia one of the elements of potash? Ammonia consists of azot and hydrogen, but acetite of potash furnishes only oxygen, hydrogen, carbon, and potash; hence, it seems reasonable to suppose, either that these four substances contain the bases of azot, or that ammonia is one of the component parts of potash.

The above salt is applied to no use in the laboratory, or in the arts: it is an article of the *Materia Medica*, and possesses considerable diuretic qualities.

Beaumé, *Chim. Experim.* Fourcroy, *Connaiss. Chim. Encycloped. Method. Art. Acète de Potasse.* Gren's *Chemistry.*

ACETITE OF SODA. *Acétite de Soude. Terra foliata mineralis vel crystallizata.*

To any quantity of carbonated soda add distilled vinegar, leaving the liquor, however, still alkaline; evaporate gently to a pellicle, and by cooling, acetite of soda will be obtained in long striated prismatic crystals similar to those of sulphated soda, permanent in the air, soluble at a gentle temperature in their water of crystallization, and of a pungent bitterish taste.

Acetite of soda is easily soluble in water and alcohol, is decomposable with abstraction of the acid or alkaline base by potash, and the same substances as the preceding salt: when kept long in solution it is converted into carbonat of soda by decomposition of its acid; if subjected to dry distillation it yields hydrocarbonous gas, empyreumatic oil and acid, and there remains in the retort, charcoal and carbonated soda.

This salt is employed a little in France as a medicine—in this country is made no use of.

Beaumé, *Ch. Exp.*—Fourcroy, *Syst. des Conn. Chim.*—*Encyclop. Method. art. Acétite de Soude*—Gren's *Chem.*

ACETITE OF AMMONIA. *Acétite d'Ammoniaque.*—*Ammonia Acetata et Spiritus Mindereri*; Lond. et Edin. Pharm.

This is prepared in the liquid form by adding carbonated ammonia to distilled vinegar till saturation. On account of its great volatility, it is not very easy to obtain it in the crystalline form; the following method was successfully practiced by M. Delafosse for this purpose: equal parts of chalk and sal-ammoniac were mixed well together, and put into a retort, upon which was poured half their weight of concentrated acetous acid; by a gentle heat a white vapour arose, which concentered in beautiful crystals in the receiver, and was acetite of ammonia. Another way of preparing this salt is by distilling equal parts of acetated lead (sugar of lead), and muriated ammonia (sal-ammoniac.)

This substance is very deliquescent—has a hot pungent flavour—is decomposed by alkalies, by most acids, and by double affinity in various ways; it is destroyed by fire, and spontaneously when in solution.

It is only employed in medicine, and is considered as a diaphoretic.

Beaumé, *Ch. Exp.*—Fourcroy, *Syst. des Connaiss. Chim.*—*Encyclop. Method. art. Acète d'Ammonia.*—Gren, *ut supra.*

ACETITE OF LIME. *Acétite de Chaux.*—*Salt of Chalk, —Salt of Coral.*

This salt is readily procured, by adding distilled vinegar to chalk, marble, coral, oyster-shells, or any other substance that consists chiefly of calcareous carbonat; the carbonic acid is disengaged with effervescence, and by evaporating the solution to a pellicle, and allowing it to cool gradually, crystals of acetite of lime are deposited.

Calcareous acetite crystallizes in white slender silky filaments, permanent in the air; its taste is bitter, acerb, rather caustic; it is soluble with ease in water, and in small proportion

proportion by alcohol. Barytes, and the fixed alkalies decompose it, by union with its acid; the stronger acids do the same, by combining with its earthy base: most of the carbonates and sulphates decompose it by compound affinity: when in solution, it is destroyed spontaneously by decomposition of the acid, and deposits carbonat of lime: in dry distillation it yields hydrocarbonous gas, empyreumatic acid and oil, charcoal and calcareous carbonat.

It is still admitted into the foreign pharmacopœas as a sudorific and diuretic.

Beaume, Ch. Exp.—Fourcroy, Syst. des Connais. Chim. Encyclop. Method. art. Acète Calcaire.—Gren, ut supra.

ACETITE OF BARYTES. *Acétite de Baryt.*

This salt is usually prepared by adding carbonat of barytes to distilled vinegar, in which case the acid is always in excess: when reduced by evaporation, to the consistence of a syrup, and allowed to cool gradually, it deposits a white opaque granular salt, and the sides of the vessel are covered with silky filaments of the same: a better way of procuring this substance, is by boiling for a few minutes the sulphuret of barytes in a slight excess of acetous acid, (vide ACETITE of Strontian) filtering the solution, and setting it to evaporate spontaneously; transparent crystals may thus be obtained in long slender prisms. The salt formed by either of these methods is permanent in the air, and decomposable by most of the mineral acids, the carbonated alkalies, and the sulphuric salts. Its only use is as a reagent, for ascertaining the presence of sulphuric acid in those cases where the muriat or nitrat of barytes might affect the results of the analysis.

Encyclop. Method. art. Acète Barotique.

ACETITE OF STRONTIAN. *Acétite de Strontian.*

To any quantity of warm distilled vinegar, add gradually sulphuret of strontian, as long as any effervescence is perceived; then boil the liquor for a few minutes and filter; add afterwards, drop by drop, a solution of acetite of lead, (sugar of lead) as long as any precipitate takes place, then suffer the liquor to stand for a few hours, and finally separate it from the dark sediment by filtration. This salt has not as yet been the subject of experiment; its properties are, in all probability, very similar to those of the Acet. Baryt. It is not made any use of.

ACETITE OF MAGNESIA. *Acétite de Magnésie.*

This salt is prepared by saturating distilled vinegar with carbonated magnesia, then boiling the liquor to separate the remains of carbonic acid, and filtering it, if turbid, to get rid of the excess of carbonated magnesia.

The taste of acetite of magnesia is sweet, with a slight mixture of bitter: by evaporation, it is reduced to a viscous syrupy consistence, incapable of being crystallized; but by further concentration, and subsequent cooling, becomes solid, and deliquescent in the air: it is totally soluble in spirit of wine, and from the ease with which it is decomposed, the affinity between its elements appears to be extremely weak. The alkalies, and the rest of the alkaline earths, most of the mineral, vegetable, and animal acids are capable of decomposing this salt by abstraction of its acid or earthy base. It is not made any use of.

Encyclop. Method. art. Acète Magnésien. Pearson's Tables of Affinity.

ACETITE OF ALUMINE. *Acétite d'Alumine. Aluminous mordant of the calico-printers.*

Of all the acetous salts this is the most important, being absolutely essential to the improved state of the arts of DYEING and CALICO-PRINTING. It is not easy to prepare this salt directly, distilled vinegar, even when concentrated, having no perceptible action on clay; the fresh precipitated and washed earth of alum is indeed soluble by

long digestion in a large excess of acetous acid; but the most economical and effectual way of producing the salt in question, is by means of the double affinities of common alum and sugar of lead. For this purpose, to a blood-warm solution of alum in rain-water, is first of all to be cautiously added a solution of pearlsh, or any other sufficiently pure alkali, till the liquor is just upon the point of becoming turbid, in order to saturate the excess of acid in common alum; a cold saturated solution of acetite of lead (sugar of lead) in rain-water is then to be stirred in as long as any precipitation takes place: by standing a few hours, the sulphat of lead entirely subsides, and the supernatant clear liquor, containing acetite of alumine and potash, may be drawn off with a syphon. By washing the sediment with cold water a dilute solution of acetite of alumine is obtained, which may be used instead of water in dissolving alum for the next preparation of aluminous mordant.

Acetite of alumine thus prepared has an acetous strongly styptic taste: by gradual evaporation and cooling, it assumes the form of small needle-shaped crystals, which are exceedingly deliquescent: by a heat inferior to that of boiling water, the acid is almost wholly driven off. It is decomposed by magnesia, and by all the substances that decompose acetite of magnesia. Its use is almost wholly confined to the dyers and calico-printers.

Encyclop. Method. art. Acète Alumineux.

ACETITE OF GLYCINE. *Acétite de Glycine.*

This is an uncrystallizable salt, which by evaporation becomes of a gummy semiductile consistence; its taste is sweet and very astringent, with a flavour of vinegar: its other properties have not been examined into; it is not applied to any use. B. la Grange, ii. 452.

For the *metallic acetites*, see the respective metals.

ACETIFICATION is used by some *Chemists* to denote the action or operation, by which vinegar is made. See ACETOUS FERMENTATION.

ACETOSA, in Botany. See RUMEX and SORREL.

ACETOSELLA. See RUMEX, OXALIS, and wood SORREL.

ACETOUS ACID.—*Distilled vinegar*—*Acide Acéteux*—*Acetum distillatum*, Lond. et Edin. Pharm. In *Chemistry*, is produced from saccharine mucilage, gum mucilage, fecula and all vinous liquors, through the medium of the acetous FERMENTATION; also in urine and dunghills during their spontaneous decomposition; from the dry distillation of wood, mucilage, and tartar, from the action of sulphuric acid on many vegetable substances; and from the superoxygenation of most of the other vegetable acids. It is prepared for use, however, in the large way, only by the former of these methods, and is called *alegar*, if made from malt liquor; but if from any other fermentable liquor, it bears the name of VINEGAR.

Common vinegar never contains this acid in a state of purity, but always contaminated by mixture with tartar, mucilage, and carbonaceous matter, which render it very liable to spontaneous decomposition; these substances can only be got rid of by having recourse to distillation, which ought to be performed in glass or tinned-copper vessels; the first product of this operation is an odorous, faintly acid liquor containing alcohol; the next is less odorous and more acid; and what comes over towards the end of the operation is a still stronger acid, but with an empyreumatic flavour, and a slight tinge of colour: hence, in distilling four parts of vinegar, the first may be rejected as too much diluted, and the process may be stopped when three-fourths of the liquor is come over. If distilled vinegar is exposed to frost in a broad shallow vessel, and the ice removed as it forms, till

it tastes nearly as sour as the remaining liquor, a very strong and pure acetic acid will be obtained, in the proportion of about 7 or 8 per cent. to the distilled vinegar.

Acetic acid is a transparent colourless fluid, of the specific gravity of 1.0095, nearly as volatile as water, exhaling a pungent fragrant odour, and of a lively agreeable acid taste.

When concentrated, it unites eagerly with water, either in the solid or liquid state; absorbing heat in the former case, so as to produce a considerable depression of the thermometer, and giving out heat in the latter case.

Upon fat oils it has little or no action, but camphor and most of the essential oils are readily soluble in it, giving their peculiar odours and increasing the inflammability of the liquor. With the empyreumatic oils of wood, tartar, &c. it forms the PYROLIGNEOUS and PYRO-TARTAREOUS acids.

At a temperature above that of boiling water it decomposes atmospheric air, by abstracting its oxygen, and at the same time giving out flame, and producing carbonic acid and water; the same effect is produced more gradually, by exposing to the air a solution of the earthy or alkaline acetites; thus acetite of lime is converted into carbonat of lime. Acetic acid is however capable of uniting to oxygen without experiencing such a total decomposition. If equal parts of acetite of lime, black oxyd of manganese and sulphuric acid are distilled together, a pungent volatile acid called ACETIC acid will be produced together with hydrocarbonous gas: the same results are obtained from the distillation of crystallized verdigrise, and the copper is found in the retort nearly in the metallic state.

Acetic acid unites easily with all the alkalies and alkaline earths, whether pure or carbonated, forming the genus of alkaline acetites, which contains seven species; viz. ACETITE of *potash, soda, ammonia, lime, barytes, strontian, and magnesia*.

It appears to have no action on filix, but combines with the other earths into ACETITES of *alumine and glycine*.

Excepting iron and zinc, the rest of the metals are difficultly or not at all soluble in acetic acid, their oxyds, however, especially if carbonated, are easily so; hence results the large and important genus of metallic acetites.

On vegetable and animal colouring matter this acid appears to have little effect; it possesses indeed the property of reddening syrup of violets, and certain other vegetable blues, in common with all acids.

The component parts of acetic acid are oxygen, hydrogen, and carbon, but their relative proportions have not yet been ascertained. If acetic acid in vapour is passed through a red-hot glass tube, it is decomposed into water, hydrogen, and carbonic acid.

The affinity of this acid is as follows:

Degree of attraction Order of Elective
(by Guyton.) Attraction

(by Pearson.)

Barytes	-	-	28	Baryt	
Potash	-	-	26	Potash	
Soda	-	-	25	Soda	
Lime	-	-	19	Strontia	
Ammonia	-	-	20	Ammonia	
Magnesia	-	-	17	Lime	
Alumine	-	-	15	Magnesia	
				Alumine	
				Metallic oxyds	
				Water	
				Alcohol.	

This acid forms an important article in the *Materia Medica*; it is also much used in food both as an agreeable

condiment, and for the preservation of animal and vegetable substances. Fourcroy, *Système des Connoissances Chimiques*, vol. viii. *Encyclopedie Methodique*, art. *Acide Aceteux*. Beaumé, *Chimie Experimentale*. Gren's *Chemistry*, vol. ii.

ACETOUS *ather*. See ETHER.

ACETOUS *Fermentation*. See ACETOUS FERMENTATION.

ACETUM, formed of *acere*, to be sharp, the same with vinegar; the properties, uses, and preparations of which, see under the article VINEGAR. There are several medicines in the shops, of which this liquor is the basis: as, ACETUM *alkalizatum*, made of distilled vinegar, with the addition of some alkaline, or volatile salt.

ACETUM *Colchicum*. See COLCHICUM.

ACETUM *distillatum*. See DISTILLED VINEGAR, and ACETOUS Acid.

ACETUM *esuriens*, distilled vinegar rectified by means of verdigrise. It is made by dissolving the common verdigrise in fine distilled vinegar, then evaporating the solution, and recovering the verdigrise again in form of crystals; and from this, by a proper degree of fire, distilling with a retort an acid spirit, which is the richest acid that can by any art be prepared from vinegar. Boerhaave's *Chem.* p. 138.

ACETUM *Lithargyrites*. See ACETITE of LEAD.

ACETUM *Philosophorum*, a four kind of liquor, made by dissolving a little butter of antimony in a great deal of water. See SPIRIT of Venus.

ACETUM *Portabile*. See VINEGAR.

ACETUM *prophylacticum* is a preparation made in the following manner. R flor. lavend. et rorism. fol. rutæ, absinth. falvæ, menth. ā ā. m. j. Aceti vini cong. j. infund. in B. A. per 8 dies. R hujus tinct. ℥j. camph. ℥iii. m. f. This is also called the *vinegar of the four thieves*; for during the plague at Marseilles, four persons by the use of it, attended many of the sick unhurt: under the colour of their services they robbed the sick and the dead; but one of them being apprehended, saved himself from the gallows by discovering this remedy. Motherby's *Dict.* by Wallis.

ACETUM *rosatum*, vinegar of roses, is made of rose buds infused in vinegar forty or fifty days; the roses are then pressed out, and the vinegar preserved. It is chiefly used by way of embrocation on the head and temples in the head-ach. After the like manner are made *acetum sambucinum*, vinegar of elder; *acetum anthesatum*, vinegar of rosemary flowers; *acetum scilliticum*, vinegar of squills. The German dispensatories abound with medicated vinegars, chiefly aimed against pestilential diseases; but they are not used among us.

ACH, or ACHEN, *John Van*, in *Biography*, a painter of history and portrait, was born at Cologne, in 1556, and died, aged 65, in 1621. Having studied and practised portrait-painting for some time in his own country, he travelled to Venice, in order to obtain a more extensive knowledge of colouring; and with a view of perfecting his taste, and improving in correctness of design, he settled for some years at Rome. Here he painted a nativity for the church of the Jesuits, and a portrait of Madona Venusta, a celebrated performer on the lute, which is accounted one of his best performances. The best judges allow his colouring to be extremely good, his design correct, and that the airs of his heads manifest much of the taste of Correggio. His talents, and polite accomplishments, recommended him to several considerable princes of Europe; and under the patronage of the elector of Bavaria, he painted a grand design of the invention of the cross, which is highly commended for the elegance of the composition, the correctness of the design, the graceful airs of the heads, and the attitudes of the figures. For this, and his portraits of the electoral family,

family, he was presented by the elector with a chain and medal of gold, as a peculiar token of his esteem. By the emperor Rodolph he was invited to Prague, where he executed a picture of Venus and Adonis, so much to the emperor's satisfaction, that he was particularly distinguished by him as long as he lived. His character was that of one of the best masters of his time. Pilkington's Dict.

ACHA, or Aca, in *Geography*, a district of Africa, on the confines of Lybia; formerly rich and populous, but now reduced: the chief produce is dates.

ACHABYTUS, in *Ancient Geography*, a high mountain in Rhodes, on the top of which stood a temple of Jupiter.

ACHAC, in *Ornithology*, the name given by the people of the Philippine islands to a bird common there. It is of the size of a common hen; its belly, breast, and neck are of a pale brown, and its back of a dusky reddish colour; its wings are extremely beautiful, being principally of a greenish blue colour; the tail is white, short, and continually in motion; the eyes are black, and the beak is thick and strong, and is of a black colour, and of an obtuse figure; the legs are reddish, and the claws black: when it makes any noise, it seems to utter the word *phi, phi*, very often repeated. It lives principally about the cultivated parts of the islands, and feeds on rice and other vegetables, being properly of the partridge kind.

ACHÆA, in *Ancient Geography*, a well fortified town of the island of Rhodes, in the district of Jalyfus, said to be the first and most ancient of all, and to have been built by the HELIADES, or children of the Sun. Diod. Sicul. l. v. c. 57. tom. i. p. 376. Ed. Wesseling.

ACHÆA was also a hamlet of Asiatic Sarmatia, on the Euxine. The inhabitants were a colony of Orchomenians, and called *Achai*.

ACHÆANS, *Achai*, in *Ancient History*, the inhabitants of ACHAIA *Propria*, so called from Achæus, the son of Xuthus, who having been banished from Thessaly, settled in Athens, married Creusa, the daughter of Erechtheus, and had by her two sons, viz. Achæus and Ion. Achæus, putting himself at the head of a small number of Athenian and Ægean forces, made an expedition into Thessaly, and recovered his grandfather's kingdom; but having committed the crime of manslaughter, he was soon obliged to fly to Laconia, where he died, and where his posterity remained, under the denomination of Achæans, till they were expelled by the Doræ and Heraclidæ. On this occasion they determined to lay claim to Achaia, and to expel the Ionians. They founded their title on their descent from the eldest son of Xuthus, and enforced it by collecting a number of troops, and arranging themselves under their brave king Tisamenus, the son of Orestes. The Ionians were overpowered, and driven into Attica; and the Achæans took possession of the kingdom, which consisted chiefly of twelve cities. These cities were divided between the four sons of Tisamenus; who, uniting with their cousin, the son of Penthillus, and grandson of Orestes, and jointly reigning over this new Achaian state for some time, agreed to form an alliance with Preagenes, and his son Patrus, the sovereigns of those Achæans, who had been banished out of Lacedæmon, and gave them the sovereignty and territories of a city, which from the last of these was called *Patræ*. The Achæans fortified themselves so well in their new settlement, after having expelled the Ionians, that they were able to defend themselves against the Heraclidæ, and to preserve their laws and liberty, even after all the rest of Peloponnesus had been subdued by them, and under a series of kings from Tisamenus to Ogygus; after which they formed themselves into a kind of republic, or democracy.

As their country was poor, without commerce, and almost without industry, its inhabitants enjoyed the liberty and equality afforded them by a wise legislature. Strangers to the desire of conquest, and having little connection with corrupt nations, they never employed fraud and falsehood even against their enemies; and as all their cities had the same laws, and the same offices of magistracy, they formed only one body, and one state: and the harmony that prevailed among them pervaded every class of citizens. The excellence of their constitution, and the probity of their magistrates were so universally allowed, that the Greek cities of Italy addressed themselves to this people to become their arbitrators, and some of them even formed a similar confederacy. The Lacedæmonians and Thebans, who respectively claimed the victory at Leuctra, referred their dispute, in which their honour was so materially interested, and which demanded the most impartial decision, to the determination of the Achæans. Having long retained their liberty, they ceased not to assemble, when the necessity of public deliberation required it, even when the rest of Greece was threatened with wars and pestilence. Polybius observes, that the Achæans so far gained the esteem and confidence of all the Peloponnesians, that their name became common to that whole country. The arms which these people chiefly used were slings, in the use of which they were trained from their infancy, and acquired such dexterity, that they struck any object at which they aimed with surprising exactness. The Achæan government continued in its democratic form from the expulsion of Ogygus or Gyges, the last king of Achaia, to the time of Alexander the Great; after whose death this little republic was involved in all the calamities that are inseparable from discord, and was constrained to submit to the Macedonian yoke. The Achæans then changed masters as often as Macedon changed sovereigns, and were frequently enslaved by tyrants of their own. Unable to bear this slavish subjection, in the 125th olympiad, *ante* Chr. 280, when Pyrrhus invaded Italy, they revived their ancient union. The first assertors of liberty were the inhabitants of Patræ and Dyma, and they were soon joined by those of Ægium, Bura, and others. The good order that reigned in this little republic, where liberty and equality, with a sincere zeal for justice and the public welfare, were the fundamental principles of their government, induced several neighbouring cities to join them. The Achæan league thus revived, and extending its influence, was first acceded to by the Sicyonians, under the direction of Aratus; they were followed by other states not only of Peloponnesus, but by all Greece, except the Lacedæmonians, who first entered into a war against the Achæans. By the Achæan league, all the cities subject to it, were governed by the great council, or general assembly of the nation. To this assembly each of them had a right to send a certain number of deputies, who were elected in their respective cities by a plurality of voices. As the supreme and legislative power was lodged in this assembly, it was constantly convened, except on extraordinary occasions, twice a-year; on which occasions they enacted laws, disposed of vacant employments, declared war, made peace, and concluded alliances; and the acts of the assembly were binding on all the confederated cities. The chief magistrate of the league, called by the Greeks *strategos*, and by the Latins *prætor*, was chosen by the majority of votes. At first they had two officers of this kind; but they were soon reduced to one, who presided in the diet, and commanded the army. The prætor, and other magistrates, continued in the same office two years successively. The former was responsible to the general assembly. The *demiurgi* were next in power to the prætor, and are therefore denominated

by Pelybius and Livy, the supreme magistrates of the Achæans. Their number was ten; they were chosen by the general assembly, and their office was to assist the prætor, who was not allowed to propose any measure to the assembly, which had not been previously approved of by the majority of these demiurgi. In some extraordinary cases they were allowed to summon the general assembly. Such was the fundamental constitution of the Achæans; and they had also several laws, which were religiously observed as long as the republic continued in a flourishing condition. Their peace and prosperity, however, were interrupted by the jealousy of neighbouring states; and particularly by the Lacedæmonians, who, about the year before Christ 227, commenced a war against them, which, from the name of Cleomenes their king, was called the *Cleomenic war*. The Achæans, under the command of Aratus, were successively defeated, and reduced to such a state of distress, as to be under a necessity of engaging Antigonus, king of Macedon, to assist them. In a variety of subsequent contests, the Achæans behaved with uncommon bravery, and Philopœmen distinguished himself above the rest. Cleomenes was defeated; and Antigonus received the thanks of the deputies of each city comprehended under the Achæan league; and, by a decree of the council assembled at Argos, was declared protector of Achaia. The Achæans afterwards took part with the Messenians against the Ætolians; and being overpowered by them, resorted to Philip of Macedon, who promised to assist them with the whole force of his kingdom. A confederacy was formed, and war, called from this circumstance the *confederate war*, was proclaimed against the common enemy. This war having terminated first in a treaty between Philip and the Achæans on one side, and the Ætolians, Lacedæmonians, and Eleans, on the other, and soon after in a peace; the Achæans returned to their ancient manner of life, rebuilt their cities, temples, and altars, restored their worship, and repaired the various damages which they had sustained during the progress of the war. Philip, however, soon changed his conduct towards the Achæans, and disturbed that tranquillity which he had been the instrument of establishing. As they refused to concur with him in his purpose of subjecting the Messenians, who were members of the Achæan body, he ascribed their resistance to avarice, which he contrived to remove by poison, whilst he was prætor of the Achæans for the seventeenth time. When he perceived the danger of his situation, he said to an intimate friend who attended him, "Behold, my dear Cephalon, the end of friendship with kings." This distinguished man here closed his life at Ægium, in the 57th year of his age, and was interred with extraordinary pomp and solemnity at Sicyon, the place of his nativity; and the part of the city in which he was buried, was from that time called Aratiun, in honour of his memory. The Achæans also decreed, that divine honours should be paid him, and appointed a priest for that purpose. The conduct of Philip incensed the Achæans, and when a favourable opportunity occurred they testified their displeasure. In the mean while they concurred with him in carrying on the war with the Ætolians, who had formed an alliance with the Romans. Philopœmen gained new honours; and in the year before Christ 210, was appointed, for the first time, commander in chief of the Achæan forces. After a very decisive victory over the Lacedæmonians, the Ætolians sued for peace, and obtained it; and the Romans also concluded a treaty of peace and amity with Philip and his allies. This peace was not of long duration. The Romans declared war against Philip, who was joined by the Achæans and Lacedæmonians. It was not long however before the Achæans formed an alliance with

the Romans, to whom they maintained a steady attachment during the whole course of this war. At the conclusion of it, they were put into possession of Corinth; the Greeks were declared free by the Romans; and the Achæans amongst others, were delivered from every kind of servitude, and allowed to govern themselves by their own laws. Soon after the departure of the Romans, Nabis, who had been left in possession of Lacedæmon, began to raise insurrections in the maritime cities, which were garrisoned by the Achæans; and these hostilities obliged them to have recourse to the Romans, and to declare war against Nabis. The whole management of this war was committed to Philopœmen. After a defeat by sea, and a very fortunate escape, this illustrious general obtained a complete victory over Nabis by land; and was thus enabled to unite the powerful city of Lacedæmon to the Achæan commonwealth in the year before Christ 191: by which means the Achæans eclipsed all the other States of Greece. Philopœmen, with a disinterestedness and patriotism that served to establish his reputation more than all his military exploits, refused to accept a present of 120 talents, the produce of the palace and furniture of Nabis, which the Lacedæmonians offered him as a token of their gratitude. Recommending the application of this money to the purpose of conciliating the discontented, he said to those who urged his acceptance of it, "it is much more advisable to stop an enemy's mouth than a friend's; as for me, I shall always be your friend, and you shall reap the benefit of my friendship without expense." The Achæan republic, by the addition of Lacedæmon, and the protection of Rome, was now become very formidable. But internal disputes about the place of holding their assemblies, which were transferred by Philopœmen from Ægium to Argos, and the more important quarrel with the Lacedæmonians, and their attempt to secede from the Achæan league, produced an interruption of their tranquillity, and exposed them to new dangers. Lacedæmon, indeed, was reduced by the Achæans; and Philopœmen ordered them to demolish their walls, disband their mercenaries, drive out all the slaves whom the tyrants had set at liberty, receive the exiles, and renounce the laws of Lycurgus, and for the future govern themselves only by those of Achaia. At this time the Achæan league was in great repute all over the East, and the friendship of a state so powerful was courted by all the princes of Asia. The ancient alliance with Ptolemy, king of Egypt, and with Seleucus, king of Syria, was renewed. But the Romans became jealous of their increasing power, and interfered with their internal government. The city Messene withdrew from the Achæan league; and Philopœmen, in his endeavour to reclaim the rebels, was defeated, taken prisoner, and put to death. When he held the cup of poison in his hand, he enquired whether Lycortas and the Megalopolitan youth, who had accompanied him as volunteers, had got into a place of safety; and being informed, that they had all made their escape; he replied, "That is enough; I die content." Upon his death the glory of Achaia began to decline; so that Philopœmen was not improperly called the last of the Greeks, as Brutus was afterwards styled the last of the Romans. Messene was afterwards restored to the Achæan league; and the Romans imperiously urging the readmission of the Lacedæmonians, the Achæans were obliged to submit. In the year before Christ 169, when a war broke out between the Romans, and Perseus king of Macedon, the Achæans declared for the Romans, and Polybius was sent to the Roman general with the resolution of the Achæan diet. However, several of the Achæans favoured Perseus; and a thousand of them were summoned to appear before the Roman senate. These persons were

kept close prisoners at Rome; and, notwithstanding repeated remonstrances, their trial was delayed. After a confinement of 17 years, 300 of them, who had survived the hardships which they experienced, were sent home. This treatment alienated the minds of the Achæans from the Romans; and, by degrees, brought on an open war, which ended in the reduction of Achaia, and the dissolution of the Achæan league. Commissioners were sent from Rome, in the year before Christ 147, who announced the orders of the Roman senate and people, that all the cities which were not formerly of the Achæan league, viz. Corinth, Lacedæmon, Argos, Heraclea, and Orchomenos, should be separated from the general alliance, and governed by their own laws, independently of the confederacy. The Achæan deputies, assembled at Corinth, as soon as they heard these words, left the assembly before Aurelius had finished his speech, and when they informed the people of the Roman decree, the whole city was in an uproar; and both the commissioners and Lacedæmonians were treated with the most outrageous insult and violence. The senate was incensed, but sent out new commissioners with proposals of accommodation. But these ambassadors having been treated with disrespect, returned with their complaints to the senate. Four other Romans were deputed by Metellus to negotiate with the Achæans; but their endeavours were ineffectual. The consequence of these unsuccessful efforts was an open rupture, and the declaration of war with Lacedæmon and the Romans. Metellus, without waiting for the orders of the senate, marched towards Achaia; and the Achæans, joined by the cities of Thebes and Chalcis, prepared to receive him. The greater number of them were struck with terror, and sent new deputies to Metellus to treat of peace. But the Achæans, now governed by magistrates, who had no other rule of conduct but their passions, and no other talent for war besides a savage fierceness, and a blind desire of revenge, seemed to be devoted to destruction. On this occasion, after Metellus had in vain endeavoured to settle the affairs of Achaia, Mummius arrived in Greece, and defeated the Achæans; and in the year before Christ 146, plundered CORINTH of its rich spoils, and then reduced it to ashes; and under the ruins of this city the Achæan league seemed to be buried. Ten commissioners were sent from Rome, to regulate the affairs of Greece in general, and of Achaia in particular, in conjunction with the consul. These abolished popular government in all the cities, and established magistrates, who were to govern each city according to their respective laws, under the superintendency of a Roman prætor. Thus the Achæan league was dissolved, and Greece reduced to a Roman province, called the province of Achaia; because, at the taking of Corinth, the Achæans were the most powerful people of Greece. The whole nation paid an annual tribute to Rome; and the prætor who was sent thither every year, was charged with the care of collecting it. From this time Achaia was governed like the other Roman provinces till the reign of Nero, who restored the whole of Greece to the enjoyment of its ancient liberties; but it was afterwards reduced by Vespasian to its former state of subjection. Under Nerva, some shadow of liberty was restored; but it was still governed by a Roman prætor. In this condition the Achæans remained till the time of Constantine the Great, who, in his new partition of the Roman provinces, subjected Achaia to the præfect of Illyricum. Upon the division of the empire, Achaia, with the rest of Greece, fell to the emperors of the East. Under Arcadius and Honorius, all these provinces suffered greatly by the incursions of the Goths, who, under their king Alaric, laid waste the whole country, and reduced the mag-

nificent structures that were then remaining to heaps of ruins. In the reign of the emperor Emanuel, in the 12th century, Peloponnesus was divided into seven principalities, and he bestowed them on his seven sons. In the 13th century, when Constantinople was taken by the western princes, the maritime cities of Peloponnesus, with most of the islands, were allotted to the Venetians. In the 15th century, Constantine Dracofes, despot of Morea, being raised to the imperial throne, divided that province between his two sons, bestowing Sparta on one of them, and Corinth on the other. Mahomet II. taking advantage of their divisions, stripped them both of their dominion. The Mahometans having gained possession of Morea, drove the Venetians from the cities which they possessed on the coast, and made themselves masters of that fruitful province, till they were expelled by the Venetians in 1687. By the treaty of Carl-witz, in 1699, the barbarians yielded it to the republic of Venice; but retook it in 1715; and in their hands it still continues, being governed by a Sangiac, under the beglerbeg of Greece, who resides at Modon. On the subject of this article, see Polybius Hist. and Excerpt. leg. Index. verb. Achæi, Ed. Casaub. Pausanias Græc. Deser. p. 521, &c. 558, &c. Ed. Kuhnii. Strabo Geog. tom. ii. Index verb. Achæorum, Achæi and Achaia, Ed. Casaub. Plut. in Arat. Cleom. et Philop. Livy, tom. iv. and v. ubi Index, &c. verb. Achæi. Ed. Drakenb. Justin. l. xxxiv. c. 1. Sueton. in Neron. et Vespas. tom. ii. Ed. Pittæ. Plin. l. viii. Ep. 24. Herodot. p. 71. Ed. Wessel. Anc. Un. H. vol. vi. p. 44—155. Anacharsis's Travels, &c. vol. iii. p. 401—406. See also an elaborate discourse on the origin, nature, and object, &c. of the Achæan league, compared with the Belgic and Helvetic confederacies, intitled, Discours qui a remporté le Prix de l'Academie Royale des Inscriptions et Belles Lettres, de Paris, in 1782, &c. by M. J. de Meerman, 4to. Hague, 1784.—and an abstract of it in the Monthly Review, vol. lxxi. p. 531, &c.

ACHÆMENES, in *Ancient History*, was grandfather of Cambyfes, and great grandfather of Cyrus the First, king of Persia. According to Herodotus, p. 515:—and according to the same historian, p. 199. 548. there was a son of Darius I. king of Persia, and brother of Xerxes, who was of the same name. This Achæmenes governed Egypt, after Xerxes had restored them to their allegiance, and he commanded the Egyptian fleet in the celebrated expedition which proved so fatal to all Greece. Having been sent into Egypt to suppress a rebellion, which occurred after the death of Xerxes, he was vanquished and slain by Inarus, chief of the rebels. The term *Achæmenius* is a very common Persian epithet: Stephanus Byzantius says, that Achæmenia is a part of Persia, so called from Achæmenes, son of Ægeus. According to Herodotus, p. 63, the Achæmenidæ were certain tribes from which the Persian kings sprung: and Strabo (vol. ii. p. 1059.) reckons the Achæmenidæ as one of the three principal nations of Persia. Horace (l. 2. od. 12.) mentions an Achæmenes who was very rich; and who is supposed, by his commentators, to have been one of the Persian monarchs.

ACHÆMENIA, in *Ancient Geography*, a part of Persia, according to Stephanus Byzantius and Strabo, so called from its first king ACHÆMENES. It is sometimes used to signify Persia in general, particularly by Herodotus, who represents Cambyfes, in an oration, calling his people Achæmenidæ.

ACHÆMENIS, in *Botany*, a species of the TETRACRUM.

ACHÆORUM *portus*, in *Ancient Geography*, a harbour of the Chersonesus Taurica, on the Euxine; and another mentioned

mentioned by Strabo (Geog. vol. ii. p. 590.); and also by Pliny, (Hist. Nat. vol. i. p. 282.) near Sigæum, into which the river Xanthus, after having been joined by the Simois, falls.

ACHILEUS, the son of Andromachus, whose sister was the wife of Seleucus Ceraunus, was offered the crown of Syria, as successor to Seleucus, but declined in favour of Antiochus, the brother of the deceased king, who was afterwards surnamed the *Great*. All the provinces of Asia Minor were committed to the charge of Achæus. In this station he wrested from Attalus, king of Pergamus, all the countries in Asia which that prince had seized, and annexed them to the crown of Syria; when designs were formed against him, he seized the crown which he had before refused, and was crowned at Laodicea, in Phrygia, assuming ever afterwards the regal title in all letters to the cities of Asia, and obliging them to give it him in all their addresses. Antiochus having succeeded in several enterprises, directed his attention towards carrying on the war in Asia Minor against Achæus; who being shut up in the castle of Sardis, was delivered to Antiochus, after he had taken the city. This prince was moved with compassion towards a person to whom he had once owed his crown; but motives of state prevailing over his natural tenderness, he ordered him to be put to death in the manner related by Polybius, l. viii. p. 528. Ed. Casaub. For an account of *Achæus* the son of Xuthus; see *ACHÆANS*.

ACHAIA, in *Ancient Geography*, was used in three different senses. In the earlier ages it comprehended all the provinces of that great continent, which the geographers, strictly speaking, call *GREECE*. It was afterwards confined to that narrow district of Peloponnesus, which was possessed by the *ACHÆANS* in the more limited sense of the appellation, and which extended westward along the bay of Corinth, that lay to the north, and was bounded on the west by the Ionian sea, on the south by Elis and Arcadia, and on the east by Sicyonia. This was called *Achaia propria*, and it is now denominated *Romania alta*, and forms a part of *Chiarença* or *Clarença* in the *MOREA*. Its metropolis, according to some, was *Patræ*, and according to others *Ægium*. In the Roman times the name of *Achaia* comprised not only all Peloponnesus, but such other cities beyond the isthmus as had entered into the Achæan league; upon the dissolution of which Greece was, by a decree of the Roman senate, divided into two provinces, viz. that of Macedonia, containing also Thessaly, and that of *Achaia* which included all the other states of Greece.

ACHAIE *Presbyteri*, *Presbyters of Achaia*, in *Ecclesiastical History*, those who were present at the martyrdom of St. Andrew the apostle, A. D. 59; and who are said to have written an epistle relating to it. Bellarmine, and other Romish writers allow it to be genuine; but Dupin, (Hist. of Eccl. Writers, vol. i. p. 17) and many others reject it.

ACHAIUS, in *British History*, the son of Ethwin, who was raised to the crown of Scotland, A. D. 788. At the desire of the emperor Charlemagne, an alliance with him against the English, whose pirates infested the seas and interrupted commerce, was concluded in France upon conditions so advantageous to the Scots, that *Achaius*, to perpetuate the memory of it, added to the arms of Scotland a double field fowed with lilies. He died in 819.

ACHALACTLI, or, as Buffon has contracted the name, *ALATLI*, in *Ornithology*, the *ALCEDO torquata* of Linnæus and Gmelin, the *cinereous KING-FISHER* of Latham, and the *Collared-bird* of Nieremberg, is one of the largest king-fishers, being near 16 inches long. Its specific characters are, that it is short-tailed, half-crested, hoary-

bluish, with a white collar, and its wings and tail spotted with white. The upper part of the body is bluish-grey, and this colour is variegated on the wings with white fringes in festoons at the points of the quills, the largest of which are blackish, and intersected within by broad white indentings; those of the tail are marked with broad stripes of white; the under-part of the body is chestnut-rufous, diluted towards the breast, and there scaled or mailed with grey; the throat is white, which colour forms an entire circuit on the neck; the whole head and nape of the neck are of the same bluish grey colour with the back. The beak is sharp, and about three fingers breadth long; it is red, with a mixture of blackish brown at the base; and the feet are red. This bird is migratory; and at a certain time of the year visits the northern provinces of Mexico; and is also found in Martinico and the Antilles. It feeds on fish, whence its name *Achalactli*, i. e. devourer of fish.

ACHAM, in *Geography*, a country in Asia, bounded on the N. by Boutan, on the E. by China, on the S. by Burmah, and on the W. by Hindostan. It is very little known to the Europeans.

ACHAMÆ, in *Ancient Geography*, the name of a people who inhabited that part of Lybia interior, which is near the mountain Arvaltes, and on the confines of the equinoctial line.

ACHAMELLA, in *Botany*. See *ACMELLA*.

ACHAN, in *Scripture History*, the son of Carmi, of the tribe of Judah; who, when Jericho was taken, concealed 200 shekels of silver, a Babylonish garment, and a wedge of gold, in direct violation of a divine prohibition. After the Israelites had been repulsed at Ai, they cast lots in order to discover the offender, who had been accessory to this calamity; and when Achan was found to be the guilty person, he and his children were stoned to death, and afterwards burned. Joshua, chap. vii. Some have supposed, that Achan alone was put to death, and understand the words, "and they stoned them," (v. 25) as it is in the Hebrew, and not *him*, as in our translation, of Achan and his cattle. Grotius in *Loc.* Others suppose, that Achan's children were accomplices in his crime. St. Austin vindicates the justice of this act, on the ground of God's having a right to resume the life he has given, when and how he pleases. Some have alleged, that the severity of this punishment was necessary to keep the people in awe, and to oblige them to a perfect submission to the divine commands.

ACHANDES, in *Ichthyology*, a name given by some to the *REMORA*.

ACHANE, *ACHAN*, an ancient Persian corn-measure, containing 45 Attic medimni.

ACHANI. See *ACHEM*.

ACHANIA, in *Botany*, from *αχνη*, *non liens*, because the corolla does not open; a genus of the *monadelphia polyandria* class, and the natural order of *coniunifera*. The characters are, that the calyx has a double perianthium, the outer having many leaves, and the leaflets being linear, permanent, and slightly coalescing at the base; the corolla is subclavate and convoluted; and the petals are five, obovate-oblong, erect, with a lobe at the base on one side, involving the column of stamens: the stamens are numerous filaments, coalescing into a writhed tube longer than the corolla, free at top, and capillary; the anthers are oblong; the pistillum has a subglobular germen; the style is filiform, of the same length with the tube of the stamens, ten-cleft at top, the segments spreading, the stigmas capitate; the pericarpium is a subglobular, fleshy, five-celled berry; the seeds are solitary, on one side convex, and angular on the other. There are three species, viz. the *A. malvarifolia*, scarlet acumin,

or bastard hibiscus, which is a native of Mexico and Jamaica, cultivated here in 1714 by the dutchefs of Beaufort, and flowering through the greatest part of the year; the *Mollis*, or woolly achania, a native of South America and the West India Islands, found in Jamaica by Houftoun, in 1730, and introduced in 1780, by B. Bewick, Esq. and flowering in August and September;—and the *pilosa*, or hairy achania, a native of Jamaica, introduced in 1780 by Mr. G. Alexander, and flowering in November. Achania is generally propagated by cuttings, which are planted in pots of light earth, plunged into a gentle hot-bed, and kept from the air till they take root, when they should be gradually inured to the open air. They must be preserved in winter in a moderate stove; and kept warm in summer, they will flower, and sometimes ripen fruit. The achania, in the Linnæan system by Gmelin, is made a species of *MALVAVISCUS*. Martyn's Mill. Dict.

ACHAIOVÁ, in the *Materia Medica* of the ancients, the name of an herb much celebrated in many distempers; which some have supposed to be what is called in Egypt Uchové, an herb nearly resembling chamomile, but lower, and with broader leaves, approaching to those of feverfew, and of a faint, but not disagreeable smell. Avicenna seems, however, to have meant a different plant by this name, and probably the herb which we call *MARUM*. Prosper. Alpin.

ACHARACA, in *Ancient Geography*, a town of Lydia, situate between Tralles and Nyfa; in which were the temple of Pluto and Juno, and the cave Charonium, where patients slept in order to obtain a cure, either by the suggestions of their own minds, or by those of others, who, during their sleep, were directed what effectual remedies to prescribe. Strabo Geog. vol. ii. p. 960—1.

ACHARISTON, from *α*, without, and *χαρις*, value, a denomination under which Galen describes some compositions of singular efficacy, which cured so quickly, that they were undervalued.

ACHARNA, in *Ancient Geography*, a town of Attica, near Cecropia; the largest of those towns, according to Thucydides, (l. ii. c. 19. p. 111. Ed. Duker) which were called *ἄγροι*, or villages. Pindar (Nem. Od. ii. v. 25, p. 333, Ed. West and Welfsted) says, it had been famous for brave men; and it was particularly celebrated as the birth-place of Themistocles. Corn. Nep. c. i.

ACHARON, in *Entomology*, a species of *SPHINX*, of an azure colour, with brown wings, and red anus; found in New Holland.

ACHASA, in *Ancient Geography*, a country of Scythia beyond the mountain Imaus.

ACHAT, in our *Low French*, signifies a contract, or bargain; especially in the way of purchase. Purveyors were by act of parliament 34 Edw. III. ordained to be thenceforth called *Achators*.

ACHATES, in *Biography*, the companion and faithful friend of Æneas, who is celebrated by Virgil, and so called, says Servius, either in reference to some properties of the achates or agate mentioned by Pliny, or from *αχος*, the concern he felt on account of Æneas. Virgil, by Mafvic. τ. i. p. 336, n. 178.

ACHATES, in *Entomology*, a species of *PAPILIO*, with black wings, red at their base, and the hinder marked with a white spot; found in China.

ACHATES, in *Ancient Geography*, a river of Sicily, now the *Drillo*, which runs from N. to S. near, and almost parallel to, the Gela. Silius records it, (l. xiv. v. 229) "Et perlucentem splendenti gurgite Achaten," and Pliny, (H. N. l. xxxvii. c. 10. p. 786, Ed. Hard.) says, that the achates or agate was first found on the banks of this river.

Bochart. (Geog. Sacr. l. i. c. 29. Oper. tom. i. 549, Ed. Villem.) supposes, that the name of the stone and river is derived from the Punic *ḥpy*, varied or spotted, referring to the varied colours of the stone.

ACHATES, in *Natural History*, the stone called AGATE.

ACHIATINA, in *Natural History*, a species of *BELLA*, in the class of testaceous worms; with an ovated shell, sanguineous, obovated, aperture, and apex, and a truncated columella. It has varieties; such as the white with yellow apex; the yellow or white with sanguineous columella; and the white with clove bands, and a pale columella. It is found in the American ocean. This is also the name of the *CYPRÆA amethystea* in the Linnæan system, which is found in Madagascar.

ACH BOBBA, in *Ornithology*, a bird mentioned by Dr. Shaw (Travels, v. ii. p. 449), of which numerous flocks appear near the city of Cairo in Egypt, and feed upon the carrion and filth that are thrown out of the city. The name, in the Turkish language, signifies *white father*, and is given to this bird partly from the reverence they have for it, and partly from the colour of its plumage. It is about the size of a large capon. This bird is called by Belon the Egyptian Sacre, and it is a variety of the *Alpine Vulture*, or *Vultur percnopterus* of Linnæus. It is of a red tawny ash-colour, with dusky spots, and its feet are naked. Belon conceives that it is the Hierax, or Egyptian hawk of Herodotus, which, like the Ibis, was held in veneration by the ancient Egyptians, because both of them eat and destroy the serpents and other noxious reptiles, which infest Egypt. Buffon suggests that it may be the same with the *Carrion Vulture*.

ACHE, or ACH, a painful ailment in any part of the body. Aches may be either scorbutic, or rheumatic, owing to violent pains, or the like. See HEADACH.

ACHE, in old authors, a name given to the plant called *Apium palustre*, or paludapium, in English, SMALLAGE.

ACHEEN, ACHÉ, or ACHEN, in *Geography*, a kingdom of SUMATRA, lying on the N. W. part of the island. Its capital, of the same name, is situated on a river which empties itself near the N. W. point, or *Acheen-head*, about two miles from the mouth. N. lat. 5° 22'. E. long. 95° 40'. The town lies in a valley, formed like an amphitheatre by two lofty ranges of hills. The river discharges itself into the sea by several channels, and is very shallow at the bar. The houses, of which there are about 800, are built of bamboo and rough timber, and they are raised by means of pillars to some height above the ground, in order to preserve them from inundation and damp in the rainy season. In the centre of the town, which has neither wall nor moat, is the king's palace, which is a large though rude edifice, and encompassed by a deep moat and strong walls. Though this place is no longer the mart of eastern commodities, it carries on a considerable trade with the nations of that part of the coast of Hindostan called *Telinga*; by whom they are supplied with the cotton goods of the country, and who receive in return gold-dust, Japan wood, betel-nut, pepper, sulphur, camphor, and benzoin. The European traders supply the country with Bengal opium, iron, and other articles of merchandize. The inhabitants manufacture a considerable quantity of a thick kind of cotton-cloth, and of stuff for the short drawers worn by the Malays and Achenese. They also weave pieces of silk, of a particular form, for the Malayan drefs. Acheen is deemed, comparatively, healthy, being less subject to complaints arising from woods and swamps than other parts of the island; and the soil is light and fertile, producing rice and cotton, and a variety of excellent fruits. The raw silk of the country is of inferior quality.

quality. The mountains near Acheen produce a small quantity of gold-dust; but the greatest part is brought from the southern parts of Nalaboo and Soofoo. The sulphur is collected from a volcano in the neighbourhood, and, besides supplying their own manufacture of gun-powder, admits of a large exportation. The inhabitants are, with respect to their persons, taller, stouter, and of a darker complexion than the other Sumatrans; and they are supposed to be a mixture of Battas, Malays, and Moors from the coast of India. In their dispositions and habits, they are more penetrating and sagacious, more active and industrious, and possess a greater stock of knowledge than their neighbours. With regard to religion, they are Mahometans; and their mosques and priests are numerous; and the forms and ceremonies of their worship are strictly observed. They are expert and bold navigators, and employ a considerable number of vessels for different purposes. Being destitute of convenient coins, they commonly make their payments in gold-dust, which they carry with them in pieces of bladder; and they use grain or feeds for weights. The government is an hereditary monarchy, and the king has usually a guard of 100 seapoys about his palace. The grand council of the nation consists of the king, four other officers, eight of a lower degree, who sit on his right hand, and sixteen who sit on his left. The king's pleasure is communicated by means of a woman, who sits at his feet, to an eunuch near her, and by him to an officer, who proclaims it to the whole assembly. Merchants and other strangers introduce themselves by presents to the king and his officers. Whenever an European enters the royal palace, he is obliged to take off his shoes. The royal throne was formerly made of ivory, and tortoise-shell; and, when queens governed, a curtain of gauze was hung before it. After the stranger has been introduced, he is entertained in a separate building with the delicacies of the country, and returns in the evening, attended by a prodigious number of lights. On high days the king goes in great state, mounted on an elephant richly caparisoned, to the great mosque; and he is preceded by officers armed very much after the European manner.

The country under the immediate jurisdiction of Acheen is divided into three districts; each of which is governed by a Pangleemo, and subordinate officers. Crimes are severely punished, and without any commutation by the *Achenese* laws. Petty theft incurs the suspension of the criminal from a tree, with a heavy weight tied to his feet, or the cutting off a finger, hand, or leg, according to the nature of the offence. Highway robbery, and house-breaking are punished by drowning, and exposing the body on a stake for some days. If an imaum or priest be robbed, the criminal is burned alive. The adulterer is delivered up to the friends and relations of the injured husband, who form a circle round him; and, if he be not so fortunate as to make his escape, he is presently cut to pieces, and buried without being admitted into any house, or the performance of any funeral rites. Notwithstanding these discouragements to iniquity, the *Achenese* are represented by travellers as one of the most dishonest and flagitious nations of the east.

For other particulars, we must refer to Mr. Marsden's account of SUMATRA. Acheen was visited by the Portuguese in 1509, but they could form no establishment in the country. Captain Lancaster was very differently received in 1602. He made a treaty in behalf of the English East India company, with the king of Acheen, and obtained for the company peculiar privileges. They had for many years a factory at Acheen. See SUMATRA.

ACHEIROPOIETA, formed of *a priv.* *χρησ.* hand, and

ποιεω, to make, and denoting made without hands, an epithet given to an image of Christ in the Lateran church at Rome, which is said to have been designed and sketched by Luke, and finished by angels.

ACHELOUS, in *Zoology*, a species of PHALÆNA, with ferruginous wings, and the anterior marked with a white point and fascia: it is large, and found in America.

ACHILLES, in *Mythology*, is said to have wrestled with Hercules for Deianira, the daughter of king Oeneus, and, assuming the shape of a bull, Hercules is said to have broken off one of his horns, which was restored on condition of his giving the victor the horn of Amalthea, the same with the Cornucopia, or horn of plenty, which Hercules filled with various fruits, and consecrated to Jupiter. For the meaning of the fable, see the next article.

ACHÆLOUS, in *Hydrography*, a river of Acarnania, which rises in mount Pindus, and, dividing Ætolia from Acarnania, flows from N. to S. into the Sinus Corinthiacus. It was formerly called *Theas* on account of its impetuosity, and by Homer, (*Iliad*, l. xxi. v. 194.) the *king of rivers*. The epithet *Achælois* is used by Virgil, (*l. i. v. 9.*) for *aqueus*, the reason of which, according to Servius (*in loc.*) is, that *Achælois*, on account of the antiquity of this river, was used by the ancients as a denomination of water in general. The ancient poets called rivers *Tauriformes*, either from the bellowing of their waters, or from their ploughing the earth in their course. The fable in the preceding article is explained by some in this manner. *Achælois* being a rapid and winding river, roared like a bull, and often overflowed its banks; but Hercules, by dividing it into two channels, and restraining its inundations by mounds and ditches, broke off one of the bull's horns, and restored plenty to the country. See Strabo (*Geog. l. x. vol. 2. p. 703—4.* Ed. Amst.). There are other rivers of this name in Achaia Propria, Thessaly, and Asia Minor.

ACHEM, in *Geography*, a country of Africa, in that part denominated the *SLAVE-coast*. The extent of this country is unknown: the negroes assert that it reaches to the coast of Barbary. It is divided into great and little Achem, which were formerly united under one monarchy, but are now two separate republics: little *Achem* is denominated *Achani*, or *Akanni*. There is a town of the same name, sometimes called *Acmeny*. N. lat. 8. 30. E. long. 0. 30. Most of the gold exported from this country is brought to the European forts at ACRA. The negroes of both these districts are of an insolent and haughty character, valuing themselves on the superiority they once maintained in respect of their neighbours; but civil dissensions have of late rendered them less formidable.

ACHEMENIS, in *Botany*, an herb mentioned by Pliny (*H. N. l. xxi. c. 4. tom. ii. p. 392.*) supposed by the ancients to have the property of exciting terror in their armies, and putting them to flight. The fable may probably denote, that soldiers could not prosper in war with plants in their hands.

ACHEMON, in *Entomology*, a species of SPHINX, yellow, with glass-coloured wings, black at their apex, and the fore wings yellow at their base; found in Jamaica.

ACHERI, LUKE d', in *Biography*, a learned Benedictine of the congregation of St. Maur, was born at St. Quintin in Picardy, in 1609, and made himself famous by printing several works, that existed in MS. with prefaces and notes; such as Barnabas's Epistle, the works of Archbishop Lanfranc, the Life and Writings of Guibert Abbot of Nogent, and a collection of curious pieces, begun in 1655, and concluded in 1677, under the title of *Spicilegium, i. e. Gleanings*, in 13 volumes 4to. In 1723, it was reprinted by

M. de

M. de la Barre, in three volumes folio. With regard to subjects of ecclesiastical history this may be an useful book of reference. The title of the Acts of the Saints, of the order of St. Bernard, also expresses that they were collected and published by him, and Meiblon. He died at Paris April 26th, 1785, in the abbey of St. Germain, where he had been librarian. Gen. Diet.

ACHERNER, or ACHARNER, in *Astronomy*, a star of the first magnitude in the southern extremity of the constellation ERIDANUS, but invisible in our latitude. It is marked by Bayer. Its longitude for 1761 was $\kappa 11^{\circ} 51' 1''$; and latitude $59^{\circ} 22' 4''$ S.

ACHERON, in *Mythology*, a river of Epirus, which the poets feigned to be the son of Ceres, whom she hid in hell for fear of the Titans, and converted into a river, over which souls departed were ferried in their way to Elysiun. The Acheron of the lower regions is derived by Servius and others from *achyros*, without joy.

ACHERON, in *Ancient Geography*, a river of Theoprotia in Epirus, now *Delichi*; which, rising in the country of the Molossi and forming the lake of Acherusia, falls into the sea near the promontory of Chimerium, to the west of the Sinus Ambracius, in a course from N. to S. Such is the account of Ptolemy, Strabo, and Thucydides. Pliny says, that it springs in the above-mentioned lake, and empties itself into the Ambracian gulph.

ACHERON, or ACHEROS, is a river of the Brutii in Italy, now *Savanto*, running from E. to W. In this river Alexander king of Epirus was slain by the Lucani, being deceived by the oracle of Dodona, which bade him beware of Acheron, and of the city of Pandosia. Alexander, not knowing that in this country there were a river and city of the same names with those of Epirus, pursued his military operations without fear of danger. But, being driven by the enemy to the border of a river, which was overflowed with rains, he plunged into it on horseback; when one of his attendants, seeing him in danger of being drowned, exclaimed, "curst Acheron! thou art justly called by a fatal name!" At these words Alexander recollected the admonition of the oracle: and, whilst he was hesitating whether he should proceed or not, he was traiterously put to death by one of the Lucani, who were appointed to be his guards. Livy, l. viii. c. 24. vol. ii. p. 760. Ed. Drak.

ACHERONTA, in *Entomology*, a species of Papilio, with dentate wings, the anterior being red at their base, and black at the apex, spotted with white. It is found in Brazil.

ACHERONTIA, a small city of Apulia, now *Alfonso*, situate on a hill, and thence called by Horace (Od. 3. 4.) a bird's nest.

ACHERSIEF, in *English Antiquity*, a name of a coin conjectured to be the same with our quarter or half penny. The monks of Peterborough had a weekly allowance of 12 *achersies de puerino*, and 8 *achersies de brassi*, and 6 *achersies de ferri*, and 11 *achersies de fili*, &c. *Apulum*.

ACHERUSIA *salus*, in *Antiquity*, a lake between Cumæ and the promontory Mæuræ, now *Il lago della Collaria*, or *del Fusaro*. Some confound it with the *lacus Lucrinus*, and others with the *lacus Averni*: but Strabo (vol. i. p. 374) and Pliny (H. N. l. iii. c. 5. vol. i. p. 174) distinguish them. The former supposes it to be an exhalation of the sea; and therefore called by Lycophron, (v. 695) *Αχραιον ποντος*. There is a lake of Epirus of this name, through which the Acheron runs. There is also an Acherusia, which is a peninsula of Bithynia on the Euxine, near Heraclea; and a cave of the same name, through which Hercules is fabled to have descended into hell, to drag forth Cerberus.

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ACHATA, in *Zoology*, a name by which Linnaeus has designated the small acridæ of the Gryllæ, a subgenus of which he says, that they have two articulations above the extremity of the antennæ, and three on the tibia; and that the tarsi are composed of three articulations. Twenty-eight species are enumerated in the new edition of the *Systèma Naturæ*. The insects of this kind feed upon the roots of plants. See CRICKET.

ACHIA, a kind of cane which grows in the *Indes*, and is pickled there while green, with strong vinegar and pepper, together with some other spice and ingredients.

ACHIACHICA, in *Geography*, a town of the province of ANGELOS or TLASCALA in Mexico.

ACHILLENUS, or ACHÆNUS, in *Natural History*, a word used by the ancients to express a stag or deer, in the second year's age. In the first it was called nebrus, in the third dicotus, and always after that cerasles.

ACHIAR, is a Malayan word, signifying all sorts of fruits and roots pickled with vinegar and spice. The Dutch import from Batavia all sorts of Achiar. The name is applied to whatever the Achiar is made of, as banded achiar, &c.

ACHICOLUM, is used to express the fornix, tholus, or sudatorium of the ancient baths; which was a hot room where they used to sweat. It was also called architholus.

ACHILLEA, *Milfoil*, in *Botany*, so called from Achilles, who is supposed to have acquired some knowledge of botany from his master Chiron; and to have used this plant for the cure of wounds and ulcers; a genus of the *syngenesia polygamia superflua* class of plants, and of the natural order of *compositæ discoideæ*: the characters are, that the common calyx is ovate, and imbricated, with ovate, acute, converging scales; the compound corolla is radiate, the hermaphrodite corollæ are tubular in the disk; and the females ligulate, being from five to ten in the ray; the proper corolla of the hermaphrodites is funnel-shaped, five-cleft, and spreading; the female obcordate, spreading and trifid, the middle cleft being less than the others: the stamina in the hermaphrodites consist of two capillary, very short filaments, and the anther is cylindrical and tubular; the pistillum in the hermaphrodites has a small germ, a filiform style of the length of the stamens, and an obtuse, emarginate stigma; in the females, a small germ, filiform style, of the same length as in the others, and two obtuse, reflex stigmas; there is no pericarpium: the calyx is scarcely changed; the receptacle is filiform, elongate as the disk of the seeds, ovate, and twice the length of the calyx: the seeds are solitary, ovate, furnished with down, but without down at the receptacle: the style is elevated; the chaffs being lanceolate, of the length of the florets. There are 27 species, viz. 1. the *Santolina* or lavender cotton leaved Milfoil, with large yellow flowers standing singly on long peduncles, whose leaves when rubbed emit a strong oily odour, an inhabitant of the Levant, cultivated by Miller in 1759, and flowering in June and July:—2. the *Antennaria*, or sweet M. or marjoram—3. the *filiform*, or hair leaved M. a native of the east, which flowers in June and July:—4. the *serotina*, or warty M. which grows naturally in Spain, the South of France, and Italy, and the *apennina*, or bush leaved M. cultivated in the Chelsea garden in 1658, and bears flowers that retain their beauty for a considerable time:—5. the *pubescens*, or downy M. without chaffs to the receptacle, a native of the Levant, and cultivated in the Chelsea garden in 1759:—6. the *occidentalis*, or southern-wood leaved M. a native of the Levant, which was cultivated by Mr. Miller in 1759, and flowers in June and July:—7. the *lanceolata*, a native of the Levant, which is the *achillea*, with the lanceolate leaves, which make a good decoction.

permeate through the year, a native of the Levant, and cultivated at Chelsea in 1712. All the preceding species have yellow corollas: the corollas of the following are white in the ray:—9. the *maritima*, or feverfew-leaved M. whose leaves resemble those of the common freeze-wort, and are of the same kind of the tansy, the sides of the calyx edged with black, the plant, and especially the flowers, smelling like freeze-wort; a native of the Alps, hardy, and thriving in any soil, and deserving a place in gardens; flowering in July and August, and cultivated by Mr. Miller in 1759:—10. the *incana*, with a stem red at bottom, and terminating in a handsome umbel of white flowers, and the florets in the ray elegantly cut, frequent in Siberia:—11. *chevonea*, or silvery-leaved M. the *Abfynthium album* of Gerard and Ray, a native of the Alps of Switzerland, Austria, Pannonia, and Carinthia, cultivated in 1683 by Mr. J. Sutherland:—12. *ptarmica*, or freeze-wort M. growing wild in all the temperate parts of Europe, found in Britain not uncommonly in meadows, by the sides of ditches, on the balks of corn-fields, in moist woods, and shady places; the shoots are put into salads, and the roots, being hot and biting, are used for the toothach, whence the plant has been called bastard pellitory; and, on account of the form of the leaf, goose-tongue: the powder of the dried leaves used as snuff provokes sneezing, whence the name; in Siberia a decoction of the whole herb is said to be successfully used in internal hemorrhages: of this plant there is a variety with double flowers called *Lambert's tansy*; it flowers in July and August, and makes a tolerable appearance:—13. *alpina*, or Alpine M. resembling the last, and by some supposed to be a variety of it; a native of Switzerland, Savoy, and Siberia, very hardy, cultivated here by Mr. Miller in 1731:—14. *ferrata*, or notch-leaved M. appearing like *ptarmica*, flowering in August and September, and introduced, with the next species, in 1784, by Mr. J. Graëffer:—15. *crispata*, or slender-branched M. a native of the East, flowering here in July and August:—16. *atrata*, or camomile-leaved or black M. found on the mountains of Switzerland, the Valais, and Austria, and introduced here in 1774 by Drs. Pitcairn and Fothergill:—17. *moschata*, musk M. or Swifs genipi, an excellent fudorific, but injurious in the pleurisy attended with high fever, promising to be serviceable in disorders arising from a debility of the solids, and yielding a grateful food to cattle; it grows wild on the high Alps, in Savoy, Piedmont, and Austria, and was introduced in 1775 by Drs. Pitcairn and Fothergill:—18. *nana*, or dwarf M. found on the high Alps of Switzerland, the Valais, and Savoy, very hardy, thrives in any soil, loves an open exposure, and deserves a place in gardens:—19. *magna*, great M. or YARROW, found in Italy, and cultivated here in 1683 by Mr. J. Sutherland:—20. *millefolium*, common M. or YARROW, abundant in pastures and by the sides of roads, flowering from June to September:—21. instead of *top*, by the inhabitants of Dalekaria, in their ale, in order to give it a cooling quality; recommended by Anderson in his *Essays on Agriculture*, for cultivation, though thought to be a noxious weed in pastures: the bruised herb fresh is recommended by Linnaeus as an excellent vulnerary and styptic, and by foreign physicians in hemorrhages, and thought by Dr. Hill to be excellent in dysenteries, when administered in the form of a decoction; an ointment is made of it for the phlegm in the teats in sheep; and an essential oil is extracted from the flowers; but it is not used in the present practice:—22. *odorata*, or scented M. thought by Gerard and Haller to be a variety of

the former, and a native of the same place:—23. *cretica*, or Cretan M. a native of Crete:—24. *squarrosa*, rough-headed M. introduced in 1775 by M. Thonin:—25. *herbarota*, esteemed among the peasants of the Alps as a sudorific against worms, flatulencies, and intermittent fevers:—26. *leptota*, marjoram-scented M. having a strong smell, as well as the last, like maudlin:—27. *tanacetifolia*, tansy-leaved M. a native of the Grisons, and not uncommon in the pastures and valleys of the Alps. In the last edition of Linnaeus, Gmelin enumerates 32 species, omitting the *lispicata*, and adding the *lobata*, *capitata*, *coronopifolia*, *Halleri*, *nicotiantha*, and *pilosa*.

All the species of the *Achillea* may be propagated by parting the roots either in spring or autumn. The seeds of many of them may be sown in March or April, and they may be transplanted at Michaelmas. They will flower the following summer. As they are mostly hardy, they will require little care in the cultivation. Miller's Dict. by Martyn.

ACHILLEA *inodora*. See ATHANASIA.

ACHILLEA *montana*. See SENECIO.

ACHILLEA *tanacetifolia* of Miller. See CHRYSANTHEMUM.

ACHILLEA, in the *Materia Medica* of the ancients, a name given to the gum, which we at this time know by that of the *Sanguis draconis*, or DRAGON'S BLOOD. The ancient Greeks called this cinnabari; and the use of the word for the mineral which we now call cinnabar, was only because it had the same red colour with this gum. Avicenna, treating of the Achillea says, it is otherwise called *Sanguis draconis*, and describes it as a real gum, universally known in his time.

ACHILLEA, in *Ancient Geography*. See LEUCE.

ACHILLEIS, or ACHILLEID, in *Literary History*, a celebrated poem of Statius, of the epic kind, in which he proposed to deliver the whole life and actions of Achilles. It only comprehends his infancy; the poet being prevented from proceeding by death. It is a point controverted among critics, whether the whole life of a hero, e. g. of Achilles, be a proper subject of an epic poem?

ACHILLEON, in *Ancient Geography*, a town and promontory of the Cimmerian Bosphorus, where anciently was the temple of Achilles; now *Capo di Croce*.

ACHILLES, in *Ancient History*, the son of Peleus and Thetis, was one of the most celebrated heroes of Greece. He was born at Phthia in Thessaly. His mother, it is said, dipped him in the river Styx, by which his whole body became invulnerable, except the heel by which she held him. This relation, however, is not universally received; for it appears by Homer's account, (Il. l. xxi. v. 161, &c.) that he was actually wounded in the right arm by the lance of Asteropæus, in a battle near the river Scamander. He was entrusted also by Thetis to the care of the centaur Chiron, who fed him with honey and the marrow of lions and wild boars, in order to fit him for enduring martial toil, and taught him horsemanship and the use of arms. When she attempted, by concealing him among young women at the court of Lycomedes, to prevent his going to the siege of Troy, where, as she had been warned by an oracle, he would be slain; Ulysses, being admonished by an old prediction that, without Achilles, the enterprise against Troy would be unsuccessful, discovered him, and persuaded him to follow the Greeks: his mother having procured for him an armour made by Vulcan, which was impenetrable. During his concealment he is said to have debauched one of the king's daughters, of whom was born Pyrrhus, king of Epirus. Pausanias observes, that Homer has omitted this circumstance as dishonourable to his hero, though it has been

been recorded by all the other poets. At the siege of Troy Achilles distinguished himself by a variety of heroic actions; but being disgusted with Agamemnon for the loss of Briseis, he retired from the camp. When he afterwards returned to avenge the death of his friend Patroclus, he slew Hector, fastened his corpse to his chariot, and dragged him thrice round the walls of Troy. The body was afterwards redeemed by the father with a large sum. At last being wounded in the heel with an arrow by Paris, the brother of Hector, whilst he was in the temple treating about his marriage with Philoxena, daughter to king Priam, the wound proved fatal to him; and he was interred on the promontory of Sigæum. When Troy was taken, the Greeks sacrificed Philoxena on his tomb, in conformity to his request, that he might enjoy her company in the Elysian fields. It is said, that Alexander, when he saw this tomb, honoured it by placing a crown upon it; exclaiming at the same time, that "Achilles was happy in having, during his life, such a friend as Patroclus, and after his death, a poet like Homer." Achilles is supposed to have died 1184 years before the Christian æra. Homer has been blamed for making his hero Achilles of too brutal and unamiable a character. This charge, Dr. Blair apprehends, is unjust to Achilles, and it is founded on an exaggerated representation of his character by Horace, de Arte Poet. p. 55. Ed. Wakefield.

"Impiger, iracundus, inexorabilis, acer,
Jura neget sibi nata, nihil non arrogat armis."

The following brief account will serve to vindicate Homer, as well as his hero. "Achilles, says Dr. Blair, (Lect. on Rhet. &c. vol. iii. 240.) is passionate, indeed, to a great degree; but he is far from being a contemner of laws and justice. In the contest with Agamemnon, though he carries it on with too much heat, yet he has reason on his side. He was notoriously wronged, but he submits; and resigns Briseis peaceably when the heralds came to demand her; only, he will fight no longer under the command of a leader who had affronted him. Besides his wonderful bravery and contempt of death, he has several other qualities of a hero. He is open and sincere. He loves his subjects, and reveres the gods. He is distinguished by strong friendships and attachments; he is, throughout, high-spirited, gallant and honourable; and, allowing for a degree of ferocity which belonged to the times, and enters into the characters of most of Homer's heroes, he is, upon the whole, abundantly fitted to raise high admiration, though not pure esteem."

ACHILLES TATIUS. See TATIUS.

ACHILLES, in *Philosophy*, a name which the schools give to the principal argument alleged by each sect of philosophers in behalf of their system. In this sense we say, this is his *Achilles*; that is, his master-proof, alluding to the strength and importance of Achilles among the Greeks. Zeno's argument against *MOTION*, is peculiarly termed Achilles. That philosopher made a comparison between the swiftness of Achilles and the slowness of a tortoise: arguing, that if the tortoise were one mile before Achilles, and the motion of Achilles 100 times swifter than that of the tortoise, yet he would never overtake it; and thence he concluded, that there was no such thing as motion. But this is a mere sophism; and is easily solved by expressing the whole relative distance ran by the tortoise before Achilles overtook him by the following series, $\frac{1}{100} + \frac{1}{10000} + \frac{1}{1000000}$, &c. the sum of which is $\frac{1}{99}$ of a mile; and the distance ran by Achilles is one mile more; so that, when Achilles had ran $1 \frac{1}{99}$ of a mile, he would have overtaken the tortoise.

ACHILLES, *island of*, in *Geography*. See LEUCE.

ACHILLES, in *Entomology*, a species of PAPILIO, with

wings black on the upper part, a blue band, and brown beneath, and three or five ocelli; found in America.

ACHILLES, *tendon of*, *chorda Achillis*, in *Anatomy*, is a large tendon, formed by the union of the soleus and gastrocnemius extensor muscles, which are inserted into the os calcis. See TENDO *Achillis*. It is so called because the fatal wound, by which Achilles is said to have been slain, was given there.

ACHILL HEAD, in *Geography*, is the W. point of the islands of Achil on the W. coast of Ireland. N. lat. 53° 51'. W. lon. 10° 45'. The coast between this head and Sline head is much indented by bays and creeks. Archarisker, or Acharillon point is eight leagues S. of the head, and from thence to Sline head, S. by E. eight miles more. Within land there is between these a high hill, called St. Patrick's hill, which may be seen at sea to a great distance. Achill-head is a very high point, and appears at a distance with a hollow in the middle. Within this are two high mountains; and these three appear at sea like three islands.

ACHILLINI, *Alexander*, in *Biography*, a native of Bologna, and distinguished both as a philosopher and a physician. He flourished in the 15th and 16th centuries, and was called, by way of eminence, the great philosopher. His progress in his studies was so rapid, that he was promoted in early life to the honour of being a professor in the university. In the year 1506 he removed to Padua, where he filled the first chair of philosophy, and drew to his lectures a great number of students. When the war, in which the republic of Venice was engaged against the league of Cambray, constrained him to leave Padua, he returned to his native country, and was again appointed professor of philosophy in Bologna. He adopted and maintained the sentiments of Averroës; and was particularly distinguished for his acuteness in the conduct of private and public disputations. To him some have ascribed the discovery of the malleus and incus, two small bones in the organ of hearing. Achillini was a man of singular simplicity, and so unacquainted with the common modes of civility and address, that he was often ridiculed by the young scholars who attended him, though much and deservedly esteemed on account of his learning. He was the rival of Pomponacius, who sometimes acquired a superiority over his arguments by his wit and humour. He died at Bologna in 1512 at the age of 40 years; and was buried with great pomp in the church of St. Martin the great, belonging to the Carmelite friars. The following epitaph, composed by Janus Vitalis, was inscribed on his tomb: viz.

"Hospes, Achillinum tumulo qui quavis, in isto
Falleris; ille suo junctus Aristoteli
Elysiū colit; et quæ rerum hic dicere causas
Vix potuit, pennis nunc videt oculis.
Tu modò, per campos dum nobilis umbra beatos
Errat, dic longum perpetuumque Vale."

He wrote several pieces on philosophical subjects, which he published and dedicated to John Bentivogli. His works are, 1. In Mundini Anatomen, Annotationes. Venet. 1522, fol. 2. De Humani Corporis Anatomia, Venet. 1516, 1521, 4to. In 1568, a collection of all his works, philosophical and medical, was published at Venice in folio.

ACHILLINI, JOHN PHILOTREUS, a brother of the former, was the author of a poem intitled Il Viridario, in which are found the eulogy of several Italian literati, and various lessons of morality. It was printed at Bologna in 1513. He was born at Bologna in 1466, and died in 1538. He was a man of talents and erudition, and conversant with the Latin and Greek classics, with music, philosophy, theology and antiquities; of which last he has made ample collections.

ACHMET II. emperor of the Turks, son of Sultan Ibrahim, succeeded his brother Solyman, in 1691. This prince, though devout and inoffensive, cheerful and condescending, just and amiable in private life, was destitute of the talents necessary for the exercise of sovereign power. He was fond of poetry and music, in both of which he made some proficiency. He died in 1695, at the age of 50, requesting his

his successor Mustapha, to spare the life of his son. *Mod. Un. Hist. and Gen. Biog.*

ACHMET II. emperor of the Turks, son of Mahomet IV. was raised to the throne on the deposition of his brother Mustapha II. in 1703. His first object after removing the malecontents, was to amass wealth; and with this view he debased the coin, and laid new taxes. When Charles XII. of Sweden, in 1709, after the battle of Poltava, took refuge in the Turkish dominions, he was received with great hospitality; and under the influence of the sultan's mother, war was declared against Czar Peter, which terminated in the peace of Belgrade. The peace, however, was at last dissolved, and again the Turkish arms were raised. Achmet recovered the Morea from the Venetians; lost in his expedition into Hungary, in 1716. His army was defeated by Prince Eugene, at the battle of Peterwaradin. Achmet was led by his ministers and favourites, and their influence frequently occasioned political revolutions. He is said, however, to have resorted in disguise to public places, in order to discover the sentiments of his subjects. At length a sedition amongst the soldiers caused his dethronement in 1730, and the elevation of his nephew Mahomet V. He was confined in the apartment whence his successor had been taken, and continued unmolested till he was removed by an apoplexy in 1736, at the age of 74 years. Achmet was a prince of moderate abilities, and good intentions; but confidence in his vizier obscured the lustre of his reign, and brought it to a speedy termination. *Mod. Un. Hist. Gen. Biog.*

ACHMETSHET, in *Geography*, a town in the peninsula of the Crimea, the residence of the Sultan Galga, the eldest son of the Khan of Tartary. It stands on the largest river in the country. E. long. $52^{\circ} 20'$. N. lat. $45^{\circ} 35'$.

ACHMIM, a large town of Upper Egypt, situated on the eastern bank of the Nile: the Chemmis of Herodotus, and PANOPOLIS of Strabo. On a triumphal arch, situate a few 100 yards south of the convent, and built of marble by the emperor Nero, there is a Greek inscription, says Mr. Bruce, *ἡρώδης*. The temple of this place, says Abulfeda, is one of the most celebrated monuments of antiquity; being constructed of stones of a prodigious size, on which are sculptured innumerable figures. There may still be traced four concentric circles in a square; the innermost of which contains the sun; the two next are divided into twelve parts, one containing twelve birds, and the other twelve animals almost effaced, which appear to be the signs of the zodiac; the fourth presents twelve human figures, which Savary supposes to be the twelve gods representing the twelve months of the year, as the Egyptians, according to Herodotus, (l. ii.) first divided the year into twelve months, and the angles of the square, on the sides of which may be distinguished a globe with wings, are occupied by the four seasons. This temple was probably dedicated to the sun; and these various hieroglyphics mark his passage into the signs of the zodiac; whence Savary infers, that the Egyptians possessed the knowledge of astronomy from the remotest antiquity. The serpent Haridi is the wonder of the neighbouring country. Scheik Haridi, above a century ago, died in this place; and as he was deemed a saint among the Mahometans, they raised a monument in honour of him, and one of their priests persuaded the people, that the soul of Haridi passed into the body of a serpent. This artful priest had contrived to make a serpent obedient to his voice, and he pretended to perform a variety of tricks, and to cure many disorders by means of this serpent, which he confined to the tomb, and made the instrument of great gain to himself. The virtues of this serpent are acknowledged by the Chris-

tians of the country as well as by the Turks; and they maintain, that it is the demon *Amardene*, who flew the seven husbands of Tobit's wife, and that he was brought by the angel Raphael to this place, after metamorphosing him, and that God makes use of him to destroy the magicians. Though Achmim is a town of no great splendour, it is still one of the most beautiful towns of Upper Egypt. It is subject to a well regulated police. The streets are wide and clean, and commerce and agriculture flourish in its vicinity. It has a manufacture of cotton, silk, and paper, which are conveyed over the waters of the Nile. Bruce (*Travels, &c.* vol. i. p. 98.) says, that the air is bad, and the aspect of the inhabitants, of whom he speaks in very degrading terms, yellow and unhealthy. See Savary's *Letters on Egypt*, vol. i. p. 562, &c. There is in this town a convent of religious Franciscans established for the purpose of entertaining the persecuted Christians in Nubia. They are chiefly Catholics, intermixed with Cophts and Moors. The poultry bred here, and sent down to Cairo, is esteemed the best in Egypt. But the great export from Achmim is wheat, the country about it being sown with that grain, and the crops being superior to any in Egypt. They have also abundance of fish, particularly the *Binnny*. The women seldom marry after sixteen; and several were seen with child who were under eleven years of age.

ACHMOUNAIN, a village in Upper Egypt, about four miles to the north of MELAOUI, which is remarkable for the ruins it contains, and particularly for a superb portico in good preservation. On the frieze there are carved several hieroglyphics, which probably exhibit the history of the time, the place, and the deity in whose honour this monument was raised. It is particularly described by Savary. *Letters*, vol. i. p. 546, &c.

ACHNE, *Αχνη*, has various significations: sometimes it denotes lint, at other times chaff, or froth of the sea. Hippocrates uses it to denote a white mucilage, observable in the eyes of patients who have fevers, and also a white mucus in the fauces, thrown up from the lungs.

ACHNE, in *Geography*, an ancient name given to one of the islands of Rhodes, afterwards called *Cafos*.

ACHNE, in *Medicine*. See *ACRIMONY*.

ACHOLLA, in *Ancient Geography*, a free city of Africa propria, mentioned by Strabo and Stephanus; called by others *Atilla*. Ptolemy has fixed its situation between Thapsus and Ruspe; and Dr. Shaw (*Trav.* p. 111.) supposes it to be the present Elalia, lying upon the borders of a fertile plain, which extends from Salecto to the vicinity of Sbeah.

ACHOMBONE, in *Geography, the capital of the canton of AXIM, on the gold coast of Africa. It is defended by a Dutch fort; and the houses are separated by avenues planted with fruit-trees, which form elegant vistas. The river Axim runs through the town.*

ACHONRY, a small town of Ireland, in the province of Connaught, and county of Sligo, situate on the river Shannon.

ACHOR, in *Scripture Geography*, a valley of Jericho, lying along the river Jordan, not far from Gilgal; so called from *ACHAN*, who was there stoned to death.

ACHOR, in *Mythology, the god of flies; to whom, according to Pliny, the inhabitants of Cyrene sacrificed, in order to obtain deliverance from these insects, and the disorders occasioned by them.*

ACHOR, in *Surgery*, a species of herpes, the crustacea lastea of some authors, and in England the scald-head. It is a sort of small running ulcer on the face and head, chiefly of children while they suck, by which the skin is broke into a number

a number of little holes, out of which issues a viscid humour, like ichor, whence its name. When the disease spreads, this serum dries, and forms a scab. Achor differs from the *Favus* and *Tinea* only in the degree of virulence. When the perforations are large, it is called *favus*, and *tinea*, when they are like those which are made by moths in cloth. By *tinea* is generally understood a dry scab on the hairy scalp of children, with thick scales, and an offensive smell; and when the disorder affects the face, it is called *crusta lactea*. Mr. Bell, in his treatise of ulcers, says, that both these may be reduced to the same species of *HERPES*, viz. the *herpes pustulosus*, as they differ only in situation. Dr. Cullen considers this disease as a synonym of *ULCUS*, where he also places the *crusta lactea*, in the class *lecales*, and orders *diathesis*. When it happens to children, otherwise healthy, it will be commonly sufficient to keep the belly moderately lax, to preserve cleanliness, and to restrict them to a moderate diet. The hair should be kept short, and the head washed with soap-suds; and an issue may be of service. When the disorder is more violent, attended with much itching, paleness of countenance, and other unpleasant symptoms, the same method of treatment will generally succeed. Small doses of calomel may be administered as an alterative, and the antimonial wine, at proper intervals, as the stomach will bear. The unguentum *è pice* may be used externally two or three times a week; or cream mixed with chalk in fine powder. When the humour is repelled, warm sudorifics should be used; and though the cold-bath should be avoided, the warm-bath will be beneficial. When the hair is short, the part may be washed with a lotion made of aq. pur. $\mathfrak{h}\mathfrak{i}$. and gr. x. of hydrargyrus muriatus. Motherb. Diet. by Wallis. See ACRIMONY and TINEA CAPITIS.

ACHRADINA, or as Cicero has it, ACRADINA, in *Ancient Geography*, one of the cities, or divisions of Syracuse, and the largest, most beautiful, most fertile, and best fortified of the five. The others were the island Nafos, or Ortygia, Tyche, and Neapolis; to which was afterwards added the hill called Epipole. It was adorned, according to Cicero, (l. iv. c. 53, de Syracusis), with a very spacious forum, beautiful porticos, a very elegant prytaneum, a capacious senate-house, and a superb temple of Jupiter Olympius. The rocks of this quarter of Syracuse, which are formed by marine depositions, possess the singular property of dissipating or absorbing the moisture of dead bodies so speedily, that they are preserved in vaults excavated for the purpose, in their proper form and habiliments.

ACHRAS, or SAPOTA-PLUM, in *Botany*, a genus of the *Hexandria Monogynia* class, and of the natural order of *Dumetis*. The characters are; the calyx is a perianthium, consisting of six ovate, concave, erect leaflets, the outer broader and shorter, and the inner coloured: the corolla is one-petalled, ovate, of the same height with the calyx, with the border cut into six subovate flat divisions, and scales at the jaws of the corolla, equal in length to the divisions, narrower, spreading, and emarginate; the stamina have six short awl-shaped filaments at the jaws of the corolla, alternate with the divisions, bent inwards, and the anthers are sharp: the pistillum has a roundish, flattened germen; the style is awl-shaped, and longer than the corolla; and the stigma is obtuse: the pericarpium is a globose, very succulent pomum, with twelve cells: the seeds are solitary, ovate, shining, scarred on one side, and pointed at the base. There are four species, viz. 1. The *mammosa*, or mammee sapota, otherwise called nipples S. or American marmelade, growing in America to the height of thirty or forty feet, with

leaves a foot long, and three inches broad in the middle, cream-coloured flowers, and large oval fruit, containing a thick luscious pulp, called natural marmelade; this tree is planted for the fruit in Jamaica, Barbadoes, Cuba, and most of the West India islands, and was cultivated here by Mr. Miller in 1739: of this there is a variety, called the *bully* or *nifberry* bully-tree, because it is the tallest of all the trees in the woods: it is esteemed one of the best timber-trees in Jamaica. 2. The *sapota*, which grows to the height of sixty or seventy feet, without knots or branches, and bears a round, yellow fruit, bigger than a quince, which smells well, and is of an agreeable taste; it is common at Panama, and some other places in the Spanish West Indies, but not to be found in many of the English settlements; it was cultivated here by Mr. Miller, in 1739. 3. The *dissecta*, or cloven-flowered S. cultivated in Malabar for the fruit, which is of the form and size of an olive, having a pulp of a sweetish acid flavour; its leaves are used for cataplasms to tumors, bruised and boiled with the root of curcuma and the leaves of ginger, supposed to be a native of the Philippine islands, and probably growing in China, and found by Forster, flowering in September, in the island of Tongatabu. 4. The *salicifolia*, or willow-leaved S. called in Jamaica white-bully tree, or galimeta wood, which supplies good timber; cultivated here by Mr. Miller, in 1758. The bark of the *sapota* and *mammosa* is very astringent, and is called *CORTEX Jamaicensis*. This was once supposed to be the true Jesuit's bark, but its effect on the negroes has been pernicious. These trees being natives of very warm climates, cannot be preserved in England, unless they are placed in the warmest stoves, and managed with great care. Miller's Dict. by Martyn.

Gmelin has added the *balata*, with ovated oblong leaves, hoary underneath, and an oblong ovated pomum.

ACHRIDA. See OCHRIDA.

ACHROCORDES of *Java*, in *Natural History*, one of the genera of serpents, in the second volume of Count de la Cèpede's natural history. This genus is described by M. Hornstædt, a Swedish naturalist. Its body and tail are covered with little warts or tubercles; its back is black; its belly and sides are whitish; the latter are marked with black spots; the head is flat, and covered with small scales; each jaw of the mouth, which has a small opening, is armed with a double row of teeth, but it has no poisonous fangs: the largest part of the body is near the anus, and the tail is remarkably slender. The specimen from which this description was taken measured eight feet and three inches in length; its tail was eleven inches long; and the greater diameter of the body was above three inches. It was a female, and in it were found five young ones, completely formed, and nine inches long.

ACHROMATIC, composed of *α priv.* and *χρῶμα, colour*, and denoting *without colour*, a term, says M. de la Lande, first introduced into his astronomy, to denote telescopes of a new invention, contrived to remedy aberration and colours. See ABERRATION and TELESCOPE.

ACHRONICAL, in *Astronomy*. See ACRONYCHAL.

ACHSTEDE, in *Geography*, a small town of the circle of Lower Saxony, in the duchy of Bremen, two leagues north of Bremen.

ACHSTETTEN, a town of Germany, in the circle of Swabia, two leagues N. W. of Augsburg.

ACHTELING, a measure for liquids used in Germany. Thirty-two achtelings make a heemer; four sciltems or sciltins make an achteling.

ACHTIAR, in *Geography*, a small commodious haven near Inkerman in the Black Sea.

ACH-

ACHTIRKA, a town of Russia, in the government of Charkov, ten German miles W. S. W. of Charkov.

ACHTUBA, a river of Russia, which rises from the Volga, a little above the town of Tzmitzin, and runs parallel with that river to Kradnojar, near which place it joins it, and flows with it into the Caspian Sea.

ACHY, a species of *CASSIA*, that grows in Arabia.

ACHYR, in *Geography*, a strong town and castle of the Ukrain, subject to the Russians since 1667. It stands on the river Uorskolo, near the frontiers of Russia, 127 miles west of Kiow. E. long. $36^{\circ} 0'$. N. lat. $49^{\circ} 32'$.

ACHYRACANTHA, in *Botany*, a name given by Dillenius to the *ACHYRANTHES* of Linnaeus.

ACHYRANTHA, a species of *ILLECEBRUM*.

ACHYRANTHES, formed of *achyr*, *chaff*, and *anthos*, a flower, in *Botany*, a genus of the *pentandria monogynia* class of plants, belonging to the natural order of *miscecanace* Linn. and of *amaranthi* Juss. The characters are these: The calyx consists of an outer perianthium, that is three-leaved, lanceolate, acute, permanent; and of an inner one, that is five-leaved and permanent: it has no corolla; the nectarium has five valves, surrounding the germ, bearded at the tip, concave and caducous: the stamina are filiform filaments, of the length of the corolla, and the anthers are ovate and incumbent: the pistillum has a superior turbinate germ; the style is filiform, of the length of the stamens, and the stigma is bifid and villous: the pericarpium is a capsule, roundish, one-celled, not gaping; and the seed is single and oblong. There are eleven species, *viz.* 1. *aspera*, or rough, of which there are two varieties; the Sicilian plant with oblong pointed leaves, growing near three feet high, and the Indian, found in Malabar, Ceylon, Jamaica, and almost every where within the tropics, with broader leaves, and on both sides smooth and green, cultivated here in 1713: 2. *lappacea*, or burry, a lofty plant, a native of Malabar and Ceylon, cultivated by Mr. Miller in 1759: 3. *muricata* or prickly, a native of India, introduced in 1777, by M. Thoun: 4. *patula* or spreading: 5. *alternifolia* or alternate-leaved; both natives of the East Indies: 6. *corymbosa*, formerly belonging to the *Celastris* of Linnaeus, a native of Ceylon: 7. *dicotona*, a native of Virginia: 8. *prostrata*, a native of India: 9. *nivea* or white, a native of the Canary islands, introduced here in 1780, by Mr. Masson, and flowering from May to July: 10. *altissima* or tall, climbing up trees to the height of twenty feet, common about Spanish-town and Kingston, in Jamaica, and in the woods of Domingo, and called by Browne bastard hoop-withe: 11. *polygonoides*, found in Arabia and Malabar. Gmelin enumerates sixteen species; adding the *papposa*, *villosa*, or *ILLECEBRUM lanatum*, *paniculata*, *capitata*, and *decumbens*, from Forsk. *fl. ag. Arab.* The several species have little beauty, and are only preferred in botanic gardens.

ACHYRONIA, in *Botany*, a name given by Van Royen to a genus of plants called by Linnaeus *ASPALATHUS*.

ACHYROPHORUS, the name given by Vaillant to the *HYPOCHOERIS* of Linnaeus.

ACHIZIB, or **ACHAZIB**, in *Scripture Geography*, a town of Galilee, in the tribe of Asher, nine miles from Ptolemais; probably the same with that called by the Greeks *Ecdippa*; also, a town in the more southern parts of the tribe of Judah.

ACIA, formed of the vernacular name *Aciova* in Guiana, in *Botany*, a genus of the *Madelpia dodrandria* class, and natural order of *potacca*. Its characters are: the calyx

is a one-leaved, turbinate, curved perianthium, with a five-parted border, the parts roundish and spreading, the uppermost and two lowest larger, the two middle ones smaller: the corolla has five, of long, rounded petals; the three upper longer, ascending: the two lower shorter: the stamina consist of twelve unequal filaments, uniting at bottom in a linear fleshy membrane, inserted into the calyx between the two smaller petals; the anthers are roundish and small: the pistillum has an ovate germ, above the base adhering by the membrane of the stigma to a subinternally prominent from the bottom of the calyx; the style filiform and curved; the stigma acute: the pericarpium is an ovate, fibrous, chinked, large drupe: the seed is an ovate nut, with a brittle shell. There is one species, which is a tree, whose trunk is sixty feet high, and three or four feet in diameter, covered with a smooth grey bark; the fruit is of the size of a walnut, inclosing a large kernel, of an agreeable taste, and eaten by the negroes when brought to market in Anguilla at Cayenne; they also extract an oil from it, as sweet as that of almonds; the wood is hard and heavy, and of a yellowish white colour.

ACIA, a term in the Roman Surgery, concerning the meaning of which physicians and commentators are much divided. Celsus, speaking of the healing of wounds, either by future, or by the fibula, says, each is best effected by means of a soft acia, not too much twisted, that it may fit the easier on the body. Boethornius will have the acia to be the acus of the fibula, or that part which is pinched: in which view, acia mollis only imported, that it was not set so as to pinch too much.

ACICOCA, in *Botany*, an herb that grows in Peru, and is sometimes used instead of the herb *PARAGUAY*, of which it is said to have all the properties.

ACICULA, in *Natural History*, a species of *Buccinum*, with a smooth, subulated, very thin shell, transversely striated with contiguous spiral windings. It is found in fresh waters. *Acicula* is also a species of *HELIX*, with an oblong acuminate shell, longitudinally ribbed and transversely striated, and an oval aperture; found in Coromandel.

ACICULÆ denote small spikes, or prickles, in form of needles, with which nature has armed several animals and plants.

ACID, in *Chemistry*, is used in common language as a generic name for all those substances which impress the organs of taste with a sharp sour sensation. Since, however, there are certain bodies destitute of this property, which nevertheless are classed by all chemical writers as acids, this popular characteristic must be abandoned as essential, for one which is more comprehensive.

Newton's well known definition of an acid, "that which strongly attracts, and is strongly attracted," would have required notice only in the history of chemical opinions, if it had not been implicitly adopted by one of the ablest chemists of the present age, Cit. Guyton Morveau. (Dict. Method. art. *acide*) "Now if any one should ask me," says he "what is an acid, I reply, it is that which of all palpable substances is the most powerful solvent; that which acts on the greatest number of other bodies; that, as Newton has so well expressed it, which strongly attracts, and is strongly attracted." It is a greater fault for a definition to be too comprehensive than too circumscribed, and that which has been just quoted not only includes alkalies as well as acids, as indeed Morveau allows, but all the active chemical agents, such as water, alcohol, hydrogen, oxygen, &c. for they are all powerful solvents, act on a great num-

one of the bodies, thereby acting, and are strongly attracted to each other, there is no necessary propriety possible to be observed in the weight belonging to each species, so that it is not possible to generalize the law: nevertheless, by comparing together the general distinguishing qualities of acids, and observing the same time the exceptions to the rule, a comparison may be produced more illustrative than the most learned dissertation.

The author, in the consideration of the general properties of acids, resolved by an analysis to give a list of the opinions held by the old chemists concerning their origin, and to show, in the next place, more at large the theory of acids, as it appears in the present state.

When the general action was in vogue, according to which the chemical action of bodies was explained by the nature of the molecules of the respective molecules, acids were supposed to be composed of salts, composed of extremely minute particles, which readily penetrated into the minutest pores of the substances subjected to their action, and thus separated from each other their component parts; while, at the same time, the acid became neutralized by its gases being held in the pores of the body with which it was mixed. This explanation was, however, ably controverted by Boyle, and by Stahl in his work on salts; and, at length, together with other chemical phenomena, the fixed properties of acids was arranged by Macquer and his contemporaries under the general laws of elective attraction.

After a few of the acids were discovered, it was supposed by Paracelsus, and several chemists of his age, that there existed an universal saline element, or principle of acidity common to all acids, which therefore differed from each other only in molecular structure. Boerhaave, though he allowed the unity of the cause of acidity, yet affirmed it to be composed of water and vitrifiable earth, and therefore not entitled to rank as an element. Stahl, in his valuable researches into the existence of phlogiston, and the composition of salts, was induced to believe that the sulphuric acid, or as it was then called the vitriolic, was the original acid, of which all the rest were only modifications. A similar opinion was held by Sage and Landriani, except that the former supposed the phosphoric acid, and the latter the carbonic acid, to be the primary one. The discovery of dephlogisticated vitriol (arsenious) having been made by Priestley, and a considerable number of experiments were soon after instituted by Lavoisier and Berthollet on this interesting subject, it was at length determined to be presented to the royal academy of sciences at Paris, by Lavoisier, on the composition of the vitriolic acid. In this, after having described the method of preparing the acid, he says by means of nitrous acid, he observed, that the combination of nitrous acid into nitrous gas, is owing to the abstraction of part of its oxygen by the superior affinity of sugar for this substance, and that the sugar, in consequence of its union with oxygen acquires the properties of an acid. Proceeding afterwards to generalize this inference, he maintains that oxygen is the universal acidifying element, and that by combining in certain proportions with combustible bases without dissolving them, it thereby converts them into peculiar acids. This doctrine, though not without its difficulties as it was, did not however prevail, and with general concurrence; but, little by little, and almost insensibly, it gradually acquired, and merited new advocates from the accumulated testimony of experiment in its confirmation.—The publication of Lavoisier's Elements of Chemistry, in 1789, contributed more than anything else to fix in the opinion of chemists upon

this subject; in this work he demonstrates that phosphorus and charcoal, and sulphur, being separately inflamed in oxygen gas, combine with its base, acquire an additional weight equivalent to that of the air consumed, and are converted into the phosphoric, carbonic, and sulphuric acids.

Besides the synthetical arguments above alluded to, the Lavoisierian theory is supported by an equal number of analytical experiments, in which most of the known acids are decomposed into oxygen, and one or more combustible bases. The most elegant specimen of both kinds of proof is furnished by the nitrous acid: if purified nitre, (nitrate of potash) previously deprived of its water of crystallization, be exposed in a silver retort to a low red heat, a large quantity of oxygen evolving of oxygen and azot, in the preparation of about 80 of the former to 20 of the latter, will be given out, and pure potash will remain in the retort, whose weight together with that of the gasses will be equivalent to that of the original nitre; the mixed gasses are wholly destitute of acid properties, but by being forced into union by means of the electric spark, their volume is gradually diminished, and at length the whole is reduced to an acid liquor, possessing all the qualities of nitrous acid; if this and the potash remaining in the first process be mixed together, chemical union immediately ensues, and nitre is reproduced.

Three of the known acids are incapable of being decomposed by any method that we are at present acquainted with; it is therefore only from analogy that they are supposed to contain oxygen for their acidifying principle; this circumstance, however, is no peculiar objection to the theory of Lavoisier, for since all the decomposable acids may be resolved into oxygen and a simple or compound combustible base, it seems consistent with the principles of chemical philosophy to establish that as a general law, to which in the present state of our knowledge, there is not a single exception.

Substances, whose mutual affinity is considerable, may combine with each other in various proportions, and the resulting compounds will vary in their properties accordingly: this is the case with all the known acidifiable bases which in their lowest state of oxidation exhibit no acid properties whatever; nor is the development of an acid an evidence of the complete saturation of its base with oxygen, there being several degrees of combining with additional quantities of oxygen, and thus acquiring new and more decided acid characters.—It is commonly supposed that some bases may be oxygenated in three different degrees, preserving in each the character of acids of acid: hence results an important arrangement of acids according as they are oxygenated in the first, second or third degree. The reformed chemical nomenclature on the principles of Lavoisier and Berthollet, has ingeniously distinguished these states by the terminations *acid* and *oxy*, and the prefix *oxy* (for oxygenated); thus sulphur at the lowest state of oxygenation in which it acquires acid properties, is called *sulphurous acid*; when still farther oxygenated it becomes *sulphuric acid*; thus also, manganic acid, when raised to the third degree of oxygenation, becomes *manganic acid*.

The old chemists divided acids into mineral, vegetable, and animal, according to their supposed origin; this, however, is not a very satisfactory method of arrangement, and in all the three natural kingdoms. Upon the whole, perhaps, the best way of arranging them is the following:

States

States of Oxygenation.

	Bases.	1st.	2d.	3d.
With simple radicals.	<i>Sulphur</i> -	Sulphureous -	Sulphuric	
	<i>Azot</i> -	Nitrous -	Nitric	
	<i>Phosphorus</i> -	Phosphoreous -	Phosphoric	
	<i>Carbon</i> -	- - -	Carbonic	
	<i>Arsenic</i> -	Arsenious	Arsenic	
	<i>Molybdena</i> -	- - -	Molybdic	
	<i>Chrome</i> -	- - -	Chromic	
With double radicals.	<i>Carbon and Hydrogen in different proportions.</i>	Acetous -	Acetic	
			Tartaric	
			Citric	
			Oxalic	
			Malic	
			Gallie	
			Benzoic	
			Succinic	
			Saccharolactic	
			Formic	
With triple radicals.	<i>Carbon, Hydrogen, and Azot.</i>		Prussic	
			Lithic	
With unknown radicals.			Muriatic -	Oxymuriatic
			Fluoric	
			Boracic	

The chemists of the last century seem to have been acquainted only with the three mineral acids, as they are called, viz. the sulphuric, nitric, and muriatic, and with the acetous acid or vinegar: the accuracy and industry of the moderns have increased the number of species to twenty-nine; how many more may be hereafter added to the list it is impossible to ascertain. Without adverting to the possibility of discovering new acidifiable bases, it is by no means improbable, however, that many of the simple combustible bodies as the metals, or the compound ones as phosphorated hydrogen, fulphurated hydrogen, the metallic phosphurets, &c. may be so far saturated with oxygen, as to become peculiar acids.

The characteristic properties of acids, *i. e.* the peculiar laws and effects of their action on other chemical substances, yet remain to be mentioned.

1. When taken into the mouth they occasion a sour taste.

The oxymuriatic acid alone is destitute of this property; the rest possess it in a greater or less degree according to their liquid or solid form, and the energy with which they act on the animal fibre, from the corrosive and intensely sour sulphuric acid, to the boracic, whose taste can scarcely be perceived.

2. They change native vegetable blues to red.

Indigo is not turned red by any acid, nor does turmeric paper yield to some of the weakest ones; but the blue pigments are artificial: the sulphureous and oxymuriatic acid discharge entirely the native vegetable blues; not however before having changed them to red.

3. They have a stronger affinity for alkalis than there have for any other substance. Therefore, all the soluble combinations of alkalis with metallic oxids, with earths, with sulphur, &c. are decomposed by any acid.

4. They combine with earths, with alkalis, and with metallic oxids, forming the numerous and very important

classes of earths, neutral, and metallic salts, most of which are not capable of crystallization.

5. The property of inflammability has been generally attributed to acids as a characteristic, but certainly very erroneously. The most inflammable of the acids are no more so than the fixed alkalis, the earths, and the poorer metallic oxids; and all the acids with two or three radicals, and those with simple radicals in the first state of oxygenation, are, strictly speaking, combustible, that is, they unite at a certain temperature with oxygen gas, during which combination heat, and in some cases light also are extricated.

The medical effects of acids are considerable, and vary according to their degree of concentration; the most active, when pure, or nearly so, are used externally as caustics and escharotics, and as powerful stimulants in some cases of palsy: if largely diluted with water, they may be safely employed internally in fevers, inflammations, and hemorrhages, as refrigerants and astringents.

For the particular acids, see them under their specific names.

Encycloped. Method. art. Acide.—Lavoisier's Elements of Chemistry.—Priestley on Air. vol. ii.—Fourcroy, Systeme des Connoiss. Chimiq. vol. ii.—Macquer's Chem. Dict. art. Acid. Cullen Mat. Med. vol. ii.

ACIDALIUS, VALENS, in Biography, an eminent grammarian and critic, was born at Wittstock, in Brandenburg, and after visiting several academies on the continent, fixed his residence at Breslaw. Being disappointed of employment, he became a Roman catholic, and was chosen rector of a school at Niebla. Thuanus informs us, that he was a very close student, and that his nocturnal studies, which were unseasonably prolonged, whilst he was composing his conjectures on Plautus, occasioned a distemper that terminated in his death, on the 25th of May 1595, when he was just turned of 28. He wrote a Commentary on Quintus Curtius; Notes on Tacitus; on the twelve Panegyrics; besides speeches, letters, and poems. A small piece, printed in 1595, and intitled, *Mulieres non esse homines*, or that "women were not of the human species," was falsely ascribed to him. He only accidentally found the MS. and printed it. It is said, that in order to appease the wrath of some ladies, who reproached him as the author, he declared his opinion, that the author was a judicious person, the ladies being certainly more of the species of *angels* than of men. M. Baillet, who admits him among his *Enfans celebres*, says, that his comment on Plautus was written when he was not more than seventeen or eighteen years of age, and that he composed several Latin poems about the same period.

ACIDALIUS, the name of a fountain in Orchomenos, a city of Boeotia, in which the Graces, who are sacred to Venus, bathed: hence the epithet *Acidalia*, given to Venus. See Virgil *Æn.* l. i. v. 724.

ACIDAVA, in Ancient Geography, a town of Dacia, toward the country of the Jazig.

ACIDIFIABLE *Ac.* A combination, in Chemistry. The general theory of the formation of acids has already been explained under that term. An acidifiable base or Radical is any substance, whether simple or compound, that is capable of uniting without decomposition, with such a quantity of oxygen as thereby to become possessed of acid properties. All acids agree with each other in combining oxygen, but differ from each other in their radicals; hence it is the acidifiable base that determines the species of acid. This term was unknown in chemistry previously to the discoveries of Lavoisier on the composition of acids, because those bodies that are now proved to be combustible

into acids by combination with oxygen, were supposed by Stahl and his followers to be already acids united to PHLOGISTON: thus sulphur, which according to the present theory is a chemical element, and capable, by combination with oxygen, of being converted into SULPHURIC ACID, was, by the Stahlian, considered as a compound of sulphuric acid and phlogiston.

The object of the reformed chemical nomenclature is to denote, as much as possible, the composition of bodies in the names appropriated to them; thus sulphuric, carbonic, and phosphoric acids express the perfect saturation of their respective bases, sulphur, carbon and phosphorus, with oxygen. This rule, however, has by no means been uniformly adhered to, and the young student in chemistry, reading of the BENZOIC, SUCCINIC or SEBACIC acids would on this account be led into an error if he supposed that benzoe, amber, or fat were the acidifiable bases of the acids that bear their names. Almost all substances are capable of combining with oxygen, but it does not therefore follow that they are acidifiable bases; that the process of *acidification* may take place a large proportion of oxygen seems essentially necessary, otherwise the result is only an oxyd. Hence oxydable substances may be divided into those which are capable only of a low state of oxydation, or *proper oxydable bases*; and into those capable of a further combination with oxygen by which they acquire acid properties, or *acidifiable bases*. Acidification may be performed in various ways according to the temperature and the affinity of the base for oxygen. The two great reservoirs from which nature procures her oxygen for the composition of acids are WATER and ATMOSPHERIC AIR, the former consisting of oxygen and hydrogen, and the other of oxygen and azot. The chemist employs principally oxygen gas and atmospheric air at a high temperature, as in the formation of carbonic and phosphoric acids by combustion of charcoal and phosphorus, or the nitric acid as in the formation of the SULPHURIC and OXALIC acids. The acidifying processes of art are generally more rapid than those of nature.

ACIDITY, the quality which constitutes or denominates a body acid, or that sensation of sharpness and sourness which acids excite upon the organ of taste.

ACIDON, a river of Peloponnesus, called also *Aeidus*, which united with Jardanus, near Anigrus.

ACIDOTON, in Botany, a genus of the *monoecia polyandria* class and order; the characters of which are, that it has male and female flowers on the same, or a different tree; the calyx of the male is a five-leaved perianthium, and the leaflets are ovate-lanceolate, and reflex; it has no corolla: the stamina are numerous filaments from 35 to 40, placed on a globular receptacle, the outer shorter, the inner longer and upright: the anthers are cordate-ovate, upright and small: the calyx of the female is a six-leaved perianthium; the leaflets linear-lanceolate and spreading; no corolla: the pistillum is a three-cornered germen: the style short, acute, thick and trifid at the top; the stigmas are tomentose and reflex: the pericarpium is a three-grained, hirsute, three-celled capsule; and the seeds are solitary and ovate. There is one species, *viz. A. urens*, a native of Jamaica, described by Sloane, though he never saw the flower and fruit, which grows to the height of eight or nine feet. Miller's Dict. by Martyn. This, in Gmelin's edition of Linnæus, is a genus of the *polyandria monogynia* class and order.

ACIDOTON is also a species of ADELIA.

ACIDULA, in Ancient Geography, a fountain of Italy, near Linternum, to the waters of which, probably impregnated with fixed air, or carbonic acid, Pliny ascribes a salutary effect, as an antidote to stone and gravel.

ACIDULÆ, *Faux acidules*, Fr. a species of mineral waters, distinguished by their sparkling appearance when poured from one vessel into another, and by their brisk acidulous taste; they contain a considerable quantity of free carbonic acid to which these properties are owing.

ACIDULATED, a term denoting any thing blended with acid juices, in order to give it a brisk and bristling.

ACIDULOUS denotes a thing that is slightly acid: it is synonymous with the word *sub-acid*.

ACIDULUM, *Aciduli*, Fr. a term used in the new chemical nomenclature, to express a genus of native compound salts, in which the alkaline bases superaturated with acid, and which therefore are employed in various chemical processes, and for economical purposes as acids. We are at present acquainted with two species, the tartareous acidulum, or *acidulum TARTRITE* of *parafé*, and the oxalic acidulum, or *acidulum OXALAT* of *parafé*.

ACIDUMPINGUE, —*Causlicum—Acide gras*. Fr. *Fett-säure* Germ.

In the year 1764, when the abilities of Macquer, Bergman, Black, and Scheele, had already discovered many important chemical facts, which were with difficulty explicable on the Stahlian theory, and when the rigorous method of demonstration so honourable to the present age had not as yet been universally assented to, there appeared in German a volume of Essays on the subject of Lime, by Fred. Meyer an apothecary of Osnaburg, announcing the discovery of a new chemical agent, the *acidum pingue*, with an extensive theory dependent upon it, and, in many respects, essentially contrary to the conclusions of Dr. Black, from his admirable experiments on the same subject. Several of Meyer's countrymen became the zealous advocates of his system, and it was soon taught publicly in many of the German schools. At length, in 1769, Jacquin published an able vindication of Black, intitled *Examen chemicum doctrinæ Bergmanianæ de acido pingui, et Barkianæ de aere fixo respectu calcis*. Vindobona. This work brought out in the course of the following year a reply by Crantz, and another by Fourchy, both of them strenuously defending the doctrine of Meyer. It does not appear that any thing more was expressly written on either side, but by the accumulation of the splendid discoveries of Lavoisier, Priestley, &c. the theory of Meyer was silently overwhelmed, and the conclusions of Black unequivocally established. Nearly the same hypothesis was afterwards revived by Sage in the effects attributed by him to an imaginary principle, the *igneous acid*, (*acide igné*) but which has not been since recognised by any chemical writer.

The facts upon which Meyer's doctrine is founded are the following. Mild calcareous earth being kept at a full red heat for a certain length of time is converted into quicklime; this change, which at present is accounted for by the volatilization of its water and carbonic acid, was by Meyer supposed to be owing to the combination of the acidum pingue with the calcareous base, and the consequent disengagement of its water; hence originated a caustic earthy salt soluble in water; if to this lime water, a mild alkali, be added, a decomposition takes place, the acidum pingue unites by preference with the alkali, making it caustic, while the calcareous earth combines with a portion of water, becomes insoluble, and is precipitated in the state of mild calx. So far the theory of Meyer was supported by facts which, however equivocal and imperfect, had at least some plausibility. But, in his attempt to raise this *causlicum* to the rank of an acid, and of a prime agent in chemical phenomena, he deviates into the wildest conjectures without the shadow of a fact in their support. The following are the chief

chief of the properties which he ascribes to it. It is a compound elastic subtle substance, analogous to sulphur, nearly approaching to the purest matter of fire or light, undecomposable, consisting of a saline acid principle and fire, compressible, capable of penetrating all vessels when red-hot, and sensibly heavy. It has an attracting force, and combines by means of fire with calcareous earth and the alkalis, and with metals when in the state of calx; from its uniting with sulphur, oils, and calcareous earth, he infers, that the acid is united with something *fat or oily*, (hence its name *acidum pingue*) and this oil so far sheaths its properties as to prevent the acidity of its taste, &c. Hence it is evident, that the properties of this imaginary substance are in part purely fictitious, and for the rest a mixture of discordant qualities selected from those of the pure alkalies, oxygen, and carbonic acid.

Essais de Chimie sur la Chaux, par M. Droux, (translated from the original German of Meyer,) Encyclop. Method. art. Acidum pingue.—Macquer's Chemical Diet.—Lavoisier's Essays, vol. i.

ACIDUM vitrioli vinosum. See Sulphuric ETHER.

ACILA, in *Ancient Geography*, a staple or mart town in Arabia Felix, on the Persian gulph, from which, according to Pliny, (H. N. v. i. p. 338.) the Scenitæ Sabæi set sail for India. This is a different place from Ocelis, or OCITA.

ACILISENE, a district of Armenia, situate between Mount Taurus and the Euphrates, where it bends its course southward towards Mesopotamia. Strabo, vol. ii. p. 799.

ACILIUS, GLABRIUS MARCUS, in *Ancient History*, a consul of Rome, who distinguished himself by his military skill and bravery on several occasions, and particularly in the victory which he gained over Antiochus the Great, king of Syria, at the straits of Thermopylæ. He built the temple of Piety at Rome, in consequence of a vow which he made before this battle.

ACINA, in *Ancient Geography*, a town of Africa, mentioned by Pliny H. N. vol. i. p. 345.

ACINACÆ, the name of a people inhabiting Bactria.

ACINACES, in *Antiquity*, a kind of cutlafs or scimitar, in use among the Persians.

ACINACIFORM leaf. See LEAF.

ACINARIA, in *Botany*, a name given by some to the marsh whortle-berries, or vaccinia palustris.

ACINASIS, in *Ancient Geography*, a river of Asia, at the southern extremity of Colchis, which discharges itself into the Euxine sea, between the Bathys and the Iliis.

ACINCUM, a city of Pannonia, the situation of which is not precisely known. Some suppose it to have been at or near Vuda.

ACINI, in *Botany*, small grains or berries, growing in bunches, after the manner of grapes. The berries of the elder, privet, ivy, &c. are of this kind, and so called. Anatomists have called some glands of a similar formation, *acini glandulosi*.

ACINIFORMIS Tunica, the same with TUNICA UVEA of the eye. It is also called acinosa tunica.

ACINIPPO, in *Ancient Geography*, a town of Bætica, of which the ruins called *Ronda la Vieja* are to be seen near Arunda, in the kingdom of Granada.

ACINODENDRON, in *Botany*, the name given by Burman, in his Thesaurus, to a genus of plants, afterwards called MELASTOMA. It is also the trivial name of a species of this genus.

ACINOS, stone or wild BASIL. See THYMUS.

ACINTILL. in *Ornithology*. See QUACHILTO.

ACINUS, in *Botany*, properly signifies the grape. It is also the name of the STAPHYLOMA.

ACIOLA. See ACIA.

ACIPENSER, in *Fishes*, a genus of fish of the order of Carchontes; the characters of which are, that the head is obtuse; that the mouth is under the head, retractile, and without teeth; that the four canals below the snout, and before the mouth; that the aperture of the gills is at the side; and that the body is elongated, and covered with many series of scutes or bony plates or scales. There are five species, viz. A. Sturio, or STURGEON; A. Rethenus, or STERLET; A. Huso; A. SCHYPA; and A. Stellatus, or KOSTER.

ACIPHAS, in *Ancient Geography*, one of the four cities of Phocis, on the river Pindus.

ACIPHYLLA, in *Botany*, a species of LASERTITIUM.

ACIRIS, in *Ancient Geography*, a navigable river of Italy, not far from the city of TIRACIA, mentioned by Strabo, vol. i. p. 405. now a rapid, irregular torrent, called Agri.

ACIS, in *Entomology*, a species of PAPILIO, with bi-colored wings, the lower part of the fore-wings being green, sprinkled with gold; the hinder golden, spotted with green and black; found in Surinam.

ACIS, in *Geography*, a town of France, in the department of l'Aube, on the river Aube. N. lat. 48° 25'. E. long. 4° 10'.

ACIS, in *Mythology*, a beautiful shepherd of Sicily, the son of Faunus and the nymph Simaethis; who, being beloved by Galatea, incurred the rage of Polyphemus, and had his brains dashed out against a rock by this giant. He was afterwards changed by Galatea into a river of the same name. The Sicilian authors say, that Acis was the name of a king, that reigned in this part of the island in a very ancient period; and, to this purpose, they allege an inscription found near the river Acis, Aci Castello. He is said to have been slain in a fit of jealousy by Polyphemus, one of the giants of Ætna; and thus they trace the origin of the fable.

Acis, a river of Sicily, celebrated by the poets, viz. Theocritus, (Idyll. i. v. 69) Ovid, (Fasti, l. 6. v. 468) and Silius (l. xiv. v. 222), which flows from a cold spring at the foot of mount Ætna, and runs into the sea at the distance of about a mile from its source. From the rapidity of an arrow, with which it pursues its course between verdant banks, its name is derived. Bochart, (Geog. Sac. l. i. c. 28. apud op. tom. i. p. 529. Ed. Villem.) deduces it from the Syrian אכיש, *achish*, to hasten, or to be swift. Its water is clear, and so cold as to be dangerous to those who drink it; and never freezes, though it possesses a degree of cold greater than that of ice. It is said to acquire a poisonous quality from the vitriol with which it is impregnated; though it was formerly celebrated for the sweetness and salubrity of its waters; which, according to Theocritus, were always held sacred by the Sicilian shepherds.

“Quique per Ætæos Acis petit aquora fines,
Et dulci gratam Nereida perluit unda.”

Silius Ital. l. 14. p. 706. Ed. Drakenb.

This river is now called *Il Fiume Fradde*, and Aci, Juci or Chiaci, according to the different Sicilian dialects. Antonine calls it Accius. Acis is also the name of a hamlet at the mouth of the river. There are several places in this district that take their names from the unfortunate shepherd Acis; such are, *Aci Aquilia*, *Aci Castello*, *Aci Terra*, &c. Brydone's Tour, vol. i. p. 118.

ACISANTHERA, in *Botany*, a species of RHFXIA.

ACITANI, in *Ancient Geography*, a people of Spain, supposed to be the same with the Lacetani of Pliny.

ACITHANIS, or ACITHIUS of Ptolemy, a small river of Sicily, now *Acigola*.

ACUTLL, in *Botany*, the common Mexican name for the *Carya acutifolia*, or greater *hickory* (German), common to Europe and America, and called by authors the *Laurus aquatica*, or water laurel.

ACKEN, in *Geography*, a half-wick of Magdeburg, in Germany, to which belongs a town of the same name, situate on the Elbe. It formerly belonged to the dukes of Saxony, and was hence called *Agna Saxonica*. The revenue for vicarages of this town are at present levied by the dean of the cathedral of Magdeburg; but the church was given in 1711, to the Calvinists. Busching.

ACKER Sound, lies north-east from the Naze of Norway, and north-west by west from the island of South Wismar. Suter's Island is also west by north from Acker four leagues; and behind it is the small port of Grahewick.

ACKHMETCHID Gulph, is on the west side of the Crimea, and the sea through which ships pass to Precop, and the north-west part of the Black Sea. Its west cape is N. lat. 35° 35', and E. long. 52° 20'.

ACKLIN's Key lies about 50 miles south-east from Long island, or Yuma, one of the Bahama islands, having Long Key twelve miles to the north-west; and on the south-east side a chain of rocks. N. lat. 22° 10'. W. long. 73° 3'.

ACKNOWLEDGMENT Money, a sum paid in some parts of England by tenants on the death of their landlords, as an acknowledgment of their new lords.

ACKWORTH, a small village near Pontefract, in the county of York, which deserves mention on account of the benevolent institution supported in it for the education of the children of the Quakers. The original projector of this institution was Dr. Fothergill, who promoted a subscription for purchasing, improving, and furnishing an appropriate building, and an estate of eighty acres of land; and who, by his will, endowed it with a liberal bequest. This institution accommodates more than 300 children of both sexes under the same roof, who are furnished with all the necessary conveniences and comforts of life, properly clothed, and educated in every branch of knowledge, adapted to the stations in which they may be placed. It is conducted by a number of chosen guardians of ability, and of exemplary character, with a degree of order and decorum, which affords pleasure to persons of every description who occasionally visit it. The children are taught habits of regularity, of decency, and of respectful subordination to their superiors, of forbearance and affection to one another, and of reverence to their maker; and they are accustomed to that kind of silence and recollection, which was practised in some of the ancient schools of philosophy, and which give a peculiar and distinguishing character to the members of this society in the maturity of life.

ACLIDES, in the Roman *military art*, a kind of misfiring weapon, having a thong fixed to it, by which, after casting it out of the hand, it might be drawn back again. Servius describes the acleidæ as full of spiculae, or eminences. As it was formed with spikes, it would injure both where it struck, and when it was withdrawn. Each warrior seems to have been furnished with two. Vofs. Etym. Aquin. lex. Mil. t. i. p. 14. Pitisc. Lex. Ant. t. i. p. 17.

ACLOWA, in *Botany*, the name of a plant common in Guinea, and used by the natives to cure the itch. They rub it on the body, as we do our unguents. Petivier accounts it a species of colutea, and has named it the Guinea scorpioide colutea, with leaves like the gum tragacanth shrub. Phil. Transf. No. 268. abr. v. iv. p. 2. p. 322.

ACME, the height or top of any thing. The word is Greek, signifies point, and is more specifically used to denote the height, or utmost vehemence of a distemper.

Accordingly some institution-writers have divided diseases into four states or periods: 1. arche, the beginning or first attack: 2. anabasis, the growth: 3. acmè, the height: and 4. paracme, which is the declension of the distemper.

ACMELLA, or **ACMELLA**, in *Botany*, a plant which grows in the island of Ceylon and Ternate, of which there are three species noted by botanists; two of which were formerly referred to the genus *VERBESINA*, in the Linnæan system. It is commended in nephritic disorders, but very rarely used. It is the *SPILANTHUS* *dimidiatus* of L., serrated leaves, a strait stem, and radiated flowers. It became known in Europe by the letters of Horton, addressed to the Royal Society in 1701. Phil. Transf. vol. xxx. p. 760.

ACMODÆ, in *Ancient Geography*, seven islands in the British sea, supposed by some to be the Scilly islands, but by others, with greater probability, those of Heleland and Shetland near the Orkneys, on the coast of Scotland. Pliny, H. N. v. i. p. 223.

ACMON, in *Ancient History*, the name of one of the *DACTYLI IDÆI* according to Strabo, vol. ii. p. 726. Bryant says, (Mythology, vol. i. p. 513) that Acmon was a Cyclopiian deity, under which title he was worshipped in Phrygia, whence the name of Acmonia. He was also revered by the Amazonians, and there was a sacred grove upon the Thermodon called acmonium, and held in great repute. He is represented by Callimachus (Hymn. in Dian. v. 146.) as the tutelary god of Tiryns, an ancient city of Greece, whose towers are said to have been built by the Cyclopians.

ACMONIA, or in Peutinger's map **AGMONIA**, in *Ancient Geography*, a town of Phrygia major, now in ruins. Cicero, pro Flacco, cap. 15. calls the inhabitants *Acmonenses*, and the city *Civitas Acmonensis*. There are many medals of this city in gold, bronze and silver. There was also a city of the same name, according to Ptolemy, in Dacia upon the Danube, near the capital Sarmitz, which was the position of the Roman colony, called *Ulpia Trajana*.

ACNIDA, formed of *a priv.* and *κνιδον*, a nettle, *Virginian hemp*, in *Botany*, a genus of the *diacia* order, and *pentandria* class of plants, of the natural order of *scabridæ* and *atriplex* of Jussieu, the characters of which are as follow: the calyx of the male is a five-leaved perianthium, and the leaflets are ovate, concave, acute, and membranaceous on the edge; it has no corolla; and the stamina are five, capillary, very short filaments; and the anthers are versatile, bilocular, and forked each way: the calyx of the female is a many-leaved, linear, deciduous involucre; the perianthium is two-leaved, linear, very small and permanent; it has no corolla; the pistillum has a superior, ovate germen; the styles are five, long, reflex and pubescent; the stigmas are simple: the pericarpium is an ovate, compressed, many-angled fruit, furrowed, and covered with the succulent calyx: the seed is solitary, round and compressed. There is one species, viz. *A. cannabina*, which is a native of Virginia, and some other parts of America, but seldom cultivated in Europe. It has little beauty, and is applied to no use. Martyn's Miller. In the Linnæan system by Gmelin, it is a genus of the *pentandria pentagynia* class and order.

ACNUA, in *Roman Antiquity*, a measure of land about the quarter of an English acre.

ACO, in *Geography*, a town of Peru in S. America, in the jurisdiction of Guanuco. It is also a river of Africa, that rises in the mountains of Abyssinia, runs in a south-east direction, and discharges itself into the Indian ocean.

ACO, in *Ichthyology*, a name given to a fish found in the Mediterranean, called also *aquo*, *sarachus* and *sarachinus*.

ACOMETÆ, or **ACOMETI**, formed of *a priv.* and *χομεται*,

cenobii, to *be down*, or *sleep in bed*, a name given to certain monks in the ancient church, who flourished particularly in the east about the fifth century: and who were thus called, because they had divine service performed, without interruption in their churches. They divided themselves into three bodies, each of which officiated in their turn, and relieved the others; so that their churches were never silent, either night or day. The *STYLITES* were also sometimes called *acoemetæ*. Wetstein (*Proleg. N. T. vol. i. p. 10*) adopts the conjecture of Casimir Oudin, that the *ALEXANDRIAN MS.* was written by an *Acoemet*, because it contains a catalogue of the psalms that were to be sung at every hour, not only of the day but of the night. These monks are particularly described by Helyot in vol. i. c. 29. of his "*Histoire des Ordres Monastiques*," &c. in 8 tomes 4to. Paris, 1720.

There is a kind of *acoemetæ* still subsisting in the Romish church: the religious of the holy sacrament may be properly included under this denomination, because they maintain a perpetual worship; some or other of them praying before the sacrament, day and night.

ACOLA, in *Ancient Geography*, a town placed by Ptolemy in Media, on the borders of the Hyrcanian sea.

ACOLA, *Cala Bini*, in *Geography*, the most southern cape or point of land of the island of Minorca, S.W. of fort St. Philip, or the entrance of Mahon harbour, seven or eight miles.

ACOLASTRE, in *Geography*, a river of France, which runs into the Loire, two leagues above Nevers.

ACOLCHICHI, in *Ornithology*, the Mexican name of a bird described by Nieremberg under the name of the *PTEROPHOENICUS Indiarum*. It is the *ORIOLUS phanicus* of Linnaeus. The *acolaki* of Seba is the *Oriolus Novæ Hispaniæ* of Gmelin, the *Icterus Mexicanus* of Brisson, and the *Mexican Oriole* of Latham. Its specific characters are, that it is yellow: the head, throat, wing-quills, and tail are black; the greater quills of the wings are yellow at the tip, and the lesser are wholly black. This bird has a long yellow bill; and the tail and wings are ornamented with small feathers of a golden colour, which have a fine effect on the dark ground. Seba reckons it an American bird; and Gmelin refers it to New Spain.

ACOLHUACAN, in *Geography*, one of the three imperial cities of the ancient kingdom of Mexico.

ACOLIN, a river of France, which runs into the Loire two leagues below Decize.

ACOLIN, in *Ornithology*, the name of a bird of the partridge kind, common in the Spanish West Indies. It is no larger than a starling; its legs and feet are of a pale greenish colour, and its toes very long; its beak is yellow, and somewhat long; its head small; its breast and belly are white; its sides are spotted with brown, and its back and tail of a dusky yellow brown; its tail is very short, and both that and the back have some black spots, and some narrow streaks of white. It frequents the sides of lakes, and is supposed to feed on flies, worms, and other insects, which are found about watery places. It is a tolerably well-tasted bird.

ACOLUTHI, or *ACOLYTHI*, in *Antiquity*, a term applied to such persons as were steady and immoveable, in their resolutions.

The word *Ακολυθος* is compounded of the privative *α*; and *κλυεθος*, *vias*, *way*; and implies their still persisting in their way or course.

For this reason, the Stoics were called *acolythi*; because nothing could induce them to abandon their principles or alter their purposes.

Among the *Ecclesiastical Writers*, the term *acolythus*, or *acolythist*, is peculiarly applied to those young people, who

in the primitive times aspired to the ministry; and for that purpose, continually attended the bishop, or on Sunday occasioned their being distinguished by the title of acolythi.

In the Romish church, *acolythi* were of the same countenance; but their functions were different from those of their first institution. They were ordered to hold the front of the four left corners, when the priest was at the altars, carry the candlesticks, the incense-pot, and prepare the wine and water.

At Rome there were three kinds of *acolythi*; viz. *palatini*, who waited on the pope; *stationarii*, who served in churches; and *regionarii*, who, together with the deacons, officiated in other parts of the city.

ACOLUTHI, or *acolythus*, was also a title in the Grecian empire given to the captain or commander of the *VARANGI*, a body of guards appointed for the security of the emperor's palace.

ACOLUTHUS, ANDREW, in *Biography*, was an arch-deacon, and professor of the Oriental languages at Breslaw, his native city, and member of the academy of Berlin. He published, in 1682, a *Traité De Aquis Avaris*, in 4to. At Leipzig he published, in 1680, a Latin translation of the Armenian version of the Prophecy of Obadiah. He died at Breslaw in 1704.

ACOLYTHIA, in the Greek church, denotes the office, or order of divine service.

The same name is also given to the prayers, ceremonies, hymns, and the like, whereof the Greek service is composed.

ACOMA, and *Acomach*, in *Geography*. See *ACCOMA* and *ACCOMACH*.

ACOMAS, in *Botany*. See *HOMALIUM*.

ACOMINATUS, NICETAS, in *Biography*, secretary to Alexius Comnenus, and to Isaacus Angelus, who wrote a history from the death of the former in 1118, where Zonaras ended his, to the year 1203, which is much approved.

ACON, an instrument used in the ancient exercises, like the *discus*.

ACON gave name to an ancient order of knighthood, who were afterwards united to the knights *Hospitalers*.

ACONÆ, in *Ancient Geography*, a small town of Bithynia, near Heraclea.

ACONCAGUA, in *Geography*, a village or town of Chili, in S. America, which gives denomination to a fertile province at the foot of the Cordellieres, situated on a river of the same name, that discharges itself into the pacific ocean. N. lat. 33°. W. long. 75° 36'.

ACONCROBA, in *Botany*, a name given by the natives of Guinea to a plant, growing wild with them, and in great esteem for its virtues in the small-pox. They give an infusion of it in wine. The leaves of this plant are opaque, and as stiff as those of the phillerey; they grow in pairs, and stand on short foot-stalks; they are small at each end and broad in the middle; and the largest of them are about three inches in length, and an inch and a quarter in breadth in the middle. They somewhat resemble those of our bay. They are of a dusky colour on the upper side, and of a pale green underneath.

ACONE, in the *Natural History* of the ancients, the name of a stone used as a whetstone, and for several other purposes; but more usually known among the Romans by the name *COTICULA*. It signifies also a mortar for the purpose of levigation.

ACONITE, in *Botany*. See *ACONITUM*.

ACONITE, *Winter*. See *HELLEBORUS*.

ACONITES, in *Ancient Geography*, a people placed by Strabo, (tom. i. p. 344) in the mountains of the island of Sardinia.

ACONITI,

ACONITI, *aconiti*, is an appellation given to some of the ancient *Aconitum*, but differently interpreted. Mercatius and others say it is of those who only anointed their bodies with oil, but did not fume themselves over with dust, as was the usual practice. Mr. Burette will have it to signify those who conquered easily without dust, q. d. *aconiti, opus est, cum little trouble*.

ACONITON signifies not plaitered, and is a name given to vessels not lined within.

ACONITUM, *Aconite*, *Wolf's-bane*, or *Monk's-hood*, in Botany, a genus of plants of the *trigynia* order and *polyandria* class, and pertaining to the natural order of *multiflorae*. Some have derived its name from *Aconæ*, a city of Bithynia, where it grew in great abundance. Pliny ascribes its etymology to *Axon*, a whetstone. But the most probable origin of the appellation is *aconis*, *without dust*: because this plant grows on rocks destitute of soil, agreeably to the description of Ovid;—

“Quæ quia nascuntur dura vivacia caute,
Apretes *Aconita* vocant.”

The characters of this genus are, that it has no calyx: the corolla consists of five unequal petals, opposite in pairs; the highest being helmet-tubed, inverted and obtuse; the two lateral broad, roundish, opposite and converging; and the two lowest oblong, and bending downwards: the nectaries are two, concealed under the first petal, fistulous, nodding, with mouth oblique, and tail recurved, sitting on long subulate peduncles; in the same circle with the nectaries there are six little, very short, coloured scales: the stamina are subulate filaments, very small, broader at the base, inclining towards the first petal; the antheræ are erect and small; the pistillum has three (five) oblong germs, ending in styles the length of the stamina; the stigmas are simple and reflex: the pericarpium has as many capules as the styles, ovate-subulate, straight, one-valved, gaping inward: the seeds are many, angular and wrinkled. The species, enumerated and described by Prof. Martyn in his edition of Miller's Dictionary, are as follow: 1. *A. lycoctenium*, great yellow monk's-hood, or wolf's-bane, of which there are two varieties, viz. that of Linnæus with a bluish ash-coloured flower, and the *aconitum alissimum* of Miller. The common sort grows upwards of three feet high, but this, in gardens, is above four feet; its leaves are also broader and smooth, and the spikes of the flowers are longer. They both flower about the middle of June, and in a moderate season continue to blow till August. In Sweden it is reckoned among the earliest spring flowers. The mountains of Sweden, Lapland, Switzerland, Germany, Austria, Carniola, Italy and Siberia produce it in a wild state; and it was cultivated in this country by Gerard in 1596. A decoction, or powder of the root is used for destroying flies and other insects; but it is eaten in a province of Sweden without injury. It is milder than some of the other species, and eaten by goats and horses. The ancients believed that it was fatal to those who slept under it; and they dipped their venomous arrows in the juice of it. See Smith's *Linnæi Flor. Lappon.* p. 187. 2. *A. japonicum*, or Japanese monk's-hood, is a native of Japan, where it is called *Soo Hufo*. 3. *A. napellus*, common monk's-hood or wolf's-bane, is found wild in Sweden, Switzerland, France, Germany, Austria, Carniola, Italy, Siberia, and Virginia; and was cultivated here in 1596 by Gerard. It blows in August, and would merit a place in every garden, if it were not for its noxious quality, which renders it dangerous to children and ignorant persons. There are two or three varieties with white, rose-coloured, and variegated corollas. The sorts which have blue flowers are more powerful than

those with yellow or white flowers. The variety called by Miller *A. napellus* is the most common in English gardens, being preferred on account of the appearance of its long spikes of blue flowers, which are above two feet long. The plant rises to the height of near four feet, is hardy, and will grow in any soil or situation, and as it multiplies greatly by its roots, it has been admitted into most gardens and plantations of shrubs. It flowers in May and June; and the seeds ripen in September. 4. *A. pyrenaicum*, Pyrenean or fennel-leaved monk's-hood, grows wild on the Pyrennees, and also in Tartary and Siberia, and was cultivated with us in 1739 by Mr. Miller. It grows to the height of about four feet, and the spike nods before the time of flowering, which in our gardens is July. This species may be admitted among shrubs, to which children have no access. The four preceding species of *aconite* have three capules, the following have five. 5. *A. anthora*, salutary monk's-hood, as it has been erroneously called, has a root consisting of from two to four angular, fleshy, bulbs, and a stem which rises from a foot to 18 inches in height. The flowers, which continue in beauty from the middle of August to the middle of September, though not so large as some of the other sorts, are of a sulphur colour, and make an agreeable appearance in the borders of the flower garden. This species grows naturally in the Pyrennees, the Alps, Austria, Siberia, &c. and was cultivated here in 1596 by Gerard. There is a variety of this with a white flower. 6. *A. variegatum*, variegated or small blue monk's-hood, is a native of Italy and Bohemia, and was cultivated here in 1752 by Mr. Miller. It flowers at the end of June, and seldom grows to a greater height than two feet, with spikes of flowers much shorter than those of the first sort: the corollas change from variegated to plain. 7. *A. album*, white wolf's-bane, was found by Tournefort in the Levant, and first raised in the royal garden of Paris. Mr. Miller cultivated it here in 1739, and says, that he has seen it upwards of six feet high; and he characterises it by its tall stem, palmate leaves, and large white flower. 8. *A. cammarum*, purple monk's-hood, has flowers of a paler blue, a much longer helmet, and a shorter raceme than the *A. napellus*. Its stem is also higher, rising even to six feet. This species is found wild in Switzerland, Austria, Stiria, Piedmont, &c. and was cultivated in 1748 by Mr. Miller. Haller found it with a white flower, and others have observed it in Switzerland with flowers of a pale blue, variegated with white. The variety named by Mr. Miller *A. alpinum*, will grow in good ground to the height of five feet, with large flowers of a deep blue colour. 9. *A. uncinatum*, American monk's-hood, is a native of Pennsylvania, with leaves approaching to those of the third sort, and blue flowers resembling those of the last. It was cultivated in 1770, by Mr. James Gordon. In the last edition of Linnæus by Gmelin, this genus comprehends 14 species; the five following being added to those above recited, viz. *volubile*, *spicatum*, *lanceolatum*, *montanum*, and *cernuum*.

Culture. All the sorts of monk's-hood are hardy perennials, require little attention, and as they bear handsome spikes of flowers, are desirable plants for shrubberies and wilderness quarters, where they are guarded from the access of those who are unapprised of their pernicious qualities. They are propagated by seeds, sown in autumn, in a shady situation. The ground should be kept clean from weeds, and the plants should be watered in dry weather, till they are fit for being transplanted into shady borders, at the distance of 14 inches. If they are watered till they have taken root, they will require no other care, besides being kept free from weeds till the following autumn, when they may

may be removed to the places where they are to remain. The stalks should be cut down in autumn, after they have done flowering. The common monk's-hood will grow under the shade of trees, and increase by means of its creeping roots. The other sorts may be propagated in the same way; but they will not thrive under the drip of trees, though they delight in shade.

Qualities. Most of the species of aconite have been deemed poisonous. The ancients were so surprised at their pernicious effects, that they were afraid to touch the plants; and hence sprung many superstitious precautions about the manner of gathering them. Theophrastus relates that there was a mode of preparing the aconite in his days, so that it should only destroy at the end of one or two years. But some have questioned whether the aconite of Theophrastus, Dioscorides, Pliny, and other ancient writers be the same with ours, or should be referred to the genus of Ranunculus. Vid. Reinhold, Diff. §. 1. It is confidently affirmed, that the huntmen on the Alps, who hunt the wolves and other wild animals, dip their arrows into the juice of these plants, which renders the wounds occasioned by them mortal. A decoction of the roots has been used to kill bugs; and the powder disguised in bread or some other palatable vehicle has been employed to destroy rats and mice. The *A. napellus*, or common monk's-hood has been long known as one of the most virulent of all vegetable poisons. Linnaeus says, that it is fatal to swine and goats, but does no injury to horses who eat it dry. He also informs us from the Stockholm acts, that an ignorant surgeon died in consequence of taking the fresh leaves, which he prescribed to a patient. The effluvia of the herb in full flower have produced swooning fits and a temporary loss of sight. The leaves and shoots of this plant, used as salad instead of celeri, have proved fatal in several instances. But the most powerful part of the plant is the root. Matthioli relates that it was given by way of experiment to four condemned criminals, two at Rome in 1524, and two at Prague in 1561, two of whom soon died, and the other two, with great difficulty, were recovered. The juice applied to the wound of a finger, not only produced pain in the arm and hand, but cardialgia, anxiety, sense of suffocation, syncope, &c. and the wounded part sphacelated before it came to suppuration. Dodonæus says, that five persons at Antwerp died in consequence of eating it by mistake. The effects of this plant are convulsions, giddiness, insanity, violent evacuations, both upwards and downwards, faintings, cold sweat, and even death itself. Nevertheless it has been used for medicinal purposes. The Indians are said to use *aconite*, corrected in cow's urine, with good success against fevers. There is one species of it which has been deemed an antidote, to those that are poisonous, called *anthora*, and those that are poisonous are called *thora*. The taste of the root of the species denominated *anthora*, is sweet, with a mixture of bitterness and acrimony, and the smell is pleasant. It purges violently when fresh, but loses its qualities when dried. This is poisonous as well as the others, though in a slighter degree, and is disused in the present practice. The first person who ventured to introduce the common monk's-hood into medicine was Dr. Stoerck; though it has been supposed by Haller and Bergius from the taste and figure of the plant which he used, that it was not the *napellus* but the *A. cammarum*, which much resembles it. But others have since maintained, that Stoerck's plant was the *A. napellus*. He found that the extract given to the quantity of 10, 20, and even 30 grains, excited a sweat without inconvenience, and by persisting in the use of it, great relief was obtained in fixed rheumatic and arthritic

pains, scirrhus glandular tumors, venereal nodes, anchyloses, amaurosis, and other similar complaints. Other practitioners, after the publication of Stoerck's Extracts in 1762, have experienced the same good effects in some degree, and the Edinburgh college has received the extract as an official. In this, as in all the other medicines of suspicious and dangerous properties, it is most expedient to begin with very small doses, and increase them as they can be borne. Stoerck recommends two grains of the extract to be rubbed into a powder, with two drams of sugar, and to begin with 10 grains of this powder two or three times a day. The extract is often given from one grain to ten for a dose; and some have considerably increased the quantity. Instead of the extract a tincture has been made of the dried leaves, macerated in six times their weight of spirits of wine, and 40 drops given for a dose. Martyn's, Miller's Dict. Lewis's Mat. Med. 1784. Woodville's Med. Bot. vol. i. p. 19. Murray's Appar. Med. vol. iii. p. 6. &c.

ACONTIA, in *Ancient Geography*, a town of Spain, which Strabo (Tom. 2. p. 228.) places near the Durus, and calls a city of the Vaccæi.

ACONTIAS, a name used, by some authors, for a sort of COMET, or METEOR, whose head appears round or oblong, and its tail very long and slender, resembling a javelin.

It takes its denomination from a serpent thus called, frequent in Calabria and Sicily; where it is also named *phetone* (from *sagitta*, an arrow) by reason of its flying at passengers like an arrow; in order to which, it winds itself up a tree, to spring thence with the greater violence. For the like reason the Greeks call it *aconias*, of *ακόνις*, a dart, or arrow.

It differs from the XIPHIAS, in that it is longer, and more like a dart; and the other is shorter and broader in the middle.

ACONTIAS, in *Zoology*, the name of the *ANGUIS Jaculus*, a species of serpent, called also *JACULUM*, or the dart-snake, from its manner of vibrating its body in the manner of a dart. Bellonius found one of these in the island of Rhodes, which he described in this manner: it is about three hands-breadth long, and the thickness of one's little finger; its colour is a milky grey on the back, variegated with small black spots, like so many eyes; and on the belly it is perfectly white; the neck is wholly black, and from that two milk-white streams run all the way along the back to the tail; the black spots also are each surrounded with a small circle of white. It is found in Egypt and Lybia, and in the islands of the Mediterranean. It is also called *cenchreas* and *cenchrites*. Ray.

ACONTISMA, in *Ancient Geography*, a city of Macedonia, between the Strymon and Nestus.

ACONTIUM, in *Ancient Writers*, a kind of Grecian dart, or javelin, somewhat resembling the Roman *PILUM*.

ACONTIUS, or ACONZIO, JAMES, in *Biography*, a celebrated philosopher, civilian and divine, born at Trent in the 16th century. He embraced the protestant religion, and was favourably received in England by queen Elizabeth, who granted him a pension as an engineer, which he respectfully acknowledges in the dedication of his well-known work, "The Stratagems of Satan." This treatise was first printed at Basil in 1565; and the author died in England. Another edition of it was published in the same city by James Grafferus in 1610; at Amsterdam in 1674, and a French translation was published in 1610, and reprinted at Delft in 1624; in the above edition is inserted *Acontius's* letter to Wolfius, "De ratione edendorum librorum," containing excellent advice to authors. He wrote also a treatise

treatise on method, intitled "De Methodo, five de Recta methodo, quædam traditæ laudique Artium et scientiarum rationes," which was published at Basil in 1558, and inserted in a collection of dissertations, "De Studiis bene institutis," printed at Utrecht in 1658; an Italian work on fortifying cities, translated by himself into Latin, but never published; and a treatise of Logic, which he did not live to finish. His religious principles differed from those of Calvin; and he was an avowed friend to toleration. He has been charged with scepticism in theology, and referred by Isaac Junius, minister of Delft, to the same class with Socinus and the Remonstrants, who represents him as a person desirous of reducing all sects into one, and including them in the same ark, as Noah preserved all animals in his, though they lived on different food. Arminius says of him, "*Acontius est divinum prudentiæ, ac moderationis lumen:*" and Acontius gives him this character. "*Idem Acontius est* *moderatus, et temperatus, qui fœderem ecclesiæ anglicanæ calore et rore cœlesti fovit sedulo.*" Gen. Dict. Biog. Dict.

ACONTIUS, in *Antient Geography*, a city of Peloponnesus in Arcadia, which derived its name according to Pausanias, from Acontius, the son of Lycaon. There was another town of the same name in the island of Eubœa.

ACONTIUS *Mons*, a mountain of Bœotia in Greece, in which was built the town of Orchomenes. Strabo. T. i. p. 67.

ACOOTAN *Island*, in *Geography*, lies north-east from the point of Onemak, or the south-west point of the continent of America; and between these is a channel.

ACOPA, in *Botany*, a name given by Dioscorides, and some other authors, to the *MENYANTHES trifoliata*, or BUCKLE.

ACOPA, derived from a privative, and *ακος*, *coarctation*, in *Medicine*, is also used to denote remedies against the ill consequences proceeding from lassitude, occasioned by too violent labour, exercise, or the like; such as tensions, tumors, pains in the bones, &c. some being of a warm, and others of a mollifying nature. But the title is improperly applied to medicines, as none are adapted to this purpose, except by a general quality. Cullen's, Mat. Med. vol. i. p. 162.

ACOPIS, or *Acopos*, a substance classed by Pliny among the gems of which he gives the following account. Acopos resembles Natron, is porous, and starred with golden drops. Oil that has been boiled upon this, is used as an ointment to prevent the effect of fatigue. Pliny, Nat. Hist. xxxiii. 54.

ACOPOS, a plant mentioned by Pliny, said to be the same with the *ANAGYRIS* of Dioscorides, which Gerard says is the bean-trefoil; it signifies also *LABURNUM*.

ACOR signifies founts or acrimony.

ACORACA, in *Antient Geography*, a town of *CHALCEDONIS*, a prefecture of Syria.

ACORDINA denotes Indian turtry.

ACORIS, a small town of Egypt in the nome of Cyropolis, in the province of Heptanomis.

ACORN, in *Natural History* and *Agriculture*, denotes the fruit of trees of the oak kind.

The acorn, according to Dr. Grew, is the nut of an oak, with this only difference, that besides the cup it stands in, it has only a leathern or parchment cover, instead of a shell. And hence it is, that whereas the kernel of a nut is sweet, that of an acorn is of a very rough and bitter taste: the astringent parts of the cup, which in a nut are drained off into the shell, being here retained by the kernel itself. Writers on husbandry give directions concerning seminaries or nurseries of acorns, and the method of propagating, by sowing or planting them. For timber, those acorns are to

be chosen as *stern*, which are most solid and heavy, and not those which are the largest. See *OAK*.

In the Phil. Trans. vol. lviii. p. 75. we have a curious and important memoir by John Ellis, Esq. containing a method of preserving acorns in bees-wax for a whole year, in a state fit for vegetation, by which other seeds may also be preserved; and such as are valuable may be brought from the East Indies, for the purpose of planting them in other countries. See *SEED*.

Acorns were the food of the first ages; but when corn was cultivated, acorns were neglected. They are of little use with us, except for fattening hogs and other cattle, and poultry. The hogs that are fattened by them will be subject to constipation, and the disease called the garget, unless they are given sparingly, and mixed with some laxative substances: and, during the use of them, the hogs should be allowed to run at large; for if they are confined to the sty, they will not grow fat with this kind of food. Among the Spaniards, the acorn, or *GLANS iberica*, is said to have long remained a delicacy, and to have been served up in the form of a desert. In dearths, acorns have been sometimes dried, ground into meal, and baked as bread. Bartholin relates, that they are used in Norway for this purpose. The inhabitants of Chio held out a long siege, without any other food; and in a time of scarcity in France, A. D. 1709, they resorted to this food. But they are said to be hard of digestion, and to occasion head-achs, ventosities and colics. In Smoland, however, many instances occur, in which they have supplied a salutary and nutritious food. With this view they are previously boiled in water and separated from their husks, and then dried and ground; and the powder is mixed with about one half or one third part of corn-flour. A decoction of acorns is reputed good against dysenteries and colics: and a pessary of them is said to be useful in immoderate fluxes of the menses. Some have recommended the powder of acorns in intermittent fevers; and in Brunswick they mix it with warm ale, and administer it for producing a sweat in cases of the erysipelas. Acorns roasted and bruised have restrained a virulent diarrhœa. For other medical uses to which they have been applied, see Murray's Appar. Medic. vol. i. p. 100.

From some late reports of the Academy of Sciences at Petersburg, we learn that acorns are the best substitute to coffee that has been hitherto known. To communicate to them the oily properties of coffee, the following process is recommended. When the acorns have been soaked brown, add fresh butter in small pieces to them, while hot in the ladle, and stir them with care, or cover the ladle and shake it that the whole may be well mixed: The acorns of the holm oak are formed at Venice into cups, about 1½ inch in diameter, and somewhat less in depth. They are used for dressing leather, and, instead of galls, for dyeing woollen cloth black.

ACORN, in *Sea-language*, denotes a little ornamental piece of wood in the shape of a cone, fixed on the top of the spindle on the mast-head, above the vane, to keep it from coming off the spindle in a whirlwind, or when the ship leans much upon one side under sail.

ACORN-shell. See *LEPAS*.

ACORUS, derived from *ακος*, the *pupil*, because it was esteemed good for disorders of the eye, *Calamus aromaticus*, *Sweet Flag* or *Sweet Rush*, in *Botany*, a genus of the *monogynia* order, and *hexandria* class of plants, and belonging to the natural order of *piperite*. The characters are, that the calyx is a cylindric, simple spathe, covered with bristles, without spathe or perianthium; the corolla is composed of six petals, obtuse, concave, loose, thicker at the

top, and in a manner truncate: the stamina are thickish filaments, somewhat longer than the corolla, and the anthers are thickish, twin, terminal and adnate; the pistillum is a gibbous germ, rather oblong, and of the length of the stamens; without style; the stigma is a prominent point; the pericarpium is a short triangular capsule, attenuated to both ends, obtuse and three-celled: the seeds are many and ovate-oblong. There are two species, viz. 1. *A. calamus*, or common sweet rush, of which there are two varieties; the *vulgaris*, European sweet rush, sweet smelling flag, or *calamus aromaticus*, and the *verus seu Asiaticus*, Indian sweet rush, or *calamus aromaticus*. The common *calamus aromaticus* is sufficiently distinguished by its long sword-shaped leaves, resembling those of the flag, but narrower, of a brighter green, and yielding, when broken, a strong aromatic scent; and also, by its oblong cylindric spike of flowers, proceeding from the side of the stem at the edge of the leaf, which spike is generally single, sometimes double, and more rarely triple and quadruple. It grows naturally on the banks of rivers, and in shallow standing waters; and is found in many parts of England, on Hounslow-heath, near Norwich and Lynn in Norfolk, near Cambridge, in the Avon, near Pershore, and in many parts of Cheshire, &c.; but it is more plentiful in the standing waters of Holland, and is common in many other parts of Europe. The Indian *calamus*, which grows not only in marsh ditches but in more elevated and dry places in Malabar, Ceylon, Amboyna, and other parts of the East Indies, differs little from the European, except that it is more tender and narrow, and of a more hot and pungent taste. 2. *A. gramineus*, grass-leaved sweet rush, or Chinese sweet grass, has the roots in tufts, with a few thready fibres. The whole herb has an aromatic smell when bruised, much resembling our English sweet flag, from which the present species is distinguished by the shortness of that portion of its stalk, which is above the spadix, as well as by all its parts, except the florets, being five times smaller than in that plant. It is probably a native of China, and cultivated for the sake of its smell, in pots near the habitations of the Chinese, whence Mr. Aiton obtained it in 1786. It flowers in the spring.

Culture. The sweet flag will succeed very well in a garden, if the ground be moist, but never produces its spikes unless it grows in the water. It loves an open situation, and will not thrive well under trees. The flowers appear towards the end of June, and continue till August. In a proper situation it will increase by its creeping roots. The Chinese sweet grass must be kept in a dry stove, without any great degree of heat.

Medicinal Properties. The dried roots of the *calamus aromaticus* are commonly imported from the Levant, though those of our own growth are equally good. The best are those which are greenish without, and reddish within; the pulp white, and taste bitter. They have a strong aromatic smell, and a warm pungent bitterish taste; and their flavour is much improved by drying. The powdered root might supply the place of foreign spices, and indeed it is the only native aromatic plant of northern climates. It is carminative and stomachic, and often used as an ingredient in bitter infusions. But it communicates a nauseous flavour to these infusions; and Neumann observes, that its agreeable flavour, as well as distinguishing taste, are owing to an essential oil; the residuum after distillation having a nauseous flavour unlike that of the *calamus*. It appears that water is the most perfect menstruum of the bitter matter, as rectified spirit is of the aromatic, and the smell of the *calamus* is covered or suppressed by spirit. The tinctures in both menstrua are of a yellow or brown-colour, as they are less or more saturated.

The root is an ingredient in the mithridate and theriaca of the London pharmacopœia, and in the aromatic and stomachic tinctures, and compound aram powder, of that of Edinburgh. The Turks candy it, and regard it as a preservative against contagion. It is also said that it has cured agues, when the Peruvian bark has failed; and it has been recommended in Vertigo, proceeding from a vitiated stomach. Some have pretended that it is efficacious in scorbutic and hemorrhagic complaints, to which little credit will be given, and much less to its alexipharmic power. The preparations of it, enumerated by Murray, are a dry confection of the roots, a distilled water and oil, a spirituous and aqueous extract, and the elixir vitæ Matthioli, and elixir vitrioli Mynsichti. The leaves have a sweet fragrant smell, resembling that of the roots, but weaker. No cattle whatever will eat any part of the plant. Martyn's Miller. Lewis's Mat. Med.—Woodville's Med. Bot. vol. iii. p. 473. Murray's App. Med. vol. v. p. 39.

ACORUS, or BLUT CORAL, in *Natural History*. The true acorus of this kind is very scarce: some of it, however, is found on the coasts of Africa, particularly from Rio del Re to the river of the Camarones. This coral is part of the merchandize which the Dutch trade for with the Camarones; that of the kingdom of Benin is also very much esteemed. It grows in form of a tree on a rocky bottom. *Acorus* is also a name for the greater GALANGAL root.

ACORUS Adulterinus, in the *Materia Medica*, the name of the root of the *IRIS lutea palustris*, or common yellow water-flag-flower.

ACOSTA, GABRIEL, in *Biography*, a canon and professor of theology at Coimbra, who died in 1616, and whose large Latin commentary on part of the old testament was printed in fol. in 1641. Lugd. Bat.

ACOSTA, JOSEPH, a celebrated Spanish author, born at Medina del Campo, about the year 1540. He was a missionary and provincial of the Jesuits in Peru, and died at Salamanca in 1600. Besides his "Natural and moral history of the West Indies," first printed in Spanish in 8vo. A. D. 1591; and printed in French in 1600: he also wrote a treatise "De Procuranda Indorum Salute," 8vo. Salam. 1588, "De Christo Revelato," 4to. Rom. 1590, and "De vera Scripturas interpretandi ratione," in the commentaries of Menochius, &c. The decretals of the council of Lima are also ascribed by some persons to this author. *Acosta*, says Dr. Robertson, (Hist. Amer. vol. ii. p. 459.) is the first philosopher who endeavoured to account for the different degrees of heat in the old and new Continents, by the agency of the winds which blow in each. This theory was adopted and improved by M. Buffon.

ACOSTA, URIEL, was born at Oporto near the close of the 16th century. Having been educated in the Romish religion, though descended from one of those Jewish families which had submitted, as it were by constraint, to Christian baptism; he continued in the profession of it till the age of 25 years. His mind, however, had been perplexed by doubts previously to this period, in which he became treasurer in a collegiate church. At this time he directed his attention to the books of Moses and the Prophets, and the result was a conviction, that Judaism was the true religion. Fearing openly to profess it during his continuance in Portugal, he determined to resign his place, and embarked for Amsterdam with his mother and brothers, whom he had instructed in the principles of the Jewish faith. In this new situation they became members of the synagogue, and were circumcised according to the Jewish custom; and he changed his name of Gabriel for that of Uriel. He soon perceived that the Jews did not conform, either in their

their rites or morals, to the law of Moses; and disapproving of this conduct, he avowed his sentiments, and incurred the resentment of the chiefs of the synagogue. By them he was excommunicated and forbidden to hold any intercourse even with his own brothers. In these circumstances he wrote a book in his own justification; in which he endeavours to shew that the rites and traditions of the Pharisees are contrary to the writings of Moses; and he was forced to adopt the opinion of the Sadducees, from a persuasion that the functions of the Jewish law related merely to the present life. Acosta was reputed an infidel, and became an object of general odium and persecution. With the concurrence of the magistrates of Amsterdam he was thrown into prison; all the copies of his work were seized, and he was fined 300 guilders. His friends too deserted him, and he proceeded to think that the Mosaic law was a political invention. With these ideas he basely determined to sacrifice his conscience to his interest, and returned to the Jewish church, after having been 15 years excommunicated, recanted what he had written, and subscribed what was enjoined. Accused by his nephew of not conforming to the laws of Moses in his private conduct, he soon found that the tranquillity and serenity of principle was of little avail; he was humiliated before the grand council of the synagogue, and again expelled from their communion. After living in wretchedness for seven years, he declared his purpose of submitting to the sentence of the synagogue; and contrary to the expectations which he had been encouraged to entertain, he underwent a very severe penance. After making a public recantation, and a very humiliating acknowledgment of his offence, he was stripped to the waist and received 39 lashes with a whip. He was then absolved from the excommunication, and laying himself down at the door of the synagogue, all who came out walked over him. This account is extracted from his treatise, intitled, "*Exemplar humanæ vitæ*," published and refuted by Limborch, in his "*Amica Collatio cum erudito Judæo de veritate religionis christianæ*." This treatise he is supposed to have composed a few days before his death. Having failed in his attempt to kill his principal enemy, he put an end to his own life with a pistol in 1647, according to some, but as others say in 1640. Such was the termination of a life disgraced, not by the change of sentiments, in consequence of inquiry and conviction, but by a want of integrity, and by a mean and dastardly avowal, for purposes of ease and interest, of principles which he did not believe. Gen. Dict.

ACOSTAN, in *Geography*, a mountainous island in the North Sea, between Asia and America, observed by Captain Cook.

ACOTYLEDONES, in *Botany*, denote seeds without lobes, and of course when they vegetate, they produce no femal leaves.

ACOUENZ, in *Geography*, the name of an Indian nation in Canada.

ACOUS, the principal, though small, town in the valley of Aspe and country of Bearn in France. Near this place are several cold springs, particularly those of Escot. N. lat. 43° 5'. E. long. 0° 50'.

ACOUSMATICI, from *akouo*, to hear, an appellation given to such among the disciples of Pythagoras, as were still under the probation of five years. They are also called by Latin writers *acoustici*. The *acoustici* stood opposed to the *mathematici*, who were initiated into the secrets of science; and the *acoustic* philosophy to the *mathematic*. These distinctions corresponded to the EXOTERIC and ESOTERIC. To persons of this class, it was sufficient to appeal to the authority of Pythagoras, "*Acus est, ipse dixit*," which

decided every dispute. Some have denied the appellation of Pythagoreans to be due to the *acoustici*; because many of these had their learning, not immediately from Pythagoras, but from Hippasus, who, according to some, was of Crotona, but according to others, of Metapontium.

ACOUSTIC, formed from *akouo*, to hear, denotes in general any thing that relates to the ear, the sense of hearing, or the doctrine of sounds.

ACOUSTIC Duct, in *Anatomy*, is applied to the external passage of the ear; called also *MEATUS auditorius*.

ACOUSMATIC Instruments, or *Auricular tubes*, are such as are adapted to supply the defect of HEARING. See also DEAFNESS and TRUMPER.

ACOUSTIC Nerves. See AUDITORY Nerves, and NERVES.

ACOUSTIC TUBES, in the *ancient theatres*, were a kind of vessel made of brass, shaped, as some have said, like a bell, which being of all tones within the pitch of the voice, or even of instruments, rendered the sounds more audible, so that the actors could be heard through all parts of the theatres, which were even 400 feet in diameter. Vitruvius. The acoustic vases, mentioned by Vitruvius as harmonically tuned, and placed in different parts of the ancient theatres, have been tried in the Opera-house at Turin, and other parts of Italy; but without the effect expected from them of augmenting the tone of the human voice, or of the instruments to which they were tuned.

ACOUSTICS, or ACOUSTIC Medicines, are remedies against the imperfections and disorders of the EAR, or of the sense of HEARING. Such general terms as *acoustics*, says Dr. Cullen (*Mat. Med.* vol. i. p. 163.) serve to mislead rather than instruct, and should, therefore, never be employed.

ACOUSTICS is that branch of general science which illustrates the origin, propagation and perception of sound. Some writers have divided acoustics into *diacoustics*, which explains the properties of those sounds that proceed directly from the sonorous body to the ear, and *catacoustics*, which treats of reflected sounds. Sound originates in the percussion and vibration of the parts of an elastic substance; and it is transmitted by means of the elasticity of the air, or of some other more subtle medium of a similar kind. How it is produced and propagated, and with what velocity it moves, are subjects of discussion which will be particularly investigated and explained in their proper place, under the article SOUND. The reverberation of sounds will be illustrated under the articles ECHO, TRUMPET and WHISPERING places. For the manner by which they impress the organs of hearing; See EAR and HEARING. See also CHORD, PHONICS, STRING, VIBRATION, and VOICE. *Acoustics* is properly the theoretical part of MUSIC: it is that which gives, or ought to give, reasons for the pleasure which we receive from harmony and melody, which determines the relation of harmonical INTERVALS, and which discovers the affections or properties of vibrating chords, &c. Rousseau. For an account of the amusing contrivances, connected with this branch of science, see *ÆOLUS's Harp*, *ARMONICA*, *Communicative Busts*, *Automatic Harpsichord*, *Solar Sonata*, *Conversive Statue*, and *Ventosal Symphony*. See also Hooper's *Recreations*, vol. ii. p. 202, &c.

ACQS, in *Geography*, a small town at the foot of the Pyrenees, in the department of Arriege, and late province of Foix in France, and so called from its hot waters. N. lat. 43° 42'. E. long. 1° 3'.

ACQS, or DAX, *Aque Tarbellicæ* and *Aque Angulæ*, is also the name of a city of France, in the vicounty of the same

fame name, and in the district of Auribat, on the river Adour. It is a bishop's see. In this place are six convents, one college and an hospital. In the neighbourhood are warm baths. N. lat. $43^{\circ} 47'$. E. long. $1^{\circ} 6'$.

ACQUA, a small place in Tuscany, noted for its hot baths. N. lat. $43^{\circ} 45'$. E. long. $12^{\circ} 15'$.

ACQUA della Fico, a town of Italy, in the kingdom of Naples and province of Calabria Ultra, 15 miles West of Squillace.

ACQUA Nigra, a town of Italy in Mantua, 2 miles N. N. E. of Caneto. There is another town of the same name near the conflux of the Adda and Po, 3 miles West of Cremona.

ACQUACKNACK, or ACQUAKINANK, a town of America, on the W. side of Passaic river, in the county of Essex in New Jersey; 10 miles N. of Newark, and 17 N. W. from New York.

ACQUAPENDENTE, a large town, now almost desolate, though a bishop's see, and containing 16 churches and convents, situate on a rocky eminence in the territory of Orvieto in Italy. N. lat. $42^{\circ} 43'$. E. long. $11^{\circ} 53'$.

ACQUARA, a town of Italy in the kingdom of Naples, 13 miles S. W. of Cangiano.

ACQUARIA, a small town of Italy in Frignano, a district of Modena, famous for its medicinal waters. N. lat. $44^{\circ} 24'$. E. long. $11^{\circ} 17'$.

ACQUA Sparta, a town of Italy in Umbria, 10 miles W. of Spoleto.

ACQUAVIVA, an inconsiderable town in the county of Bari, a district of Apulia in Italy. N. lat. $41^{\circ} 10'$. E. long. $16^{\circ} 20'$. Another town of this name lies 8 miles N. N. W. of Rome, and another in the kingdom of Naples, 19 miles W. of Molise; and again another in the Marquissate of Ancona, 10 miles N. E. of Ascoli.

ACQUEST, or ACQUIST, formed of Fr. *acquérir*, from *acquiere*, to acquire or get, is understood in a legal sense of goods or effects, acquired either by purchase or donation. The French laws make a great difference between acquits and hereditary effects. The civil law allows none. See HEIR.

ACQUEST is also popularly used for CONQUEST, or a place acquired by the sword.

ACQUETTA, in *Geography*. See AQUETTA.

ACQUI, a fortified town and bishop's see in the duchy of Montferrat in Italy. It is situated at a small distance from the Apennines, about 25 miles N. W. from Genoa, and has its name from its warm baths. N. lat. $44^{\circ} 40'$. E. long. $8^{\circ} 30'$.

ACQUIDA, a small Dutch fort to the E. of Ancobar river in the gold coast of Africa. N. lat. $4^{\circ} 32'$. long. nearly the same with that of Greenwich.

ACQUIETANDIS *Plegis*, in law, a writ of justices lying for a surety against the creditor that refuses to acquit him after the debt is paid.

ACQUIETARE, in ancient law-books, signifies to discharge or pay the debts of a person deceased; as the heir those of his father, &c.

ACQUISITION, the act of procuring a right or title to the enjoyment or property of a thing. *Acquisition* is also sometimes used for an ACQUEST.

ACQUITTAL, a discharge, deliverance, or setting free of a person from the guilt or suspicion of an offence. Acquittal is of two kinds; in law, and in fact. When two persons are appealed or indicted for felony, one as principal, the other as accessory; the principal being discharged, the accessory is, by consequence, also freed: in which case, as the accessory is acquitted by law, so is the principal in fact.

When a person is acquitted of a felony, and is questioned again for the same crime, he may plead *autrefois acquit*; as his life cannot be twice exposed to danger for the same offence. But in murder, acquittal does not prevent a second trial; and the principal or accessory, may be either committed to prison or tried by the court, till the year and day of appeal be passed. If a person is lawfully acquitted on a malicious prosecution, he may bring his action for damages, after he hath had a copy of the indictment.

ACQUITTED, is said of a lord against a lord against and tenant, and the tenant holds land of the mesne, and the mesne holds over the lord paramount; here, the mesne ought to respect the tenant of all services claimed by any other for the same land; the tenant being to do service to the mesne only, and not to divers lords for one parcel of land.

ACQUITTANCE, or QUITTANCE, a release or discharge in writing, for a sum of money or other duty, which ought to be paid or done. No person is obliged to pay without an acquittance, and the acquittance of a servant accustomed to receive money for his master, is a good discharge. The verb *acquit*, the participle *acquitted*, and the noun *acquittal*, do all signify a discharge from an offence objected. In which case we meet with acquitted by proclamation.

ACRA, or ACARA, in *Geography*, a dependent and tributary district of the kingdom of AQUAMBOE, on the coast of Guinea, in Africa; where the English, Dutch and Danes have strong forts, which are considered as the best on the whole coast. That of the English is Fort James, situate on a rock, and capable of mounting 20 cannons. Near it is a salt-pit, which supplies a great part of the coast with this commodity, and yields a considerable revenue. The Dutch fort is Creveceur, standing on a rock and guarding the beach. The Danish fort is Christianburgh, which is the only place the Danes possess on this coast. Each fort hath its adjacent village; though the general one is Acra, the name of the ancient kingdom, before it was subdued by the Aquamboans, and its inhabitants removed to little Popo. N. lat. $5^{\circ} 40'$. E. long. $1^{\circ} 29'$.

ACRA, in *Ancient Geography*, one of the hills of Jerusalem, on which stood the old or lower city; as the new or high city, called also the city of David, was situate on mount Zion, to the south of Acra. This is supposed by some to be the same with Mount Moriah, on a part of which Solomon built his temple; and they alledge, that Moriah in Hebrew, and Acra in Greek, have the same meaning, and signify an eminence. Wells's Sacr. Geog. vol. iii. p. 76.

As there was a citadel or fortrefs built on this hill by Antiochus, in order to annoy the temple, which was afterwards taken and razed by Simon Maccabeus, it is not improbable that the name was derived from this circumstance. Anc. U. H. vol. ii. p. 488. The Asmonean kings, not satisfied with having razed the citadel built by the Syrians, lowered the top of the mountain, and filled up the valley towards the east, by which means the ground on which the temple stood, or Mount Moriah, became higher than Acra, and thus the communication between them was rendered more easy.

ACRA, in Syria. See ACRE.

ACRA Point. See HADSHILAR.

ACRABA, a town of Mesopotamia in Asia, situate near the river Chaboras, about $36^{\circ} 25'$. N. lat.

ACRABATA, a town of Asia, towards the limits of Samaria.

ACRABATENE, the name of two districts of Judæa; one extending itself between Schechem, now Naplota, and Jendo,

Jericho, about 12 miles in length; and another on the frontier of Idumæa, towards the southern extremity of the Dead Sea.

ACRACANUS, a river of Asia in Abydene, supposed by Eusebius to be the same with Maarfares.

ACRADINA. See ACHRADINA.

ACRÆ, an ancient town of Sicily, founded according to Thucydides (lib. 6. p. 381. Ed. Dukeri) 70 years after Syracuse, built upon an eminence, as Silius Italicus (lib. 14. v. 207.) describes it, and inhabited by a people whom Pliny (H. N. vol. i. p. 163.) denominates Acrenses. It was situated about 24 miles to the south of Syracuse, not far from the sea, and near the monastery which the Sicilians call *Santa Maura d'Arcia*, between the cities of Noto and Avula. There are medals of this city in bronze, gold and silver.

ACRÆ *Sesliana*, a district of Spain, S. E. of the promontory of Artabrum.

ACRÆ, was also an epithet of Diana, who was generally worshipped in high places.

ACRÆA, a surname of Juno of Corinth, who had a temple in the citadel of the Sicilian Acre; and also a surname of Fortune for the same reason.

ACRÆPHIA, ACRÆPHIUM, or as Pausanias (lib. 9. c. 23. p. 755. Ed. Kuhnii) calls it, *Acraphnium*, was a city of Bœotia, situate on Mount Ptoos, where was a temple of Apollo. This place, according to Pausanias, afforded refuge to the Thebans, when Alexander demolished their city.

ACRÆUS, was a surname of Jupiter, who was honoured by the inhabitants of Smyrna in a temple on an eminence near the sea.

ACRAGAS, a town of Sicily, built upon a mountain, at the confluence of the rivers Agragas and Hypsa, and within two miles of the sea, by the people of Gela in the year before Christ 584. It took its name from the river Agragas, now called *Fiume di Gergenti*; whence other cities, enumerated by Stephanus (de Urb. vol. i. p. 53.) were denominated *Acragantes*. Agragas was very strongly fortified. The inhabitants were luxurious in their diet, and magnificent in their dwellings; and they are represented by Empedocles, says Diogenes Laërtius (tom. 1. p. 532.) to be persons, who lived to-day as if they were to die to-morrow, and who built, as if they were to live for ever. The adjacent country abounded with vines and olives, the produce of which afforded a lucrative commerce with Carthage. Agragas has been more generally distinguished by its Roman appellation *Agrigentum*. The medals of this city were gold, silver and bronze.

ACRA JAPYGiA, a promontory in the kingdom of Naples, to the S. E. of Otranto, where was formerly a town, now in ruins, on the Ionian Sea, opposite to the *Montes acroceranii* of Epirus. Ptolemy called it *Salentia*, and it is now denominated *Capo di San Maria di Leuce*.

ACRA of *Scylax*, an island on the coast of Numidia, that forms the modern part of Harhgoone, under which vessels of the greatest burden may lie in safety. Stephanus (de Urb. vol. i. p. 53.) enumerates 10 cities under the appellation of *Acre*.

ACRAMAR, or VAN, in *Geography*, a town and lake of the Greater Armenia in Asia. N. lat. 36° 30'. E. long. 44° 14'. The town, which is the capital of the government of Van, is situated at the foot of the mountains of Diarbekir, and is said to have been built by Semiramis. It is large, populous and commercial. In the adjoining lake, which abounds with fish, there are two small islands, inhabited by religious Armenians.

ACRASIA, formed of *a priv.* and *κραννυμι*, to mix, is used by some writers in *Physic*, for the excess or predomina-

cy of one quality above another, either in artificial mixture, or in the constitution of the human body. The word is used by Hippocrates, and other Greek medicinal writers, to express excess of any kind, intemperance and imbecility.

ACRASUS, in *Ancient Geography*, a town of Asia Minor in Lydia. There are some imperial Greek medals of this city, which were struck under the prætors, in honour of Severus, Plautilla, Geta, Julia Paula, Alex. Severus and Caracalla.

ACRATH, a town in Mauritania Tingitana, supposed to be the present *Velez de Gomara*.

ACRATISMA, in *Antiquity*, a breakfast among the old Greeks, consisting of a morsel of bread soaked in pure unmixed wine.

ACRATOMELI. See MULSUM.

ACRATOPHORUS, a surname of Bacchus, under which he was honoured at Phigalia, a city of Arcadia.

ACRATOS, from *a priv.* and *κραννυμι*, to mix, denotes simple or unmixed. This term is very often used by Hippocrates, and applied to excretions of different sorts, and is always of very bad preface. Thus, in his *Prænotiones*, he observes, that in all painful disorders of the pleura and lungs, the spittle should appear mixed and yellow; and that it is a dangerous symptom, if it be altogether yellow, without any mixture: and he adds, that if the spittle be so unmixed, as to appear black, it is a very bad preface.

ACRE, or ACRA, in *Geography*, a sea-port town on the Phœnician coast in Syria. Its ancient Hebrew name was *Acco* or *Accho*, under which appellation it is mentioned as a place of considerable strength in the book of Judges, ch. i. v. 31. and it is still called by the Arabs *Akka*. It was afterwards denominated *PROLEMAIS*, from one of the Ptolemys in Egypt, and *Acre*, on account of its fortifications and importance: whence the knights of St. John of Jerusalem called it *St. John d'Acre*. The situation of Acre possesses every possible advantage both of sea and land: as it is encompassed on the N. and E. by a spacious and fertile plain, on the W. by the Mediterranean, and on the S. by a large bay, extending from the city to *Mount CARMEL*. This city successively under the dominion of the Romans and afterwards of the Moors, was for a long time the theatre of contention between the Christians and the Infidels in the progress of the crusades. It was taken by the victorious Saladin in 1187; and surrendered to the united arms of Philip Augustus of France, and Richard I. of England in 1191, after a siege of two years, which consumed a great multitude of forces, both of Europe and Asia. Although the Europeans thus acquired a strong town and convenient harbour, the advantage was very dearly purchased. It is said (see Gibbon's *Hist.* vol. xi. p. 144. 8vo.) that on this occasion more than 100,000 Christians were slain; that a far greater number was lost by disease or shipwreck; and that a small portion of an army, consisting of five or six hundred thousand persons, returned in safety to their native countries. After the loss of Jerusalem in unsuccessful attempts for recovering the Holy Land from the possession of the Saracens, renewed by St. Louis with the co-operation of our Edward I. and other powers, Acre became the metropolis of the Latin Christians, and was adorned with strong and stately buildings, with aqueducts, an artificial port and a double wall. Its population was increased by an influx of pilgrims and fugitives; and the trade of the East and West was attracted to this convenient station. At this time, however, the inhabitants were extremely corrupt; and the government, though exercised by many sovereigns, feeble and ineffectual to any purpose of salutary restraint. Adventurers issued from this city, under the banner of the cross, to plunder the Mahometan villages; and

and though nineteen Syrian merchants were robbed and ignominiously put to death, satisfaction was withheld. The Sultan Khalil repented this conduct, and marched against Acre, at the head of a large army, furnished with a tremendous train of artillery. After a siege of 33 days the double wall was forced, by the Moslems, the principal tower yielded to their engines, the city was stormed, and death or slavery was the lot of sixty thousand Christians. The fortress of the Templars was destroyed, the grand master killed, and of 500 knights, 10 only survived: who probably suffered on a scaffold (says Gibbon) in the unjust and cruel proscription of the whole order. Few of the fugitives, among whom were the king of Jerusalem, the patriarch, and the great master of the hospital, escaped the dangers of the sea, and safely arrived in the island of Cyprus. This disastrous event happened (says Maundrel in his journey, &c. p. 55.) on May 19, 1291. He adds, that the abbess of the nunnery, in order to avoid that violation which was apprehended from the licentiousness of the Saracen victors, ordered the young nuns under her care to mangle their faces, setting an example in her own person, that they might thus become the objects of aversion instead of brutal desire. The Saracens, disappointed and inflamed with resentment, put them all to the sword.

After the expulsion of the crusaders, Acre exhibited a scene of magnificent ruin, and remained in a great degree desolated and deserted till about the year 1750, when it was fortified by Daher, an Arabian sheikh, who obtained the appellation of Prince of St. John of Acre, and maintained his independence against the whole force of the Ottoman empire, till the year 1775, when he was basely assassinated by order of the Ottoman Porte, at the advanced age of 86 years. He was adored by his people (says Savary, Letters, vol. ii. p. 200.) whom he had through life defended against the tyranny of the Pacha, and yet by this tyrant he was betrayed and murdered.

At a later period Acre has been rendered, by the works of Djezzar, one of the principal towns upon the coast. The mosque of this Pacha is much admired. The bazar, or covered market, is not inferior to the bazars of Aleppo, and its public fountain is superior in elegance to those of Damascus. These improvements were designed and executed by the Pacha himself. The place, however, though its fortifications had been often repaired, was very weakly defended; and in the spring of 1799, it was found necessary to strengthen its fortifications, in order to guard against the apprehended assault of the French army under Bonaparte. The Pacha Djezzar, who had actually evacuated Caiffa, a town at the foot of Mount Carmel, surrounded with a good wall, and flanked with towers, and who had disarmed the castle which defended the fort and road, had reason to distrust his security at Acre. He was therefore preparing to make good his retreat, and to convey away his women and treasure, when Sir Sidney Smith anchored in the road of Caiffa with an English Squadron, and deputed a French engineer (Col. Philipeaux) to aid him in fortifying the town. This engineer caused the fortress to be repaired, which was fortified after the mode of the 12th century, with courtines flanked with square towers. The Pacha, thus assisted and animated, determined to co-operate with the English Squadron in the defence of the town. Kleber, however, with the French advanced guard, had taken possession of Caiffa; and Bonaparte had completed the investment of Acre, when his battering-pieces and stores fell into the hands of the English. This loss decided the fate of the town; and though the French renewed and varied their attacks, they were repeatedly repulsed by the garrison in concurrence with

the marines of the English Squadron, under the command of the Commodore, Sir Sidney Smith. After multiplied and irreparable losses, it was found almost impossible to reduce a place, defended with so much intrepidity, and possessing a variety of advantages which it is beside our purpose minutely to detail. Bonaparte at length determined to raise the siege, and announced his resolution to the army, which began its march on the 20th of May, the 61st day after breaking ground. Djezzar did not perceive for two days that the trenches were evacuated, so that the French army had an opportunity of continuing its march without molestation, ravaging the country, burning the harvests, and destroying the defences of the ports, the magazines, and all the resources which the Turks might have used in approaching the frontiers of Egypt. Kleber formed the rear-guard with his division, which, after having crossed the desert, embarked at Tinch for Damietta. Bonaparte left a strong garrison at Cattich, and entered Cairo with the rest of the army, 26 days after the raising of the siege.

The aspect of the field of carnage on this occasion was horrible. The ditches and the reverses of the parapets were filled with corpses, and the air itself was infected for want of an opportunity to remove the wounded whom the Turks left unmaffacted, and to bury the dead. Notwithstanding the singular spirit and very extraordinary exertions manifested in this siege, both by the assailants and the besieged; humanity on both sides must lament the aggravated circumstances of cruelty and distress that attended it.

The principal articles of commerce at Acre, are corn and cotton: but the trade is monopolized by the Pacha in his own hands. The French have usually had a consul in this place, and Russia a resident. Acre is situated 27 miles S. of Tyre, and about 70 miles N. of Jerusalem. N. lat. $32^{\circ} 40'$. E. long. $39^{\circ} 25'$.

ACRE, is used in the dominions of the Mogul, with regard to his revenues, in the same sense with lack, for the sum of 100,000 rupees; eight rupees being equal to about one pound sterling.

ACRE denotes a quantity of land, containing four square rods, or 160 square poles or perches. The word, perhaps, is formed from the Saxon *acere*, or German *acker*, field, or the Latin *ager*. Salmasius derives it from *acra*, used for *acana*, a land-measure among the Ancients, containing 10 feet. The term acre formerly meant any open ground or field, as Castle-acre, West-acre, and not a determinate quantity of land.

By the custom of countries, the perch differs in quantity, and consequently the acre: it is commonly $16\frac{1}{2}$ feet; but in Staffordshire it is 24 feet; in other counties 28 feet; and in some parts of England 18, 21 feet. According to the statute 34 Hen. VIII. concerning the sowing of flax, it is declared, that 160 perches, i. e. 16 in length, and 10 in breadth, or in that proportion, make an acre; and the ordinance for measuring land, 35 Edw. I. agrees with this account. And therefore, as the statute length of a pole is $5\frac{1}{2}$ yards, or $16\frac{1}{2}$ feet, the acre will contain 4840 square yards, or 43,560 square feet. Moreover, as the chain, used in measuring land, is four poles or 22 yards in length, the square chain will be 484 yards, and the acre will be 10 square chains. And a mile being 1760 yards, or 80 chains in length; the square mile will be $1760 \times 1760 = 3,097,600$ square yards, and contain $80 \times 80 = 6400$ square chains, or 640 acres. Some old farmers distinguish between seed-acres and statute acres; the former being a vague measure, determined by the proportion of seed used in sowing it, and therefore depending on the fertility or barrenness of the soil.

The Scots acre contains 4 Scots roods, and bears proportion to that of the English statute, as 100,000 to 121,360. The proportion of the difference betwixt the Scots and English acres is 11 per cent. One Scots rood is 40 square fathoms; one fathom is 6 square fathoms; one square fathom is 36 square feet, and 36 square feet is 144 square inches. The Scots acre is divided into ten square chains; the measurement of each chain is 100 fathoms in length, and consisting of 100 fathoms, each fathom is 6 square fathoms; and each square chain will contain 10,000 square fathoms. The English statute acre is also divided into 4 roods, and 6 fathoms, and is the standard measure of Scotland.

The French acre, *arpent*, is different in various provinces; the acre of Paris contains 100 square perches, the perch being 18 feet, or 3 toises; but in some places the perch is 21 feet, and in others 22. Allowing the proportion of the English square foot to be to that of the French, as 10000 to 1165, the acre of 100 square perches, at 18 feet each, will be 31,100 French square feet, or about 36,774 English square feet, and the perch being 22 feet, the acre will be 38,400 French square feet, or about 54,934 English square feet; and the English acre being 43,560 square feet, it will be very easy to estimate the proportion of the one to the other. The Samburg acre is about half an English acre. The Welsh acre contains commonly two English acres. The Irish acre is equal to 1 acre, 2 roods, 19 perches, and 1 English fathom.

Houghton gives a table of the number of acres to a house in each county of South Britain, which is found to vary in the English counties from $3\frac{1}{2}$ acres, the proportion in Middlesex, and 1-1 in Surry, to 49 acres in Southampton; in the Welsh counties, from 51 acres, as it is found in Flintshire, to 193, as in Merionethshire.

Dr. Grew attempts to ascertain the number of acres in England; which, according to him, amounts to 46 millions and 80,000. Phil. Transf. N^o 330, or Abr. vol. iv. p. 450. Sir William Petty reckons but 28 millions; others 29 millions. And by an account of the number of acres in each county, supposed to be taken from some old registers, the number of acres in England amounted only to 39 $\frac{1}{2}$ millions. Others estimate the number of acres in England and Wales at about 46,916,000; and in Scotland 26,000,000; whilst others again assert, that England and Wales contain no more than 38,500,000 acres; and that Scotland with its adjacent islands, contains about 21 millions of acres. Allowing with Zimmermann, (Political Survey, p. 192.) that England and Wales contain 54,112 square miles, and Scotland 25,600 square miles; the number of acres in the former will be 34,631,680, and in the latter 16,384,000. Ireland, comprehending 21,216 square miles, will contain 13,578,240 acres.

The United Provinces are said to contain 4,382,000 acres, but reckoning with Zimmermann (Political Survey, p. 164.) the area 10,000 square miles, the number of acres will be 6,400,000; and the province of Holland is estimated at one million of acres, or according to the same writer, 1,280,000 acres; and they were thought formerly to contain 2,400,000 persons, but according to a public account given in 1785, 2,758,632 persons. If England were as well peopled in proportion, it is said that it would contain 46 millions of inhabitants, *i. e.* about seven or eight times as many as it now contains.

The area of France, according to the statement of Necker, is 157,924 square miles; and if this estimate be just, it contains 191,071,360 acres. Spain, according to Lopez's map, contains 148,448 square miles; and consequently 95,005,720 English acres. Portugal comprehends 27,376 square miles, or 17,579,640 acres. The whole of Turkey

in Europe, Asia, and Africa, estimated at 800,000 square miles, contains 512,000,000 acres. The European part of Russia is said to contain 1,194,976 square miles, and consequently 764,784,640 acres; and Asiatic Russia supposed to be 3,695,024 square miles, includes 2364,815,360 acres. If Sweden contains 216,000 square miles, as Buteching states it, its extent in English acres will be 138,240,000. Denmark, comprehending 182,400 square miles, will contain 116,736,000 acres. Poland and Lithuania, estimated at 160,800 square miles, will contain 102,912,000 acres. The kingdom of Prussia, including the countries that are independent of the German empire, supposed to contain 57,600 square miles, comprehends 36,864,000; and Prussia alone containing 22,144 square miles, includes 14,172,160 acres. Germany, estimated at 191,571 square miles, contains 122,605,440 acres. Switzerland, containing 15,296 square miles, has 9,789,440 acres. Italy, containing 90,000 square miles, has 57,600,000 acres. Hungary and Transylvania, having 92,112 square miles, include 58,951,680 acres. The number of square miles in Europe is estimated at 2,627,574, and consequently it contains 1681,647,360 acres. The territory of the United States of America, according to the measurement and computation of Mr. Hutchins, geographer to the States, contains 589 millions of acres, exclusively of water, which is computed at 51 millions more. Morle's Geog. p. 35. See *POLITICAL ARITHMETIC*.

By a statute of 31 Eliz. it was ordained, that if any man erected a new cottage, he should add four acres of land to it; but this statute was repealed by 15 Geo. III. c. 32.

ACRE-FIGHT, is an old sort of duel, fought by single combatants, English and Scotch, between the frontiers of their kingdoms, with sword and lance; and this duelling was also called camp-fight, and the combatants, champions, from the open field that was the stage of trial.

ACRE-TAX, a tax laid on land at so much per acre. In some places this is also called acre-shot. Impositions on lands in the Great Level are to be raised by a proportionable acre-tax. 20 Car. II. cap. 8. An acre-tax of 2s. 6d. per acre, for draining Hadenham level. 13 Geo. I. cap. 18.

ACREÆ, in *Ancient Geography*, a town placed by Ptolemy in Sicily. N. lat. 36°. 40'. E. long. 39° 15'. See *ACRÆ*.

ACREDULLA, in *Zoology*, a species of the *MUS*, in the Linnæan system; the migratory mouse of Pallas, with pouches to the cheeks, sinuated small ears, a grey body, with the lower part white. It is four inches long; with an annulated tail, the upper part of which is brown; found in the Orenbourg district of Siberia, near the river Ural.

ACREL, ОЛОТ, in *Biography*, was born the 26th of November 1717, in a parish in the neighbourhood of Stockholm, where his ancestors had been ministers ever since the year 1580. He commenced his studies at Upsal; and in the year 1738, translated into the Swedish language some of the works of Boerhaave. He then went to Gottingen, where he continued his studies, and afterwards to Strasbourg, and thence to Paris. In the year 1744, he served one campaign in the French army in Germany, whence returning to Stockholm, he was admitted a member of the surgeons' company there. In 1746, he was elected into the academy of sciences; in 1751, he was made one of the foreign associates of the academy of surgery at Paris. In 1764, he was advanced to the degree of doctor of the faculty of medicine at Upsal, and admitted to the royal college of physic at Stockholm. He was in great reputation, and had a considerable share of practice, principally in surgery, and has left several works, all written in his own language, which

which are in great request among his countrymen. The titles translated into English are, 1. A Treatise on Wounds. 2. A Discourse on the best method of constructing an Hospital. He read this discourse at a meeting of the royal academy at Stockholm when he was elected their president. 3. A Dissertation on the Method of depicting the Cataract, 8vo. 1755, 1775, Stockholm. In this dissertation he defends his practice against professor Wallin, who had opposed him. A Discourse on some alterations and improvements in performing certain operations in Surgery, and the instrument used in performing them, was read by him to the royal academy on his being elected president a second time.

ACREME, a term sometimes used in ancient law-books for ten acres.

ACREON, in *Entomology*, a species of *PAPILIO*, with brown wings, the under part black and ocellated; the hinder wings having a white margin, marked with a red band and ridge of gold-coloured points. It is found in the southern part of Russia.

ACRI, in *Geography*, a town of Naples, in Calabria Citra, five miles east of Scalea.

ACRIA, in *Ancient Geography*, a sea-port town of Laconia, situate near the mouth of the Eurotis, opposite to Trinassus, and not far from Gythium.

ACRIBEIA, a Greek term ἀκριβεια, literally denoting an exquisite or delicate accuracy; it is sometimes used in our language for want of a word of equal significance.

ACRID, in *Natural History*, denotes any thing sharp or pungent to the taste. Ancient Naturalists distinguish two kinds of acrid tastes; the first proceeding from hot and dry, as that of pepper; the second from that of hot and moist, as that of garlic. Acrid, according to Dr. Grew, properly belongs to the class of compound tastes. It is not simply four or pungent, as there are bodies not acrid, which nevertheless are pungent, *e. g.* arum; nor is it simply hot; for there are many hot bodies which are not acrid, as the roots of zedoary, yarrow, and contrayerva. The characteristic, therefore, of acritude consists in pungency joined with heat. Acrid bodies applied to the skin inflame and exulcerate it; when chewed, they produce saliva, and when snuffed, sneezing. Acrids may be divided into classes, according to the manner in which they yield their acrimony. 1. By distillation, as horse-radish, mustard, &c. 2. By infusion, as the greater Celandine, &c. 3. Neither by infusion nor distillation, as arum, &c. *Acrid medicines*, as to their general effect, serve to stimulate the vessels, and dissolve tenacious and viscid juices. In leucophlegmatic habits they are powerful expectorants, deobstruents, diuretics, and emmenagogues: and if the patient be kept warm, sudorifics. In hot bilious temperaments, plethoric habits, inflammatory distempers, and in cases where the juices are too thin and acrimonious, or the viscera unsound, acrids are injurious. See **STIMULANTS**.

Some vegetables, which are either inodorous, or emit a weak smell, excite a local inflammation when applied fresh to the skin, but lose their faculty in drying. When recently gathered, and inwardly taken, they produce poisonous effects. Of this kind are the fresh roots of squills, the leaves of fox-glove, of wild anemone, of virgin's bower, of wolf's-bane, or monk's-hood; the roots of blue orris, of asphodel, or king's spear, of meadow saffron, of white bryony, or wild vine, and of wake-robin; and the fruits of wild cucumber. As these substances lose their acrimony by being well dried, the acrid matter which produces their irritating effect appears to be volatile; and this is farther

confirmed, by its being communicated to water, and spirit of wine, abstracted from them by distillation. Hence it may be inferred, that this volatile matter is a particular, permanent, consistent part, belonging to the vegetable kingdom; and in order to distinguish it from other principles of a similar kind, it has been denominated the *acid matter of them*. Its action is not destroyed by acids, nor by alkalis, and it is not unchangeable in our Food. In the antiscorbutic plants, such as four-o'clocks, water-cresses, garlic, onion, horse-radish, comfrey, radish, and mustard, the acid principle is combined with oleous particles of an ethereal nature, and the effect of them can be weakened by this union. There are other plants which derive not their stimulation of the power of producing local inflammation, when outwardly applied to a living body; and in these plants it seems to originate from their resinous parts; such are euphorbium, or wart-wort, various parts of several species of the daphne, of the capsicum annuum, or Guinea-pepper, of the pellitory of Spain, &c. The acid matter of Spanish flies is essentially distinct from the acid matter of vegetables; as it is not dissipated by drying, and cannot be extracted by water; though it may be obtained by spirit of wine and ether. It resembles the latter kind of acid matter, and seems to be of a resinous nature. See *Green's Principles of Modern Chemistry*, vol. i. p. 420. vol. ii. p. 45.

Acrid substances constitute one class of **CONDIMENTS** in the *Materia Medica* of Dr. Cullen, vol. i. p. 427. He distributes them into two kinds, *viz.* aromatic, imbued with peculiar and pretty strong odours, and the more simple acrids possessing little peculiar odour. Besides the **AROMATICS**, the acrid substances employed as condiments, are especially taken from the class of tetradynamia plants; and they are chiefly the mustard and horse-radish. These stimulate the stomach and assist digestion; and as they promote perspiration and urine, they correct the putrescent tendency of the system, and hence vegetables of this class have been denominated **ANTISCORBUTIC**. Because they possess this quality, they are proper to be used with our animal food, as the aromatics are the suitable condiments of our vegetable aliments. The plants of the garlic tribe are endued with a similar acrimony. Those of the milder kind, as the onion and leek, more especially when deprived of their acrimony, afford a considerable quantity of nutritious matter; and these, together with the eschalot, and others, are very proper condiments. Garlic, used for the same purpose, strongly stimulates the stomach, and promotes digestion. All the plants of this order, as they serve to promote perspiration and urine, are very properly joined with our animal food, and may be referred to the class of antiscorbutics. Asafoetida may be also recommended as a condiment, that is useful in promoting digestion. Of the more simple acrids, the **CAPSICUM**, or pepper, is the most commonly used. The eating of acrid food, with a view to the effects above enumerated, was particularly called by the Greeks *drimyphagia*, formed of δρμος, *acrid*, and φάγω, *to eat*.

ACRIDÆ, in *Entomology*, the name by which Linnaeus has distinguished the first family of the **GRYLLUS**, the *Truxalides* of Fabricius, or the **CRICKET**, properly so called: the characters of which are, that the head is conical and longer than the thorax, and the antennæ ensiform or sword-shaped. Of this family there are eight species, none of which are found in Britain. The insects of this family feed on other insects.

ACRIDOPHAGI, compounded of ἀκρ, *acrid*, and φάγω, *to eat*, in *Ancient Geography*, a nation or people of Ethiopia, inhabiting near the deserts, &c. who are said to have

have fed on locusts. These people, as Diodorus Siculus (lib. iii. c. 29. tom. i. p. 195. Ed. Wesseling.) describes them, were of a low stature, and a meagre black aspect. In the spring they provided themselves with a supply of large locusts, by setting fire to wood and other combustible materials, which they deposited in a large and deep valley, so that when swarms of locusts were driven by the south-west winds over this valley, they were suffocated by the smoke. These locusts, which covered the ground to a considerable extent, were collected and salted, and in this state furnished a supply of food for the whole year: and, indeed, it was the only food upon which they subsisted, as they had neither herds nor flocks; and being far from the sea, they had no supply of fish. They were an active people, and ran with great swiftness; but the duration of their lives was short, not exceeding forty years; and they generally fell sacrifices to a malady of a very peculiar kind. They were devoured by winged insects of different species, and of very hideous forms, which were generated in their bodies, and which issued forth in various parts, occasioning exquisite torture, and at length a very painful death. Whether this dreadful malady was owing to the food of the people, or to the pestilential air of the climate in which they lived, it is not easy to determine. See Strabo, (Geog. l. xvi. tom. ii. p. 1118.) and St. Jerome against Jovinian, lib. ii. and on St. John, cap. iv. Pliny (H. N. tom. i. p. 609. Ed. Hard.) also speaks of Acridophagi, in Parthia, and St. Jerome, in Lybia. Although the circumstances of these people may in some respects be fabulous; yet may the Acridophagia be true; and to this day they are said to eat locusts in some parts of the east. This is confirmed by the accounts of the Danish mission, in Niebuhr's description de l'Arabie, p. 150, &c. In Abyssinia locusts are eaten, both fresh and salted. Some of them are dried in the sun, and thus prepared for use. In Arabia also, as Niebuhr informs us, they preserve them in the same manner. Dr. Shaw (Travels, &c. p. 188.) observes, that the Jews were allowed to eat them; and that when they are sprinkled with salt and fried, their taste resembles that of our fresh water cray-fish: and Ruffel (Hist. Aleppo, p. 62.) says, that the Arabs salt them, and eat them as a delicacy. From Hasselquist, who travelled in Syria and Egypt so lately as the year 1752, we learn, that when corn is scarce, the Arabians grind the locusts in hand-mills, or stone-mortars, and bake them in the form of cakes, which they use as bread; and that he has frequently seen them boiled and stewed with butter, and made into a kind of fricassée. Amongst the Hottentots, as Dr. Sparrman informs us, (Voyage to the Cape, vol. i. p. 36.) they are made into a brown coffee-coloured soup, which acquires from the eggs of the females, that are chiefly used for this purpose, a fat and greasy appearance. These people compensate themselves for the damage done by the flights of locusts, by converting large quantities of them into a nutritious food. These facts remove every difficulty in determining the food of John the Baptist, who is said to have lived on locusts, *ακριδες*, and wild honey. Matt. chap. iii. v. 4. Yet the rendering of *ακριδες* by locusts, as the English translators have done, has been much controverted. Isidore of Pelusium, in his 123d epistle, speaking of this food of St. John, says, it was not animals, but the tops of herbs; and even charges those who understand the word otherwise with ignorance: but St. Augustine, Beda, Ludolphus, and others, are of a different opinion. Accordingly the Jesuits of Antwerp reject, with contempt, the opinion of the Ebionites, who, for *ακριδες*, put *εγκριδες*, a delicious diet prepared of honey and oil; that of some other innovators, who

read *ακριδες*, or *ακριδες*, sea-crabs; and that of Beza, who reads *ακριδες*, wild pears. The term *ακριδες*, says Dr. Shaw, (*ubi supra*) does not denote the tops of plants, as some have contended, but it is applied to the locust on account of its appetite for such food. The word is used by Aristotle (Hist. Anim. lib. vi. c. 28.) and other historians in the same sense. The Septuagint interpret *אֲרָבָה*, *arbab*, by the same word; and therefore the writers of the New Testament may be supposed to have taken it in the same signification. He adds, if locusts appeared in the Holy Land, during the spring, as they did in Barbary, it may be presumed that St. John entered upon his mission, and *showed himself to Israel* (Luke i. 20.) at that season.

ACRIFOLIUM, in *Botany*, signifies any prickly leaved plant.

ACRII Montes, in *Ancient Geography*, mountains of Sicily, called also *Heræi*.

ACRILLÆ, a city of Sicily, between Acrae and Agrigentum, not far from Syracuse. This is probably the same with Accila, mentioned by Plutarch in Marcello. See Livy, l. xxiv. c. 35. tom. iii. p. 899. Ed. Drakenb.

ACRIMONY, that quality of substances which renders them acrid to the taste. The acrimony of the bile is supposed to be the cause of divers disorders; and a catarrh is represented to be a defluxion of acrimonious humour. The Bristol water is recommended by Dr. Randolph for tempering the bad effects of acrimonious blood. This he mentions as its first and principal virtue in his inquiry into the medicinal virtues of Bristol water, 8vo. 1750.

ACRIMONY, in *Medicine*, means a state of the fluids of the body, which may become the cause or effect of several diseases. This state of the fluids or humours has been assumed by the humoral pathologists, of which sect Boerhaave may be considered as the last and most respectable teacher, in order to explain eruptions on the surface of the body, Sea-Scurvy, Rheumatism, Gout, Hætic Fever, &c.—At present the existence of such a cause is considered as hypothetical.

ACRIOTERI, in *Ancient Geography*, a marsh of Asia Minor, in the greater Phrygia, upon the frontiers of Pisidia.

ACRIS, *ακρίς*, signifies a locust, the top of a mountain, and the extremities of fractured bones.

ACRISIUS, in *Fabulous History*, a king of Argos, who, being warned by the oracle that he should be killed by his grandchild, shut up his only daughter Danaë in a brazen tower: but Jupiter descending to her in a golden shower, she was delivered of Perseus; who, having slain the Gorgons, carried Medusa's head to Argos, and transformed Acrisius into a statue of stone. This golden shower was probably a bribe to those who guarded the tower. Some suppose that her uncle Prætus found means to corrupt them, and to get admittance to Danaë. Acrisius is said to have been buried in the Acropolis at Argos. The name, (says Mr. Bryant,) is a metathesis of Acrisius, or Arcasius, by which is meant the great Arkite, the person there worshipped.

ACRISTIA, in *Geography*, a town of Sicily, twenty-three miles W. N. W. of Mazara, built upon the ruins of the ancient town of Schritea.

ACRITAS, in *Ancient Geography*, a promontory of Messenia, now Capo di Gallo, between Methone to the west, and Corone to the east, where the Sinus Coronæus begins. It is also the name of a cape of Bithynia, north of the gulf of Astacus.

ACRIVIOLE, in *Botany*. See **NASTURTIUM Indicum**.

ACROAMA,

ACROAMA, formed from *ακροαω*, to hear, in *Antiquity*, a name given by the Romans to amusing tales, which they recited at their repasts. The appellation was also given to those who played on musical instruments, in contradistinction to those who sung.

ACROAMATIC, in a general sense, denotes a thing sublime, profound, or abstruse; and in this sense it is opposed to *exoteric*. There are few sects or professions, that have not two modes of teaching, if not two sorts of doctrine; an acroamatic for adepts and proficient, and an exoteric for novices. We find traces of this distinction among the heathens, as well as among christian divines, philosophers, and chemists. Hence proceeded the ceremonies of initiations and ablutions, and the discipline of secrecy; and hence also the origin of fables, enigmas, parables, symbols, &c.

ACROAMATIC is sometimes also used for any thing kept secret, or remote from popular use: in which sense Reinman gives the title *Bibliotheca Acroamatica*, to a description of the MSS. in the library of Vienna, abridged from the vast commentaries of Lambecius and Nesselius.

ACROAMATICI, in *Philosophy*, a denomination given to the disciples or followers of Aristotle, &c. who were admitted into the secrets of the inner or acroamatic philosophy.

ACROATHON, in *Ancient Geography*, a town situate on the top of Mount Athos, where, according to Mela, cited by Collarius, the age of the inhabitants was half as long again as that of those who lived in other countries. It is called by the modern Greeks, *Ακρον ορος*, and by the Italians, *La Cima de Monte Sancto*.

ACROATICS, a name given to Aristotle's lectures in the more difficult and curious parts of philosophy, to which none but his disciples and intimate friends were admitted; whereas the exoteric were public or open to all: but there are other differences. The acroatic were set apart for the higher and more abstruse subjects; the exoteric were employed in rhetorical and civil speculations. Again, the acroatics were more simple and exact, as they aimed at evidence and demonstration; the exoterics chiefly aimed at the probable and plausible. The former were the subject of the morning exercises in the Lyceum, the latter of those in the evening. Besides, the exoterics were published, whereas the acroatics were kept secret, being either entirely concealed, or if they were published, it was in such obscure terms, that few but his own disciples would be the wiser for them. Hence, when Alexander complained of his preceptor for publishing his acroatics, and thus revealing what should have been reserved to his disciples; Aristotle answered, that they were made public and not public, because none who had not heard them explained by the author, *viva voce*, would understand them. Plut. in Alex. Stanley's Hist. Philos.

It has been supposed, says Dr. Gillies, in his translation of Aristotle's Ethics and Politics, that, in these two kinds of lectures, the Stagyrte maintained contradictory doctrines on the subjects of religion and morality. But the fact is far otherwise: his practical tenets were uniformly the same in both; but his exoteric, or popular treatises, nearly resembled the philosophic dialogues of Plato, or Cicero; whereas his acroatic writings contained, in a concise energetic style, peculiar to himself, those deep and broad principles on which all solid science is built.

ACROBATES, in *Antiquity*, a name given to *performers*: of these there were four sorts: the first vaulted or tumbled on a rope, sometimes suspending themselves by the neck or foot, &c.: the second slid from a high station along

a rope, upon which their breast rested, and with their arms and legs extended, as if they flew: others ran along a rope, which was obliquely extended from a low to a high station: and those of the last sort, danced, leaped, and performed other kinds of feats on a rope stretched horizontally many feet above the ground.

ACROBATICA, or **ACROBATICUM**, formed of *ακρο*, high, and *βασις*, or *βασα*, *base*, *base*, an ancient engine, by which people were raised aloft, that they might see more conveniently about them. This was the same among the Greeks, with what they call *scenorium* among the Latins.

Authors are not agreed as to the use of this engine. Turnebus and Barbarus suppose, that it was of the military kind, raised by besiegers high enough to overlook the walls, and discover the state of things on the other side. Baldus rather supposes it to be a kind of moveable scaffold, or cradle, contrived for raising painters, plaisterers, and other workmen to the tops of houses, trees, &c. Some suspect that it might have been used for both purposes. Vitruvius and Aquinas.

ACROCERAUNIA, in *Ancient Geography*, so called from *ακρος*, high, and *κεραυνος*, thunder, because they were lofty, and often thunder-struck; mountains of Epirus, running out into the sea, under N. lat. 40° 25'. extending from W. to E. as far as Pindus, and separating the Ionian sea from the Adriatic, now called *Monti della Chimera*. Virgil (Georg. i. 332. and Æn. iii. 506.) calls them *Ceraunia*. They derived their name from the town of Acroceraunia, now called Chimera, which is at the foot of the mountain, in the gulf of Chimera. The inhabitants, called Chimeriots, are savage robbers; they give their name to a promontory of the Adriatic sea.

ACROCHIRISMUS, *ακροχίρσμις*, among the *Ancients*, a kind of gymnastic exercise, wherein the two parties contended only with their hands and fingers, without closing, or engaging the other parts of the body.

The word is also written *acrochirsis*, and *acrochiria*: it is originally Greek, formed from *ακροχιρ*, the part employed in this combat, which some would needlessly restrain to the tips of the fingers; though the *etymon* does not make this necessary.

Some make this a distinct exercise from wrestling, and suppose it to have given the denomination *acrochirsis* to a peculiar set of *athleta* who professed it. Others with more probability consider it only as a species of wrestling: some will have it to have been properly only a prelude to a wrestling match, wherewith the *athleta* began to try each other's strength, and bring their arms into play. This exercise made part of the *pancratium*. Pausanias speaks of a famous *pancratiast*, named Solrates, who got the surname of *Acrochirsis*, or *Acrochiristes*, from his having overcome all his antagonists at the *acrochirism*.—It appears to have been in use in the age of Hippocrates, who ascribes to it a virtue of extenuating the rest of the body, and making the arms fleshy.

ACROCHORDON, a painful species of *WART*, very prominent and pendulous, having a large head with a small pedicle, or base.

These are also called *pesiles verrucae*, or *langens verrucae*, and stand distinguished from *sessiles verrucae*, or *nummuli*. Others describe the *acrochordon*, as a harder, rougher sort of wart, growing under the cutis, very callous and usually of the same colour with the skin; small at bottom, and bigger upwards, but rarely exceeding the size of a bean!

ACROCOLIA, *ακροκολια*, from *ακρος*, *extremus*, and *κολια*, a *limb*. These are the extremities of animals, which are

used in food, as the feet of calves, swine, sheep, oxen, or lambs; and of the broths of which jellies are made. They are recommended by Hippocrates as a proper food, where there is a tendency to a dropfy. They are in general recommended as strengtheners for weak people.

ACROCOMES, in *Antiquity*, a people of Thrace, so called, from *ακρος*, *head*, and *κεφαλη*, *hair*, because they had long hair before like females, in contradistinction to the Abantes, who wore their hair long behind.

ACRO-CORINTHUS, in *Ancient Geography*, a high hill hanging over the city of Corinth, on which was erected a citadel, called also by the same name. This mountain separated the two continents of Greece and Peloponnesus, so that the fortrefs cut off all communication by land from the inner part of the isthmus of Corinth, and when well garisoned, kept all Greece in awe; on which account Philip of Macedon used to call it the fetters of Greece. Antigonus took this fortrefs by surprize, with a design to enslave Peloponnesus; but Aratus recovered it by an action equal, in the opinion of Plutarch, to any of the most celebrated enterprizes of the ancient heroes of Greece. Having secured the citadel, he went into the city, and assembling the people in the theatre, acquainted them with the particulars of the Achæan league, and exhorted them to accede to it. They unanimously agreed to join in the alliance; upon which Aratus restored to them the keys of the city, which had not been in their power since the time of Philip, the father of Alexander. On the top of this mountain stood a temple of Venus, and from a lower part issued the fountain Pyrene.

ACROE, in *Botany*, the name given by the natives of Guinea to a kind of shrub, which they use in wine, as a restorative and analeptic. It is of the trifoliate kind, and has somewhat of the appearance of the corallodendrons, but it is not prickly; the middle end or leaf stands on a pedicle of an inch long, the two other leaves have no pedicles at all. Phil. Trans. N° 232.

ACROLISSUS, in *Ancient Geography*, a fortrefs of Illyria, in Dalmatia, situated on a mountain to the north of Lissus, of which it was the citadel. Polybius says, it was impregnable by Philip king of Macedon.

ACROLITHOS, in *Antiquity*, a colossal statue placed by Mausolus, on an eminence, in the temple of Mars, in the city of Halicarnassus.

ACROLOCHIAS, in *Ancient Geography*, a promontory of Egypt; which, according to Strabo, was near the isle of Pharos.

ACROMION, **ACROMIUM**, in *Anatomy*, the upper process of the SCAPULA, or shoulder-blade.

The word is derived from *ακρος*, *highest*, and *ωμος*, *shoulder*, q. d. the extremity of the shoulder.

Some have thought the *acromion* of a nature different from other bones; because, during infancy, it appears no more than a cartilage, which ossifies by little and little, and about the age of twenty years becomes hard and firm, like a common bone.

ACROMONOGRAMMATICUM, from *ακροσμονος* and *γραμμα*, *letter*, in *Poetry*, denotes a kind of poem, or composition, wherein each subsequent verse commences with the letter with which the verse preceding terminates.

ACROMPHALION, from *ακρος*, *extreme*, and *ομφαλος*, *the navel*; the tip of the navel.

ACRON, in *Biography*, a celebrated physician of Agrigentum, in Sicily, where he practised physic in the time of Empedocles, is said to have restrained the plague at Athens, by purifying the air with large fires, and by burning perfumes in the manner practised by the Egyptians.

When he required, some years after, as a reward for his services, that a piece of ground should be allotted him in the city for his tomb, Empedocles, with whom he had disputed, prevented his obtaining it. He lived about the middle of the fifth century before Christ. Suidas mentions two tracts written by him, in the Doric dialect, the one a general treatise of physic, the other on abstinence or diet.

ACRON was also the name of an ancient scholiast on Horace, in the seventh century, whose work is still extant in an old edition of Horace, printed at Basil, in 8vo. in 1527.

ACRON, in *Botany*, among the *Ancients*, was used to signify the *capitulum*, top, or flower of plants of the thistle kind.

ACRON, in *Geography*, a district on the Gold coast of Guinea, extending along the sea eastward from Fantin to the mount called Monte del Diabolo, or the Devil's Mount. It is divided into Great and Little Acron; the former, which is the interior country, is a kind of republic; the latter, bounded on the south by the sea, is a pure monarchy. They are independent on each other, and yet strictly united under the protection of the Fantyns, who derive from the fertile Acrons a principal part of their maintenance. The only European settlement in this kingdom is a Dutch fort, built at Ascam, in 1697, called *Patience*, from the difficulties they encountered whilst they were building it. Apam is a small village, and inhabited only by fishermen. The natives of Acron live in peace, cultivate their lands, and pursue their employments in security. Every year affords a plentiful harvest, which enables them to supply their protectors and adjacent countries with corn. The country abounds with game, with which the Dutch fort is plentifully supplied. The people, however, are poor, notwithstanding their industry and the fertility of the soil, and extremely ignorant.

ACRON, in *Scripture Geography*. See **ACCARON**.

ACRONIUS LACUS, in *Geography*, a small lake formed by the Rhine soon after its rise out of the Alps, and after passing the greater lake, called *Venetus*, and now *Bodensee*, or the lake of Constance.

ACRONYCAL, **ACHRONYCAL**, or **ACRONICAL**, in *Astronomy*, is applied to the **RISE** of a star or other point, above the horizon, when the sun sets; or its **SETTING** when the sun rises. This is one of the three poetical risings and settings of the stars; and stands distinguished from **COSMICAL** and **HELIACAL**.

Among ancient writers, a star was properly said to be *acronichal*, or to rise *acronichally*, which rose in the evening when the sun was set. Greek writers, it is true, use the term *ακρονυχιος* indifferently, in speaking either of evening or morning, by reason both are considered as *ακρα της νυκτος*, *the extremities of the night*. And hence, among them we find *acronichal* applied to the rising and setting of the stars, either in the morning or evening. But the ancients were more distinct, and by the *ακρονυχιος* rather meant the first beginning or approach of night, than the end or period of it; and accordingly among them, the stars which rose in the evening, not those in the morning, were said to rise *acronichally*.

This word is sometimes ignorantly spelt *achronical*, from a mistaken notion of its being derived from *α*, and *χρονος*, *time*.

ACRONYCHIA, in *Botany*, a species of **LAWSONIA**.

ACRONYCTÆ, stars rising in the twilight about sun setting.

ACROPOLIS, in *Ancient Geography*, the citadel of **ATHENS**, which derived its name from the eminence on which

which it was erected, and which is accessible only at the entrance. The summit is fortified by a wall, built on its extreme edge, and encompassing the whole upper surface, which is nearly level. The natural strength of its situation is said to have induced the first inhabitants to settle there; and as their number increased, they began to build on the adjacent ground, till the *Acropolis*, being surrounded on every side, became the fortress of a large and populous city. It was richly adorned by the Athenians, in the days of their prosperity, with temples, statues, paintings, and votive gifts to their divinities, but is now in a most ruinous condition: though the remains of the famous Propylæa, the little temple of victory without wings, the Doric temple of Minerva, called Parthenon and Hecatompedon, erected in the time of Pericles, under the direction of Phidias, and the Ionic temples of Erectheus and Minerva Polias, with the cell of Pandrosus, are still to be seen. Its walls have, at different times, been rudely repaired, or rather rebuilt, as little of the ancient masonry remains; but numerous fragments of columns, cornices, and sculptures, are seen in several parts, which exhibit a ruinous appearance. The Turks keep a small garrison here; and it is the residence of the Disdar Agâ, or governor of the fortress, and also of the Asaf Agâ, and other inferior officers. The Acropolis formed one of the three divisions of Athens, the other two being the town and the port.

ACROPOLIS was also the name of a city of Libya, and also of Ætolia, mentioned by Stephanus de Urbibus, vol. i. p. 54. There was a city of the same name in Albania, mentioned by Dion Cassius. Hist. Rom. lib. xxxvii. tom. i. p. 112. Ed. Reimar.

ACROPOLITA, GEORGE, in *Biography*, one of the writers in the Byzantine history, was born at Constantinople in the year 1220, and educated at the court of the emperor John Ducas, at Nice. Having made a very distinguished proficiency in mathematics, logic, rhetoric, and poetry, he was employed in the most important affairs of the empire. Ducas deputed him to negotiate peace with Michael of Epirus, at Larissa: and he was appointed judge to try Michael Comnenus, on a suspicion of being engaged in a conspiracy. Having been advanced to the government of the western provinces of the empire by Theodore Lascaris, the son of John Ducas, he engaged in a war with Michael Angelus, in 1255, and was taken prisoner by him. In 1260, he was liberated by the intervention of the emperor Palæologus, who appointed him ambassador to Constantine, prince of Bulgaria. Upon his return, he devoted himself wholly to the education of youth, in which employment he acquitted himself very honourably for many years. In 1272 he was one of the judges in the cause of John Vecchus, patriarch of Constantinople; and, in the following year, he concluded a reconciliation between the two churches with pope Gregory, and swore to it in the name of the emperor, at the second council of Lyons, in 1274. In 1282, he was sent ambassador to John, prince of Bulgaria, and died soon after his return. His works are, "a Continuation of the Greek history from the taking of Constantinople by the Latins, in 1202, to its recovery by Michael Palæologus, in 1261," which forms a part of the Byzantine history: "a treatise concerning faith, virtue, and the soul;" and "an exposition of the sermons of Gregory Nazianzen;" together with some other pieces. Gregorius Cyprius, the patriarch of Constantinople, says of Acropolita, in the extravagance of praise, that he was equal to Aristotle in philosophy, and to Plato in divine things and attic eloquence. His son, Constantine, flourished under Michael Palæologus, and Andronicus his son, by whom he was made Logotheta; or

chancellor, in 1294. He defended the cause of the Greeks; and wrote several books. Bayle. Fabr. Bibl. Græc. l. v. c. 5. § 10. tom. vi. p. 448.

ACROPORA, in *Natural History*, a name given by some writers to two species of the MADREPORA, viz. the *caespitosa* and *oculata* of Linnæus.

ACROPOSTHIA, *ακροποστή*, or *ακροποστής*, from *ακρος*, *extreme*, and *ποστή*, the prepuce, or skin, which covers the glans of the penis, denotes the extremity of the prepuce, which is cut off in circumcision.

ACRORIA, in *Ancient Geography*, a country of Elis, in Greece, where Xenophon places the city Thraustum.

ACROSPELOS, a name given to the wild-oat grass, or *BROMUS*.

ACROSPERMUM, in *Botany*, a genus of the *cryptogamia fungi* class; the characters of which are, that the fungus is very simple, sub-erect, and discharging seeds at the apex. There are six species.

ACROSPERMUM, is also a species of the SPHERIA.

ACROSPIRE, in *Natural History*, &c. the same with PLUMULE.

ACROSPIRED, or ACRESPIRED, is used in respect of barley; which, in the operation of making MALT, is apt, after coming, or sprouting, at the lower or root-end, to become *acrospired*, i. e. to sprout also at the upper or blade-end.

By 6 Geo. I. cap. 21. *Malt-makers* are forbid to wet or water their malt when on the floor, or couch; or to permit it to *acrospire*.

ACROSTIC, in *Poetry*, a kind of poetical composition, the verses whereof are disposed in such a manner, as that the initial letters make up some person's name, title, motto, or the like. The word is derived from the Greek *ακρος*, *summus*, that which is at one of the extremes; and *σικκος*, *versus*. There are also acrostics, where the name or title is made up by the initial letters of the middle words, or the last of the final ones: and others which go backwards; beginning with the first letter of the last verse, and proceeding upwards. Some refiners in this trifling way, and in the exercise of this species of false wit, have even gone to PENTACROSTICS; where the name is to be repeated five times. The Sibylline oracles were written, according to Cicero, in a kind of Acrostics. See SIBYLS.

ACROSTICS is also an appellation given by some authors to two ancient epigrams in the first book of the Anthology; the one in honour of Bacchus, the other of Apollo. Each consists of 25 verses, the first whereof is the proposition, or argument of the whole, and the other 24 composed of four epithets, beginning each with the same letter, and thus following in the order of the 24 letters of the Greek alphabet; so that the first of the 24 comprehends four epithets beginning with α; the second as many, with β; and so of the rest to ω; which makes 96 epithets for each god.

Among *Ecclesiastical Writers*, acrostics denote the ends of verses of psalms, which the people sang by way of chorus, or response, to the *prætor*, or leader of the psalm. This was called singing acrostics, *acrostickia*, which was a species of psalmody usual in the ancient church.

Acrostic, in this sense, amounts to the same with *hypophalma*, *diapsalma*, *acrotelution*, and *ephyminion*, which are all terms of the same signification.

Though an acrostic properly signifies the beginning of a verse, yet it is sometimes also used for the end and close of it; as by the author of the constitutions, when he orders one to sing the hymns of David, and the people to sing after him the acrostics, or ends of the verses.

It does not, however, denote precisely the end of the verse,

verse, but something added at the end of a psalm, or something frequently repeated in the course of a psalm, answering to our *gloria patri*.

Some pretend to find acrostics in the psalms, particularly in the last called ABBECDIARIAN psalms.

ACROSTICHUM, formed of *ακρος* *εξος*, *summus ordo*, *neglectus*, *neglected*, or *folded fern*, in *Botany*, a genus of the *cryptogamia filices* class and order; the character of which is, that the fructifications cover the whole inferior surface of the frond or leaf. Professor Martyn, in his edition of Miller's Dictionary, enumerates 44, and Gmelin 45 species, which are distributed into different classes, comprehending those with a simple frond, undivided and divided; and those with a compound frond, pinnate, sub-bipinnate, bipinnate, and supra-decompound. Under the first distribution with a frond simple, undivided, are included, *A. leucotum*, *viridifolium*, *leucopodium*, *crinitum*, *punctatum*, *spicatum*, *lingua*, and *hirsutum*; and those with a frond simple, divided, are *A. septentrionale*, *aculeatum*, *pinnatum*, *dissectum*, *digitatum*, *ferrugineum*, and *polypodioides*. Under the second distribution, are comprehended the pinnate, viz. *A. aureum*, *rasum*, *punctatum*, *fortissimum*, *crebratum*, *marginatum*, *sanctum*, *platyneuron*, and *reticulatum*; the sub-bipinnate, viz. *A. filiquosum*, *thalictroides*, *maranta*, *ilvense*, *ebenum*, and *surcatum*; the bipinnate, viz. *A. aculeatum*, *cruciatum*, *barbarum*, *calomelanos*, *viviparum*, *vellem*, *simplex*, *petiolatum*, *lacifolium*, *villosum*, *mulicosum*, *ferrulatum*, *graminoides*, and *sulphureum*. Gmelin omits the *viviparum*, introduces the *longifolium* and *filare*, makes some difference in the arrangement of the species, and refers the *aculeatum* to a class with a supra-decompound frond. Of these species, two only are natives of Great Britain, viz. *A. septentrionale*, forked or horned fern, with fronds, naked, linear, and lacinate, or jagged; the fructifications, in an immature state, are in short indistinct lines or dots, resembling an *asplenium*, but in an adult state, the lower surface of the leaf is totally covered with brown dusty capsules; from two to five inches high; found in clefts of rocks, and old walls in Yorkshire, Westmoreland, Wales, and Scotland; and *A. ilvense*, or hairy fern, the **POLYPODIUM ilvense** of Withering, with fronds sub-bipinnate, the pinnae or wings oppositely coadunate or united, obtuse or blunt, hirsute or hairy underneath, and quite entire at the base; the stipe or stem is greenish, and not blackish purple, scarcely more than a finger's length; called *A. alpinum* by Bolton; perennial, and flowering from July to September, found on rocks in Wales. The *A. maranta*, with fronds sub-bipinnate, the pinnae oppositely coadunate, very hirsute underneath, and a little toothed at the base, is a native of the southern countries of Europe; but all the rest belong to hotter climates, as the East or West Indies, Africa, and the southern provinces of North America. The *A. punctatum*, with fronds heart-tongued, acuminate, quite entire, dotted above, resembles *hart's-tongue*, and is probably rather a species of polypody. It is used medicinally in China, where it was first remarked by J. Fothergill. Few of the species have been introduced into gardens. Those of Europe may be preserved in pots, filled with gravel and lime-rubbish, or planted on walls and artificial rocks: but most of them, being natives of very hot climates, must be planted in pots, and plunged into the bark-pit. Martyn's Miller.

ACROSTICHUM is also a species of **POLYPODIUM**, called *Thelypteris*, and a species of **CÆNOPTERIS**, called *viridiana*.

ACROSTOLIUM, in *Ancient Naval Architecture*, an ornament of the prow, or forecable of a ship, chiefly of war; sometimes shaped like a buckler, a helmet, or an animal, but more frequently circular or spiral. The ancients

had divers decorations or additional parts to their ships, called by a general name *κορυμβά*; those on the prow were more particularly called *εσολοι*, of which the extreme part alone was denominated *acrostolium*.

To the *acrostolia* may be referred the *ansereulus*, mentioned by Bayfius; and also those polished steel pieces resembling a duck's neck, used by the Venetians at the heads of their gondolas.

The *acrostolia* were torn from vanquished ships, and fastened to the conqueror's, as a signal of victory. We frequently find them represented on the reverses of ancient medals. An *acrostolium* is also seen in the famous sculpture of the *apothēsis* of Homer. The *acrostolium* was an ornament to the medals of maritime towns, such as Sidon and Aradus, and designed to express naval victories.

ACROTADUS, in *Ancient Geography*, an island of the Persian gulf, mentioned by Pliny; supposed by others to be Athothadus, or a desert island, mentioned by Nearchus, according to Arrian, and called Caicandrus.

ACROTELEUTIC, from *ακρος* and *τελος*, *end*, among *Ecclesiastical Writers*, denotes the end of a verse or psalm: or something added thereto to be sung by the people.

In which sense *acroteleutic* amounts to the same with *acrostic*, *hypophalma*, *diapsalma*, *epode*, &c.

The *gloria patri* is by some writers called the *acroteleutic* to the psalms; because always used to be repeated by the people at the end of each.

Hence the word *acroteleutic* is sometimes also used as synonymous with **DOXOLOGY**.

ACROTERRI, in *Geography*, a small town in the island of SANTORIN, N. lat. 36°. 25'. E. long. 26°. 1'.

ACROTERRIA, or **ACROTERRS**, formed of *ακρον*, in *Architecture*, small pedestals, usually without bases, anciently placed at the middle, and the two extremities, of **PEDIMENTS**; and serving also to support statues.

Those at the extremes ought to be half the height of the **TYMPANUM**; and that in the middle, according to Vitruvius, should be one eighth part more.

ACROTERRIA, sometimes also signify figures, whether of stone, or metal, placed as ornaments, or crownings, on the tops of temples, or other buildings.

Sometimes they also denote those sharp **PINNACLES**, or spiry battlements, which stand in ranges about flat buildings, with rails and ballusters.

ACROTERRIA, among ancient *Physicians*, were used to denote the great extremities of the body, as the head, hands, and feet.

Aristotle also uses *acroteria*, for the tips or extreme parts of the fingers, covered by the nails; sometimes also for the eminences of the bones.

ACROTERRIASM was anciently used for the amputation of any extremity.

ACROTHYMIA, in *Surgery*, the name of a large tumor in the flesh, rising in the shape of a wart, though sometimes depressed and flat, called **THYMUS**. Heister. See **NÆVUS**.

ACROTYNI, in *Ancient Geography*, a town placed by Stephanus Byzant. on the top of Mount Athos. See **ACROATHON**.

ACRYDIUM, in *Entomology*, a name given by Degeer to the *Gryllus brevicornis*, and the *G. serratus* of the Linnean system. The former, is found in South America; and the latter, at the Cape of Good Hope.

ACSAC, a measure of capacity in use both in Asia and Egypt. See **LOG**.

ACSOR, in *Geography*, a town on the river Nile in Egypt, famed for its earthen ware.

ACSTED,

ACSTED, a town in the Dutchy of Bremen, in Germany, 24 miles N. of Bremen.

ACSU is the name of a small town of Asiatic Turkey, in Natolia, 5 leagues west of Haick.

ACT, Actus, in general, denotes an effective exercise, or application of some power or faculty. In this sense *act* stands opposed to power, *potentia*, which is only the capacity of *acting*, but not the exertion of that capacity.

Though the word *act*, properly and primarily, be only applicable where the power might exist without being drawn forth into *act*; yet the schoolmen extend it farther; denoting it by the presence of any power or perfection, even though it could not be absent. In which sense, God himself is said to be a most pure *act*; because his perfections are always and necessarily present. And thus, **FORM** is called an *act*: inasmuch as the presence hereof completes the power and perfection of matter.—Even existence is termed an *act*; because, when this is given to a being, nothing farther is wanted. The Greeks sometimes call *act* *energeia*, a term denoting an actual possession of perfection, by the Latins usually rendered *per, alihabita*.

Act and power are distinguished by writers on Ontology three ways; viz. as actual being is distinguished from a power to be; actual doing or action, from a power to do; or actual suffering or passion, from a power to suffer. See Watts's Ontology in Works, vol. v. p. 647.

Metaphysicians give various divisions of *act*; viz. into *infinite*, as the *act* of creating; and *finite*, as the *act* of moving. —*Transient*, or those exercised in other beings, as heating; and *immanent*, which remain in their own subject, as thinking. See **ACTION**.

ACT, in *Logic*, is particularly understood of an operation of the human mind. Thus to discern, examine, and judge, are acts of the understanding; to affirm and chuse, are acts of the will. There are voluntary and spontaneous acts; the former are produced by the operation of the soul, the latter without its privity or participation.

ACT, in a *legal* sense, is an instrument, or other matter in writing; of use to declare, or justify the truth of a thing. In which sense, records, decrees, sentences, reports, certificates, &c. are called *acts*, authentic *acts*, solemn *acts*, &c. See **DEED**.

ACT, in the *Universities*, a thesis maintained in public by a candidate for a degree; or, to shew the capacity and proficiency of a student in the **UNIVERSITY**.

The candidates for a degree of bachelor and master of arts are to hold philosophy acts; those for bachelor of divinity are to keep divinity acts, &c.

At Oxford, the time when the masters or doctors complete their degrees is also called the *act*; which is held with great solemnity: at Cambridge they call it the *commencement*.—*Act* is also a collegiate appellation for the person who proposes questions that are the subjects of disputation in the exercises of the university schools. The persons with whom he contends in these questions are called opponents: and the discussion is proposed under the direction of the moderator at Cambridge. The distinguished men of the year appear eight times in this manner in the schools; twice as *acts*, and six times as opponents. One *act* and three opponencies are kept before the summer; and one *act* and three opponencies in the term following the summer vacation.

ACT of faith, Auto da fe, in the Romish church, is a solemn day held by the **INQUISITION**, for the punishment of heretics, and the absolution of the innocent accused.

They usually contrive the *auto* to fall on some great festi-

tival; that the execution may pass with the more awe and regard: at least it is always on a Sunday.

The *auto da fe* may be called the last act of the inquisitorial tragedy; it is a kind of grand finale, appointed as oft as a competent number of prisoners have been either convicted of heresy; either by their own confession, or extorted confession; or on the evidence of certain witnesses. The process is thus: in the morning they are brought into a great hall, where they have certain habits put on, which they are to wear in the procession. The procession is led up by Dominican friars, after which come the penitents, some with fan benitoes, and some without, according to the nature of their crimes; being all in black coats without sleeves, and bare-footed, with a wax candle in their hands. These are followed by the penitents who have narrowly escaped being burnt, who over their black coats have flames painted, with their points turned downwards, *fuego revolto*. Next come the negative, and relapsed, who are to be burnt, having flames on their habits pointing upwards; after these come such as profess doctrines contrary to the faith of Rome, who besides flames pointing upwards, have their picture painted on their breasts, with dogs, serpents and devils, all open-mouthed about it. Each prisoner is attended with a familiar of the inquisition, and those to be burnt have also a Jesuit on each hand who are continually preaching to them to abjure. After the prisoners, comes a troop of familiars on horse-back, and after them the inquisitors, and other officers of the court, on mules; last of all, the inquisitor general on a white horse, led by two men with black hats and green hat-bands.

A scaffold is erected in the Terreiro de Paco, big enough for two or three thousand people; at one end of which are the prisoners, at the other the inquisitors. After a sermon made up of encomiums of the inquisition, and invectives against heretics, a priest ascends a desk near the middle of the scaffold, and having taken the abjuration of the penitents, recites the final sentence of those who are to be put to death; and delivers them to the secular arm, earnestly beseeching at the same time the secular power not to touch their blood, or put their lives in danger.

The prisoners being thus in the hands of the civil magistrate, are presently loaded with chains, and carried first to the secular gaol, and from thence in an hour or two brought before the civil judge, who, after asking in what religion they intend to die, pronounces sentence; on such as declare they die in the communion of the church of Rome, that they shall be first strangled, and then burnt to ashes; on such as die in any other faith, that they be burnt alive.

Both are immediately carried to the place of execution, which stands on the Ribera at Lisbon, where there are as many stakes set up as there are prisoners to be burnt, with a quantity of dry furze about them. The stakes of the professed, that is, such as persist in their heresy, are about four yards high, having a small board towards the top for the prisoner to be seated on. The negative and relapsed, being first strangled and burnt, the professed mount their stakes by a ladder; and the Jesuits, after several repeated exhortations to be reconciled to the church, part with them, telling them they leave them to the devil, who is standing at their elbow to receive their souls, and carry them with him into the flames of hell. On this a great shout is raised, and the cry is, let the dogs *beards be made*, which is done by thrusting flaming fuzes, fastened to long poles, against their faces, till their faces are burnt to a coal, which is accompanied with the loudest acclamations of joy. At last, fire is set to the furze at the bottom of the stake, over which the professed are chained

so high, that the top of the flame seldom reaches higher than the seat they sit on, so that they rather seem roasted than burnt. There cannot be a more lamentable spectacle; the sufferers continually crying out, while they are able, *misericordia per amor de Dios*: yet it is beheld by all sexes, and ages, with transports of joy and satisfaction: this joy is not the effect of natural cruelty, but of the spirit of their religion; for the deaths of other malefactors are tenderly commiserated and lamented. Geddes's Misc. Tracts, tom. i. p. 442. Limb. Hist. Inq. lib. iv.

ACT of Grace. See GRACE.

ACTS also denote the deliberations and resolutions of an assembly, senate, council, or convocation; taken down by clerks, notaries, actuaries, or the like, and entered in a register. ACTS are also matters of fact transmitted to posterity in certain authentic books, or memoirs, as the ACTS of the Apostles, of the Martyrs, &c. to this general class belong acts of parliament, which are called STATUTES; acts of the Royal Society called TRANSACTIONS; those of the late royal academy of sciences at Paris, called *memoirs*; those of the societies of Leipsic, &c. called simply acts, *acta eruditorum*, &c.

ACTS of the *Consistory*, *acta consistorii*, the edicts and declarations of the council of state of the Roman emperors. The senate and soldiers often swore, either through abject flattery or by compulsion, upon the edicts of the emperor, as we do upon the Bible; and the name of Apidius Merula was erased by Nero from the register of senators, because he refused to swear upon the edicts of Augustus.

ACTS of Council, differed from canons, in that the latter contained only the results, or the laws and regulations agreed on, and drawn up in form; whereas the acts included the preceding debates, motions, &c.

In the first collections of councils, only the bare canons were delivered. Afterwards they began to give the acts as well as the canons.

Hence we have two kinds of synodical collections: one containing all the acts, or transactions, relating to matters of faith and doctrine; the other, containing only the canons relating to discipline, is called the book of CANONS.

ACTS of the people, *acta populi*, among the Romans, were journals or registers of the daily occurrences, as assemblies, trials, executions, buildings, births, marriages, deaths, &c. of illustrious persons, and the like.

These were otherwise called *acta publica*, and *acta diurna*, or simply *acta*.

The *acta* only differed from annals, in that only the greater and more important matters were in the latter, and those of less note in the former. Tacitus Annal. xiii. 31.

Their origin is attributed to Julius Cæsar, who first ordered the keeping and making public the acts of the people; some trace them higher, to Servius Tullius, who, to discover the number of persons born dead, and alive, ordered that the next of kin, upon a birth, should put a certain piece of money into the treasury of *Juno Lucina*; upon a death, into that of *Venus Libitina*: the like was also to be done upon assuming the *toga virilis*, &c. Under Marcus Antoninus, this was carried farther; persons were obliged to notify the birth of their children, with their names and surnames, the day, consul, and whether legitimate or spurious, to the præfects of the *ædarium Saturni*, to be entered in the public acts: though before this time the births of persons of quality appear to have been thus registered. Sætonius. Pitisc. Lex.

ACTS, Public. The knowledge of public acts has been erected into a peculiar science, called the *diplomatic*, of great importance to an historian, statesman, chronologer, and even

critic. The preservation of them was the first occasion of erecting libraries.

The style of acts is generally barbarous Latin. Authors are divided as to the rules of judging of their genuineness, and even whether there be any certain rules at all? F. Germon will have the greater part of the acts of former ages to be spurious. Fontanini asserts, that the number of forged acts now extant is very small. It is certain there were severe punishments inflicted on the forgers and falsifiers of acts.

The chief of the English acts, or public records, are published by Rymer, under the title of *Fœdera*, and continued by Sanderfon: an extract whereof has been given in French by Rapin, and translated into English, under the title of *Acta Regia*. Great commendations have been given to this work, and some exceptions made to it: as that there are many spurious acts, as well as errors in it; some have even charged it with falsifications.

The public acts of France fell into the hands of the English after the battle of Poitiers, and are commonly said to have been carried by them out of the country. But the tradition is not supported by any sufficient testimony, and has even been shewn by M. Brussel to be false.

ACTS of the Senate, *acta senatus*, among the Romans, were minutes of what passed, and was debated in the senate-house.

These were also called *commentarii*, and by a Greek name *ἱστορικὰ*. They had their origin in the consulship of Julius Cæsar, who ordered them both to be kept and published: and there was an officer, who was himself a senator, whose province it was to compose these *acta*. The keeping them was continued under Augustus, but the publication was abrogated. Afterwards all writings, relating to the decrees or sentences of the judges, or what passed and was done before them, or by their authority, in any cause, were called by the name ACTA. In which sense we read of civil acts, criminal acts, intervenient acts, *acta civilia, criminalia, intervenientia*, &c.

ACTS, Clerk of the, is an officer of the navy. See CLERK.

ACTS of the Apostles, a canonical book of the New Testament, which contains great part of the lives of St. Peter and St. Paul, and of the history of the Christian church; commencing at the ascension of our Saviour, and continued down to St. Paul's arrival at Rome, after his appeal to Cæsar, comprehending in all about thirty years. St. Luke has been allowed by all antiquity to be the author of this book, and his principal design in writing it was to furnish an authentic history of the first plantation of Christianity; and it thus serves to obviate the false acts, and false histories, which were afterwards dispersed through the world. The exact time of his writing it has been ascertained with a very considerable degree of accuracy; for it must have been at least two years after St. Paul's arrival at Rome, because it informs us that St. Paul dwelt two whole years in his own hired house; perhaps he wrote it while he remained with St. Paul, during the time of his imprisonment.

It was written, according to Mill, in his Prolegomena, in the year 64. And Dr. Lardner (works, vol. vi. p. 145,) observes, that it could not have been written till after St. Paul's confinement at Rome was come to a period, which he supposes to have ended in the former part of the year of Christ 63; and he thinks it probable, that St. Luke finished this book the same, or the next year, either at Rome or in Greece. That St. Luke was the author of it appears from the general consent of the ancient Christian writers:

e. g. of Irenæus, Tertullian, Clement, Origen, Eusebius, and St. Jerome. Besides, several ancient Greek MSS. of the New Testament, cited by F. Simon in his critical History of the New Testament, (pt. 1. c. 14.) have the name of St. Luke prefixed to this history; and in the Syriac version it is also expressly ascribed to St. Luke. Moreover, the history of the acts of the apostles is found in thirteen catalogues of the books of the New Testament, which are the principal catalogues of those books in the writings of the fathers, for the four first centuries. See an enumeration of these catalogues in Benson's History of the first Planting of the Christian Religion, p. 302. and Jones's Canon. vol. 1. p. 73. That the history of the acts is a true history, may be unquestionably inferred from the citations and allusions to it that occur in the writings of the primitive Christians; as in the epistle ascribed to St. Barnabas about the year of Christ 71, the epistle of St. Clement about the year 96, the Pastor of Hermas about the year 100, the epistles of St. Ignatius about the year 107, and the epistle of Polycarp about the year 108. These five were apostolic fathers, who had conversed with the apostles, and probably with St. Luke himself; and therefore their testimony is of great importance in ascertaining the truth of this history. We might also refer to the testimonies of Papias, A. D. 116; Justin Martyr, A. D. 140; Irenæus, A. D. 178, St. Clement the presbyter of Alexandria, A. D. 194; Tertullian, A. D. 200. Some have supposed, that St. Luke wrote both his GOSPEL and the *Acts* in one book, and divided it into two parts. The transition (*Acts* i. 1.) agrees with this account; for the acts are the second part of the book, or history, of which Luke has called his gospel the first part; the latter is inscribed to Theophilus, as well as the former, and the author's name is not prefixed to the *Acts* as it is to St. Luke's Gospel, and yet the author is not disputed. When the gospel and the acts were one continued book, with St. Luke's name prefixed to the former, it was needless to repeat it before the second part of his work. See Jones's Canon. vol. iii. p. 113. and Benson's Planting of Christianity, p. 299. See also Biscoe's Discourses at Boyle's Lect. c. 14, 15. The style of this history, originally written in Greek, is deemed to be purer than that of the other canonical writers; and it has been alledged by some Biblical critics, that St. Luke, who was better acquainted with the Greek than with the Hebrew language, makes use of the Septuagint version in his citations from the Old Testament.

The truth and divine original of Christianity may be deduced from the history of the Acts of the apostles. The general and particular doctrines contained in this book are so reasonable, and the evidences which the apostles gave of their doctrine, in their appeals to prophecies and miracles, and the various gifts of the spirit, were so numerous and so strong, and so wisely adapted to all sorts of persons, that the truth of the religion, which they attest, cannot be reasonably disputed. The history itself is credible. It was written by a person who was acquainted with the various circumstances which he recites, and who was both able and inclined to give a faithful relation of every particular that occurred. St. Luke was a companion of the apostles; he was himself an eye and ear witness of the facts, and personally concerned in many of the incidents which he records. In the history itself there are no inconsistencies or contradictions. The miraculous facts related in it are neither impossible, when we consider the divine power, to which they are ascribed, nor improbable, if we attend to the grand design and occasion of them. The writer appears to have been honest and impartial; for he has recorded the

objections made to Christianity, both by Jews and Heathens, and the reflections which enemies cast upon the religion itself and the first preachers of it. He has not concealed the weaknesses, faults, and prejudices either of the apostles or of their converts. The occasional hints that are dispersed through the epistles of St. Paul, harmonize with the facts recited in the history; insomuch that the history is the best guide to the study of the epistles. The other parts of the New Testament agree with the history, and confirm it. The Gospels clothe with references to the facts recorded in the Acts; and the epistles suppose that those facts had actually occurred which the history relates. The incidental circumstances mentioned by St. Luke correspond so exactly, and without any previous view to such a correspondence, and in cases where it could not possibly have been premeditated and precontrived, with the accounts that occur in the epistles, and with those of the best ancient historians both Jews and Heathens; that no person who had forged such an history, in later ages, could have had the same external confirmation; but must have betrayed himself, by alluding to some customs or opinions since sprung up; or by misrepresenting some circumstances, or using some phrase or expression, not then in use. The plea of forgery, therefore, in later ages, cannot be allowed: and if St. Luke had published such a history at so early a period, when some of the apostles, or many other persons concerned in the transactions which he has recorded, were alive, and his account had not been true, he would only have exposed himself to an easy confutation, and to certain infamy. If any history of former times deserves credit, the *Acts of the Apostles* ought to be received and credited. And if the history of the *Acts of the Apostles* be true, Christianity cannot be false. For a doctrine so good in itself, and attended with so many miraculous and divine testimonies, has all the possible marks of a true revelation. See Benson, *ubi supra*, p. 310—318: and an excellent work, distinguished by acute and original reasoning, and amplifying the argument above suggested, by Archdeacon Paley, entitled *Horæ Paulinæ*, 8vo. 1790.

There are also several spurious *Acts of the Apostles*: such as, 1. The *acts of ANDRIAS*, or the History of the Twelve Apostles, said to be composed by him in Hebrew, translated into Greek by his disciple Eutropius, and thence into Latin by Julius Africanus. 2. The *acts* of St. Andrew, received by the Encratites, Manichees, Apostolics, and Origenians. 3. The *acts*, received by the Ebionites, and mentioned by Epiphanius as a gross forgery. 4. The *acts* of St. John, forged by Leucius. 5. The *acts of the Apostle*, under the names of Leucius, Lenticus, Leontius, Leonides, and Leuthon, names of the same person who lived in the fourth century, and who was a Manichee, and probably the father of those heretics, called by St. Austin, Seleuciani from the name Seleucus, which Mr. Jones thinks to be the same with Leucius. This book contained the *acts* of John, Andrew, Thomas, Peter, Paul, James and others. 6. The *acts* of St. Matthias were probably written by Leucius Charinus under this apostle's name, to which class we may refer the *acts* used by the Manichees. 7. The *acts* of Paul, which Mill in his *Prolegomena*, sect. 130. supposes to have been compiled by some faithful Christians, about the year of Christ 69, to supply the imperfect accounts in the *acts* of the apostles, written by St. Luke, and which Whiston regards as in some sense a sacred book; but which Eusebius reckons to be spurious, and Philastrius condemns as a silly book, abounding with strange stories. 8. The *acts* of Paul and Thecla, which was the work of some weak presbyter of Asia, and never had any authority in the Christian church. It is not certain when these *acts* were composed;

1. *Acts of St. Peter*, but Dr. Lardner (vol. ii. p. 311.) conjectures, that the *Acts of St. Peter* in the latter part of the first, or the beginning of the second century. Dr. Grabe has published a Latin edition of the text from MSS. in the Bodleian library. He has compared it with the work mentioned by Tertullian, and as Dr. Grabe supposes, it has undergone many alterations; and Lardner conceives the number in both the Latin and Greek copies to be greater than Grabe allows. 9. The *Acts of St. Peter*, the travels of Peter, or the recognitions of Clemens, which are rejected by Eusebius, Jerome, Epiphanius, &c. as apocryphal. 10. The *Acts of St. Philip*, which were probably the work of Leucius, or an appendage to his work. Fabricius (*Codex Apocr. Nov. Test. tom. iii. 656.*) mentions a MS. of the *Acts of St. Philip*, in the Vatican. 11. The *Acts of Seleucus*, the same with those of Leucius, already mentioned. 12. The *Acts of Thomas*, mentioned by Epiphanius, Athanasius, and Geladius, are supposed by Fabricius, Mill, and others to be the same with the *Acts of Leucius*; but Mr. Jones supposes, that as it was used by some sects of the Gnostics, who sprung up at an earlier period, it was interpolated and altered by Leucius. But the work is unquestionably apocryphal. See on this subject Jones's Canon. vol. i. passim; and Lardner's Works:—Index under *Acts*.

Acts of Pilate, denote certain memoirs or reports concerning the trial and death, the resurrection and ascension of Jesus Christ, which were transmitted by Pilate to the emperor Tiberius, and communicated by him to the senate. Justin Martyr, in his Apology (Num. 36. p. 65. and Num. 48. p. 72. Bened.) presented to Antoninus Pius, and the senate of Rome, about the year 140, after having mentioned on one occasion some of our Lord's miracles, and on another his crucifixion, and some of the attendant circumstances, adds; "and that these things were so done, you may know from the *Acts* made in the time of Pontius Pilate." Tertullian also, in his Apology, (c. 21. p. 22.) about the year 200, having spoken of our Saviour's crucifixion and resurrection, his appearance to the disciples, and his ascension to heaven in their sight, subjoins this remark; "of all these things relating to Christ, Pilate, in his conscience a Christian, sent an account to Tiberius, then emperor." In another place he says, that by an ancient decree, no person should be acknowledged as a deity, unless he were first approved by the senate. Tiberius having received from Pilate an account of such things as manifested our Saviour's divinity, proposed to the senate, recommending the proposal by his own vote, that he should be placed among the gods. The senate refused, because he had himself declined that honour. Nevertheless the emperor persisted in his own opinion, and ordered that if any accused the Christians they should be punished. Eusebius, in his Ecclesiastical History, (lib. ii. cap. 2.) relates the fact, and cites the authority of Tertullian. Many learned moderns have objected to the original testimonies of Justin Martyr and Tertullian. Dr. Lardner has investigated the subject with his usual accuracy and impartiality. He first alleges that Justin Martyr and Tertullian were writers of good repute. He then shews that it was the custom of the governors of provinces to compose *Acts*, memoirs, and commentaries of the remarkable occurrences that happened in the places where they presided; and these *Acts* or registers were considered as public authorities, and therefore more decisive and satisfactory than some other accounts. Of this circumstance the ancient fathers were well apprised; and Eusebius admits the truth of what they report. In the time of the persecuting emperor Maximian, about A. D. 307, the heathen people forged

Acts of Pilate, derogatory to the honour of our Saviour, which were very diligently circulated to unsettle Christians, or discourage them in the profession of their faith. The edict to this purpose was so negligently or ignorantly written, that our Saviour's death was referred by it to the fourth consulate of Tiberius, i. e. to the seventh of his empire, which is eleven years before our Saviour's passion, and five before Pilate was made governor of Judea. See Euseb. H. E. l. i. c. 9. l. ix. c. 4, 5, 6. Rufinus, lib. i. c. 5, &c. It was also customary for governors of provinces to send to the emperor an account of remarkable transactions that occurred in the places where they presided. We may therefore conclude, though the *Acts of Pontius Pilate* and his letter to Tiberius, which we now have (see Fabric. Cod. Apocr. Nov. Test. p. 290—972.) are manifestly spurious, that Pontius Pilate did compose some memoirs concerning our Saviour and send them to the emperor, whether Justin Martyr and Tertullian have given a just account of them or not. Dr. Lardner, after replying to other objections that have been urged against the relation of these ancient fathers, concludes with observing that they deserve some regard. See Lardner's Works, vol. vii. c. 2. p. 231. &c.

Acts, in Poetry, are certain divisions, or principal parts, in a dramatic poem, contrived to give some respite both to the actors and spectators. In the interval between the acts the stage remains empty, and without any action visible to the spectators; though it is supposed all the while that there is one proceeding out of sight. It is not, however, merely for the sake of the respite that these acts are observed, but to give transactions a greater degree of probability, and render the intrigue more affecting. For the spectator, who sees the action prepared that is to pass in the interval, cannot forbear acting, in his imagination, the part of the absent actors; by which means he is the more agreeably surprised, when a new act coming upon the stage, he sees the effects of that action, which before he could only guess at. To this it may be added, that authors contrive to have the most dry and difficult part of the drama transacted between the acts, that the spectators may have no notion of them, excepting what their fancy presents them with at a distance; and that nothing may appear upon the stage but what is natural, probable, and entertaining. In this respect, says an approved writer, a dramatic or epic poem ought to resemble a sentence or period in language divided into members, that are distinguished from each other by proper pauses; or it ought to resemble a piece of music, having a full close at the end, preceded by imperfect closes that contribute to the melody. See Elem. of Criticism, c. 22.

The ancient Greek poets were unacquainted with this division of a play into acts, though their episodes, or chorusses, served almost the same purpose. The word *act* never occurs in Aristotle's Poetics, though he defines exactly every part of the drama. It is true the Greeks considered their pieces as consisting of certain parts or divisions, which they called *protasis*, *epitasis*, *catastasis*, and *catasrophe*; but there were no real interruptions or divisions answering to them in the representation. With them the stage was never empty, nor were the performers idle; so that when the chorusses were incorporated in the piece, as in some of the tragedies of Sophocles, it may be said strictly to consist of only one act.

The Romans first introduced acts into the drama, and filled up the intermediate space of time between these divisions with a chorus, a dance, or a song: and in Horace's time, the five acts were established as a law. This appears from the following verses in his De Art. Poet.

"Neve

"Neve minor, neu sit quinto productior actu Fabula, quæ poseri vult, et spectata repari."

"If you would have your play deserve success, Give it five acts complete, nor more nor less."

FRANCIS."

This number was constant in the comedies of Terence, and tragedies of Seneca; and the law stands unrepented to this day; though it seems to derive its force from the authority of Horace, rather than that of reason or nature. All plays are deemed irregular, that have either more or fewer than five acts. Some, indeed, have asserted, that every just action consists of five distinct parts; and have undertaken to mark out the precise share of the action, which each of the five acts ought to bear. The first, they say, is to propose the matter or argument of the fable, and to shew the principal characters. This should be so managed as to awaken the curiosity of the spectators, and also furnish them with materials for understanding the sequel. It should make them acquainted with the personages who are to appear, with their several views and interests, and with the situation of affairs at the commencement of the play. In former times, the exposition of the subject was made by a prologue, or by a single actor, who appeared to give full and direct information to the spectators. Some of Æschylus's and Euripides's plays are opened in this inartificial manner, which is now totally abolished. The second act is to bring the affair or business upon the carpet. The third, to furnish obstacles and difficulties. The fourth, either points out a remedy for these difficulties, or finds new ones in the attempt. During these acts, the plot should gradually thicken; the action of the play ought to be advancing, and as it advances, the suspense and concern of the spectator should be raised more and more. It is the great excellence of Shakespear, that his scenes are full of sentiment and action; and not of mere discourse; whereas it is frequently a fault of the best French tragedians, that they allow the action to languish for the sake of a long and artful dialogue. The fifth act puts an end to all by a discovery. This is the feat of the catastrophe, or the unravelling of the plot, in which the art and genius of the poet should be most fully displayed. See CATASTROPHE. However, it is certain that, on the principles of the great master of the drama, Aristotle, we may have a just and regular play, though it be only divided into three acts; and the number may be varied according to the taste of the author, or the nature of the subject; since the division is purely arbitrary. Nevertheless, every act ought to close with some incident that makes a pause in the action; without which there can be no pretext for interrupting the representation. Milton has deviated from this rule at the close of the first, seventh, and eleventh books of his Paradise Lost: in the first of which instances he seems to have copied the Æneid, the two first books of which are divided in a similar manner. Homer, in the Iliad, has paid no great attention to this rule. The acts of a drama are divided into SCENES. Metastasio, in conformity to the precept of Aristotle, with regard to the construction of a fable (See ACTION and TRAGEDY) divided his melodramas, or operas, into three acts; in order to constitute the beginning, middle, and end, which the stagirite required. But at present this wise and rational design is violated at our lyric theatre, by compressing all the incidents of a drama, written in three acts, into two; by which means the business of the piece is so precipitated or mangled, that the events lose all appearance of probability, and the spectator all chance of illusion. On this occasion, however, the trouble and expense of a third dance are spun out to such a length as to

preclude all desire in the most dissipated part of the public to be kept longer from home.

ACTA, in *Antiquity*, denoted among the Romans a pleasant garden formed near the bank of a river, in which they devoted themselves to pleasure, and even to debauchery. Cicero says of Verres (v. 25.) "Tusseti in Acta cum muliereculis jacebat cinas." From *acta* the verb *actu* derived *actuarius*, *actari*, to devote themselves to pleasure. *Acta* was sometimes used more generally to denote solitary rooms and shady coverts. Virgil *Æn.* v. ver. 613. Prudent. in Symmach. I. 135.

ACTA, in *Ancient Geography*, a town of Acarnania, mentioned by Stephan. Byzant. and called a port in the Peripplus of Scylax. *Acta* is also a town of Macedonia.

ACTÆA, in *Antiquity*, one of the fifty Nereids.

ACTÆA, or ACTÆRIUS, was also one of the five malicious and malicious genii, called by the Greeks *Telchines*.

ACTÆA, in *Botany*, the *Christophoriona* of Tournefort, and in the Linnæan system, a genus of the *polyandria monogynia* class and order, belonging to the natural order of *entisifiquæ* and *ramunculaceæ* of Jussieu. Its characters are, that the calyx is a perianthium of four leaves, with roundish, obtuse, concave, and caducous leaflets; the corolla has four petals, acuminate at both ends, longer than the calyx and caducous; the stamina consist of numerous, usually about thirty, capillary filaments, broader at top; the antheræ are roundish, twin and erect; the pistillum has a superior ovate germen, no style, and a thickish, obliquely depressed stigma; the pericarpium is an oval-globose, smooth, one-furrowed and one-celled berry, and the seeds are many, semi-orbicular, and lying over each other in two rows. There are four species: 1. *A. spicata*, or common herb christopher, which grows naturally in the northern counties of England, and rises two feet and an half in height, with the foot-stalks of the leaves springing from the root, and dividing into three smaller foot-stalks, each of which divides again into three, with three lobes each; the flowers grow in ramose spikes, and are of a pure white: they appear in May and June, and are succeeded by black shining berries, about the size of peas, which ripen in autumn. This plant is a powerful repellent; and the root has been administered internally in some nervous cases, but should be used with caution. *Datur*, says Pliny, (H. N. v. ii. p. 425. Ed. Hard.) *acetabulo pleno interioribus feminarum morbis*. The berries are poisonous, and to the indiscreet use of them some have referred the explanation of the fable of ACTÆON, and to this they have also applied the Latin adage;

—*Hic niger est, hunc tu Romane caveto.*

Hor. Sermon. l. i. sat. 4. v. 85.

The juice of these berries, with alum, yields a black dye. Toads are said to resort to this plant, being allured by its foetid smell, which, as Dr. Withering observes, may be owing to the damp shady situation in which it is found. This herb is poisonous to cattle, but it is happily scarce in England, and found only in the woods. Of this species there are three varieties, viz. the *nigra*, or common black-berried herb christopher, or bane-berry; the *alba* or American herb christopher, with white berries, whose leaves are less deeply indented at the edges, flowers in a more compact spike, and roots composed of thick knobs; and the *rubra*, with red berries, differing only in the colour of its fruit. 2. *A. racemosa*, or American black or wild snake-root, with large compound leaves, rising immediately from the root, and branched like the first, flower-stems ascending to the height of four or five feet, and white flowers in a long spike, reflex at the top, which appear in June or July, but not perfecting seeds in England. It deserves, on account of its flowers, a place in shady borders among shrubs, and will require no other at-

tention than the shrubs themselves. This species is a native of North America; and the root is much used in that country, and said to be an antidote to poison, or the bite of the rattle-snake. 3. *A. japonica*, or Japanese herb christopher, differs from the second in having simple, not pinnate leaves; it has heart-shaped leaflets, petioles longer than the leaflets, and sessile flowers. 4. *A. rufa*, or rough-leaved christopher, has a shabby climbing stem, subserrate leaves, white flowers, and linear spikes, quadrifid corolla and calyx, more than fifty stamina, and a gibbous berry, without juice. This species is a native of China near Canton, and the Chinese use the rough leaves in polishing, particularly their tin ware. These plants may be propagated by seeds, sown on a shady border soon after they are ripe, and transplanted in the following autumn into a shady border, where they are to be left to flower. Martyn's Miller's Dict. In the Linnæan system, by Gmelin, there are six species.

ACTÆA, in *Entomology*, is a species of **PAPILIO**, with expanded wings, brown above, the anterior marked with two ocelli and two white points, and the hinder marbled beneath. It is found in the southern part of Russia.

ACTÆA Cimicifuga. See **CIMICIFUGA**.

ACTÆA, in *Ancient Geography*, a name formerly given to **ATTICA**. Pliny (l. 4. c. 7.) says it was also called *Adæ*. Pausan. Attic. cap. xi.

ACTÆON, in *Fabulous History*, the son of Aristæus and Autonoe, and grandson of Cadmus. Whilst he was pursuing his favourite exercise of hunting, he is said to have looked on Diana, when she was bathing, to have been transformed by her into a stag, and devoured by his own dogs. The moral of the fable is applied to those who ruin themselves by keeping packs of dogs, or by too curious researches into nature.

ACTÆON is also the name of one of the horses that drew the chariot of the sun, in the fall of Phaeton. Actæon formed of *ακτω*, a ray of the sun, signifies luminous, and takes its name from the splendour of the sun.

ACTÆON, in *Natural History*, a species of **SCARABÆUS**, or **BEEBLE**, called by Swammerdam *rhinoceros*; the *enema* of Margrave; with a smooth body, bicorn thorax, the horn of the head unidentate, with a bifid apex, and smooth elytræ; the horns of the thorax are turned forward, and are conic. It is found in America, and is the largest of all known insects, except the cancer and monoculus.

ACTÆON is also a species of **PAPILIO**, with tricaudated bluish wings, black at the apex, and gold-coloured beneath, with very small black spots.

ACTANIA, in *Ancient Geography*, an island mentioned by Pliny (H. N. tom. i. p. 221.) in the North Sea. It is situated to the west of Holstein and Ditmarsch, not far from the mouth of the Eyder and Elbe; and is now called *Heyligland*.

ACTE, *ακτε*, denoted a peninsula. It was also a name given to the sea-coasts about Mount Athos, in which were six towns mentioned by Thucydides, lib. iv. p. 302. Ed. Dukeri.

ACTE, in *Botany*, the *ELDER-tree*.

ACTIAN Games, *Ludi Aëtiaci*, in *Antiquity*, solemn games instituted, or, according to some, only restored by Augustus in memory of his victory over Mark Anthony at **ACTIUM**. Stephanus (tom. i. p. 56.) and some others maintain, that they were held every third year; but the more common opinion is that of Strabo, who says (Geog. tom. i. p. 501.) that they only returned every fifth year, and were celebrated in honour of Apollo, since surnamed *Aëlius*. By the way it is a great mistake in some authors to imagine, that Virgil insinuates their having been instituted by Æneas, from that passage, *Æn. iii. 280*.

"*Actiaque Iliacis celebramus littora ludis.*"

It is true the poet alludes to the Actian games; but he only does it by way of compliment to Augustus, to attribute that to the hero from whom he descended, which was done by the emperor himself, as Servius has observed *in loc.*

Hence *Actian years* were a series of years, commencing from the æra of the battle of Actium; called the æra of Augustus. See **EPÖCHA**.

ACTIAR, in *Geography*, a town near Bactisaria, lying on the western side of the peninsula of Chersonesus Taurica, which, in consequence of the convention of 1783 between the late Empress Catharine of Russia, and the Grand Signior, and the cession of territories by the Turks, was declared a free port, and denominated **SEBASTOPOLIS**.

ACTINE, in *Botany*, a name of the herb **BUNIAS**, or **NAPUS**.

ACTINE, in *Ancient Geography*, a town of the Thracian Bosphorus.

ACTINIA, in *Zoology*, a genus of the *mollusca* order of worms, the characters of which are, that the body is rough or wrinkled, furnished with eccentric cirri, and with a single terminal aperture, and that it attaches itself by its base to rocks and other substances among which it is found. Of this genus Gmelin, in his edition of the Linnæan system, enumerates twenty-three species, which are as follow, viz. 1. *A. rufa*, of a reddish colour, with a roseaceous foramen and whitish cirri. This is the *urtica marina libera* of Aristotle, the *urtica parva* of other authors, the first species of Hill's *Medusa*, and of Dicquemarre's *anemone*. It is found in various parts of the ocean and of the Mediterranean Sea, adhering to rocks; of a variable form, sometimes cylindric; or globular, or conical, and in some rare instances of a changeable colour: its cirri are whitish, slender, flexible and very moveable, shorter than the diameter of the body and truncated at the apex. 2. *A. crassicornis*, of a red colour, with conically extended cirri, found in the Atlantic, Mediterranean, Northern, and Icy Seas. This is the second species of Dicquemarre's *anemone*, the *priapus ruber*, and the *urtica rubra* of other authors. 3. *A. plumosa*, with small tentacula and a ciliated margin. This is Dicquemarre's fourth species of *anemone*, and called *kettuperak* by the Greenlanders. It is found in the European Ocean, and exhibits a variety of beautiful colours. 4. *A. judaica*, cylindric, smooth and truncated; found in the Mediterranean Sea, and called by the inhabitants of Languedoc *postrol*. 5. *A. effoeta*, sub-cylindric and angularly striated; found in the ocean. 6. *A. coccinea*, varied with white and red, with cylindric annulated cirri; found rarely in the bays of Norway. 7. *A. undata*, conic and whitish, with duplicate wrinkled yellow striæ; found adhering to fuci and milleporæ, in the bay of Christianfand in Norway. 8. *A. viduata*, of a grey colour, with longitudinal ridges, and white cirri; the *urtica cinerea* of Rondeletius, sometimes found in the fucus saccharinus in the Norwegian Sea. 9. *A. truncata* of a reddish yellow colour, conical, smooth, and pellucid; the third species of Dicquemarre's *anemone*. 10. *A. nodosa*, wrinkled and furrowed, enlarged at the ends, with short compressed crimson-coloured cirri; found on the rocks of the Greenland Sea. 11. *A. spectabilis*, smooth and sky-coloured, with thick cirri spotted with white and a radiated foramen; frequent in the caverns of rocks on the shores of Greenland. 12. *A. digitata*, yellow, with white points and reddish cirri, lodged in the fissures of rocks on the shores of the Northern Ocean. 13. *A. gigantea*, cinereous and greenish, with a folded fringe much wider than the body, and greenish papilliform tentacula; found on the shores of the Red Sea, hiding itself in the sandy clay. 14. *A. alba*, gelatinous, white and greenish, with

with small papilliform oblong tentacula; found adhering to stones on the shores of the Red Sea. 15. *A. viridis*, green and brown, with tentacula of the length of its own diameter; found attached to submarine stones at Alexandria in Egypt, and called by the Arabs *karafa*. 16. *A. priapus*, with a cylindric body, dilated at the base, and spotted tentacula; found adhering to testaceous fish in the Red Sea, near the city Ghomfoda. 17. *A. candida*, smooth with a wrinkled foramen, and flexuous bristly tentacula; ranged on the upper margin. 18. *A. bicornis*, smooth, of an hemispheric oval figure. 19. *A. volva*, with a cylindric body plane above, and six appendices to the orifice; found, as well as the two former species, in the Northern Ocean. 20. *A. caryophyllus*, red and brown, with small penciliform tentacula; found in the British Sea. 21. *A. iris*, with body and tentacula obtuse and cylindric, the exterior red, the interior bluish, and the centre red. 22. *A. fucella*, with longitudinal ridges transversely striated, and cylindric obtuse annulated tentacula; found, as well as the former species, in the Norwegian Sea. 23. *A. pusilla*, elliptic and smooth, with a double order of rays, the exterior of which are black at the apex, about the size of a large pea; found in the ocean about the 57th degree of latitude.

The *actinia fulcata* of Pennant, and *cereus* of Solander and Ellis, which some suppose to be a variety of the *A. undata*, is the *HYDRA cereus* in the Linnæan system by Gmelin. Pennant describes it as having a body marked with trifurcated fulci, and summit surrounded with long slender tentacula, from 120 to 200 in number; the colour of the body is pale chestnut, and of the tentacula a sea-green varied with purple; it is found on the rocks of the Cornish and Anglesea seas. The *A. pedunculata* of Pennant, or *A. bellis* of Solander and Ellis, is the *HYDRA bellis* of the Linnæan system. According to the description of Pennant, it has a long cylindric stalk, expanding at top and tuberculated: the tentacula are disposed in several ranges, short, and when open form a radiated angular circumference, like a beautiful flower, with a smooth polygonal disc; the colour of the stalk is a fine red, and that of the tentacula varied with several colours. This species, he says, is retractile, and inhabits Cornwall. The *A. verrucosa* of this author, or *A. gemmacea* of Solander and Ellis, is the *HYDRA gemmacea* of Gmelin's Linnæan system. According to Pennant, it has a long cylindric stalk, and is marked with elegant small tubercles, disposed in straight lines from top to bottom; the circumference of the mouth is striated, surrounded with short petals, like those of the sun flower, and those again with white tentacula, barred with brown. When drawn in, it assumes the form of a bell; and the lines of the tubercles converge to the centre of the summit. Its body is a pale red: it inhabits Cornwall. The *A. pentapetala*, or cinquefoil of Pennant, is the *A. dianthus* of Ellis, with a circular contracted mouth; the disc divided into five lobes, covered with several series of short subulated tentacula, the stalk short and thick; when contracted it assumes the form of a long white fig; it inhabits the rocks near Hastings, Sussex. The *A. hemispherica*, or button of Pennant, is the *A. mesembryanthemum* of Solander and Ellis, and the *HYDRA mesembryanthemum* of the Linnæan system. It has a smooth short thick stalk; the edge of the disc surrounded with a single row of tubercles, the tentacula numerous and slender; the colour a dull crimson; the body retractile, and flinging itself into the form of a conoid button. It inhabits most of our rocky shores. Pennant's Zoology, vol. iv. p. 49, &c. The actinia have only one aperture both for the mouth and anus; they feed on shell

and other small fish and marine animalcules, and are themselves eatable: as they sometimes retract and sometimes extend their tentacula, in different degrees, their form is very variable; the parts that are cut off are renewed; they are acutely sensible of light, and most of them are viviparous. For a farther account of these animals, see ANEMONE, ANIMAL FLOWER, and URTICA marina. See also HOTO-THURIA and HYDRA.

ACTINOLITE, in Mineralogy. See STRAHLSTEIN.

ACTION, in a general sense, denotes the operation or exertion of an active power, and is synonymous with ACT. Grammarians, however, introduce some subtle distinctions between these two terms; restricting the former to ordinary transactions, and the latter to those which are more signal. The former, say others, relates chiefly to the person that acts, and the latter to the effects produced; and neither are considered as the attribute of the other: e.g. "Preserve presence of mind in all your actions; and take care that they be all acts of equity." Some schoolmen attempt to express the nature of action by a manifestation of the power or energy of a substance, made either within or without it.—Accordingly it is controverted among them, whether or not action, thus taken, be a thing distinct both from the agent, and the term or effect. The *modifis* stand for the affirmative, and the *nominalis* assert the negative. These latter observe, that the action may be considered two ways, *entitatively* and *connotatively*. In the former sense it is what we call a CAUSE, or what may act: and in the latter, it is the same cause, only considered as acting, or connoting the effect it produces.

Actions are divided with respect to their principle, into UNIVOCAL, where the effect is of the same kind with the cause; as the production of man by man; and EQUIVOCAL, where it is different, as the supposed production of frogs by the sun:—and again into VITAL; as nutrition, respiration, the action of the heart, &c. and NOT-VITAL, as heating.

With respect to their subject, actions are divided into INMANENT; which are received within the agent that produced them; as are vital actions, cogitation, &c. and TRANSCIENT, which pass into another, as a father loves his son, and feeds and clothes him, &c. Actions are also natural, as fire hardens clay; supernatural, as raising the dead; voluntary, as the potter's moulding his clay; and accidental, as a person's heedlessly dropping a glass and breaking it; necessary, as the sun warms the earth; and free, when a person chuses what food he likes, and eats it when he pleases. See LIBERTY and NECESSITY.

In respect of duration, actions are again divided into INSTANTANEOUS, where the whole effect is produced in the same moment, as the creation of light; and SUCCESSIVE, where the effect is produced by degrees; as corruption, fermentation, putrefaction, dissolution, &c.

ACTION, in Physiology, is applied to the actions or functions of the body, which are divided into the vital, natural, and animal. The vital are such as are essential to the subsistence of the individual; such are the motions of the heart and lungs, the secretion of spirits in the cerebellum, on which the motions of the heart and lungs depend; and the circulation of the blood and fluids in their proper vessels. Pulsion and respiration are the external signs of life.

The natural actions are such as are necessary to the continuance of the animal, but not so immediately, but that it may subsist some time under a suspension of them; as the digestion of the aliment, and its conversion into blood.

Under animal actions are comprehended those which constitute the senses of touch, taste, smell, vision, hearing, perception, imagination, memory, judgment, ratiocination,

affections of the mind, and voluntary motion; which are not absolutely necessary to the life of the animal, but conducive to its comfortable existence.

In the year 1752, Dr. White published an ingenious performance, under the title of an *Essay on the vital and other voluntary Motions of Animals*, 8vo.; and in the same year Dr. Simpson also published a book on *Vital and Animal Actions*, 8vo.

ACTION, in *Mechanics*, denotes either the effort which one body or power exerts against another, or the effect resulting from such effort: or more accurately, the motion which a body really produces, or tends to produce, in another. The action of a body becomes apparent only by its motion; and we cannot affix any precise idea to the term action than that either of actual motion, or a simple tendency to motion. Leibnitz and his disciples, for want of duly attending to the proper and discriminating idea of the word action, have perplexed themselves and others with unprofitable and indecisive disputes concerning *vis viva*, and *vis mortua*. See **FORCE**.

The Cartesians resolve all physical action into metaphysical. According to them, bodies do not act upon one another; but the action proceeds immediately from the Deity: the motions of bodies, which seem to be the cause, being only the occasions of it. See *Occasional Cause*. Action is either instantaneous or continued; that is, either by percussion, or by pressure. These two sorts of action are heterogeneous quantities, and are not capable of mutual comparison any more than a line can be compared with a surface, or a surface with a solid. The least degree of percussion may be made to overcome the pressure of the greatest weight. These actions, therefore, cannot be measured one by the other; but each of them must have a measure of its own kind, as solids are measured by solids, and surfaces by surfaces; because time is concerned in the one, but not in the other.

It is one of the laws of nature, that action and re-action, are always equal, and contrary to each other.

If a body be urged by equal and contrary actions, it will remain at rest. But if one of these actions be greater than its opposite, motion will ensue towards the parts least urged.

It is to be observed, that the actions of bodies on each other, in a space that is carried uniformly forward, are the same as if the space were at rest; and any powers or forces that act upon all bodies, so as to produce equal velocities in them in the same, or in parallel right lines, have no effect on the mutual actions, or relative motions. Thus the motions of bodies on board a ship, that is carried steadily and uniformly forward, are performed in the same manner as if the ship were at rest. The motion of the earth round its axis has no effect on the actions of bodies and agents at its surface, except so far as it is not uniform and rectilinear. In general, the actions of bodies upon each other depend not upon their **ABSOLUTE**, but **RELATIVE** motion.

For the actions of powers, see **FRICTION**, **FORCE**, **MECHANICS**, **MOTION**, **POWER**, and **RESISTANCE**. For the laws of the action of fluids, &c. see **FLUID**, and *Specific Gravity*.

ACTION, *quantity of*, in *Mechanics*, an expression used by M. de Maupertuis, in the Mem. of the Acad. of Sciences of Paris for 1744, and in those of Berlin, for 1746, to denote the continual product of the mass of a body, by the space through which it runs, and by its celerity. He lays it down as a general principle, that, "whenever any changes happen in nature, the quantity of action necessary to produce this change is always the least possible." And this, he says,

is a law indicating the highest wisdom. This principle he applies to the investigation of the laws of **REFRACTION**, the laws of the collision of hard and elastic bodies, and even the laws of rest, as he calls them, that is of the equilibrium or equipollency of pressures; and, thus investigating the laws of motion, referring these and the laws of equilibrium to the same principle, and connecting the metaphysical consideration of final causes with the fundamental doctrines of mechanics, he deduces what he conceives to be a stronger proof of the existence of a Deity, or of a first intelligent cause, than the other arguments commonly alledged, and derived from the order of nature.

It may be observed, however, that the *quantity of action*, according to the definition of M. de Maupertuis, is in reality the same with the product of the mass into the square of the celerity, when the space passed over is equal to that by which the celerity is measured; and therefore the force or quantity of motion will be proportional to the mass multiplied by the square of the velocity; since the space is measured by the velocity continued for a certain time.

In the same year that Maupertuis communicated his principle, Professor Euler also demonstrated, in the supplement to a treatise intitled *Methodus inveniendi Lineas curvas maximi vel minimi proprietate gaudentes*; that in the trajectories described by bodies urged by central forces, the velocity multiplied by what the foreign mathematicians call the element of the curve, is always a *minimum*; which Maupertuis considered as an application of his principle to the motion of the planets. For the manner in which this principle of a *minimum* may be deduced from the Newtonian theory of refraction; see **REFRACTION**.

ACTION, in *Ethics*, or **moral ACTION**, is a voluntary motion of a creature capable of distinguishing good and evil; whose effect, therefore, may be justly imputed to the agent.

A *moral action* may be more fully defined to be whatever a man, considered as endued with the powers of understanding and willing, with respect to the end he ought to aim at, and the rule he is to regard in acting, resolves, thinks, does, or even omits to do; in such a manner as to become accountable for what is thus done or omitted, and the consequences thereof.

In the strict philosophical sense, says Dr. Reid (*Essays on the Active Powers of Man*, p. 97) nothing can be called the action of a man, but what he previously conceived, and willed or determined to do. In morals the word is commonly employed in this sense, nor is any thing imputed to a man as his doing, in which his will was not interposed.

The foundation, then, of the morality of actions is, that they are done knowingly and voluntarily: and all moral actions may be divided, with respect to the rule, into **GOOD** and **EVIL**.

But when moral imputation is not concerned, many things are called the actions of a man, which he previously neither conceived nor willed. Hence the actions of men have been distinguished into three classes, the voluntary, the involuntary, and the mixed. By the last are meant such actions as are under the command of the will, but are commonly performed without any interposition of the will. See **ACTIVE POWER**, **MOTIVE**, **PRINCIPLES of Action**, and **VIRTUE**.

ACTION, in *Oratory*, is an accommodation of the person of the orator to his subject; or, a management of the countenance, voice, and gesture, suited to the matter spoken or delivered.

Action makes one of the greatest branches or divisions of rhetoric. The ancients usually call it **PRONUNCIATION**.

Action

Action is a collateral or secondary method of expressing our ideas; and is susceptible of a kind of eloquence as well as the primary. In the infancy of LANGUAGE, when words were few, or not easily connected, men would naturally recur to action for explaining and expressing their conceptions; and they would labour to make themselves understood, by varying their tones of voice, and accompanying their tones with the most significant gesticulations. At this day, when persons speak in a language which they possess imperfectly, they have recourse to all these supplemental methods, in order to render themselves more intelligible. Besides, in the gradual improvement and extension of language, a warm imagination would introduce into discourse a variety of tones, and a considerable degree of action. Thus Dr. Warburton accounts for so much speaking by action, as we find among the Old Testament prophets. Among the northern American tribes certain motions and actions are adopted in order to explain their meaning on all great occasions of intercourse with one another. The Chinese find it more easy to express different ideas by a variety of tones than to contrive words for all their ideas. The Greek and Roman languages also were pronounced with more numerous inflexions of voice, and more animated gestures than any to which we are accustomed. Accordingly we find, that action was treated of by all the ancient critics, as the chief quality in every public speaker; and the orators and players of Greece and Rome were distinguished by the vehemence of their action. This is, in all cases, an address to the external senses; which it endeavours to move, and bring into its party by well-concerted motion and modulation; at the same time that the reason and understanding are attacked by force of argument. Accordingly, Tully very pertinently calls it *sermo corporis*, the discourse of the body; and *corporis eloquentia*, the eloquence of the body.—The Roman mimes and pantomimes, we read, had such a compass even of mute action, that voice and language seemed useless to them: they could make themselves understood to people of all nations; and Roscius, the comedian, is particularly famed, as being able to express any sentence by his gestures, as significantly and variously as Cicero with all his oratory. Quintilian gives us a system of the rules of action; taken not only from the writings of the ancient orators, but from the best examples of the forum.

What we usually attribute to eloquence, was really the effect of the action only, as some of the greatest masters in that way have frankly acknowledged.—Demosthenes expressly calls it, ‘the beginning, the middle, and the end of the orator’s office;’ and Cicero professes, that it is not of so much importance what the orator says, as how he says it.’

The Greeks, who were attentive to multiply the means of influencing the passions, omitted nothing which might bring to perfection this first language of Nature. Poetry and music were always supported by the action of the performers. This action, which was acquired by a kind of dance that regulated the motions and different inflexions of the body, animated the discourses of their orators, and sometimes the lessons of their philosophers. See Plut. in Demosth. tom. i. p. 851. Ed. Xyland. Id. in x. Rhet. Vit. tom. ii. p. 845. Plato de leg. l. vii. tom. ii. p. 816. Ed. Serrani. Athen. Deipn. l. i. c. 17. p. 21. Ed. Cafaub.

After all, it is a point that will bear being controverted, whether action ought to be practised and encouraged at all? A thing that has so much command over mankind, it is certain, must be very dangerous; since it is capable of being turned to our disadvantage as well as to our advantage. It is putting a weapon in the hands of another, which, if he

pleases, he may make use of to subdue and enslave us: and accordingly, history is full of the pernicious uses made of it.—For this reason, eloquence and action have been unduly discouraged by modern policy; and both the bar and the pulpit have been brought to a more frigid way of delivery.

But this is an extreme, which no objection founded on the abuse of eloquence accompanied with action, and no apprehension of its pernicious effects, can justify. The benefits accruing from it amply counterbalance the mischief which it is capable of producing.

Perhaps the foundation of all action may be vicious and immoral.—Voice and gesture, we know, will affect brutes; not as they have reason, but as they have passions; so far as these are used in a discourse, therefore, it does not regard an assembly of men more than it would a herd of quadrupeds: that is, their whole effort is spent, not on the rational faculties, which are out of the question, but on the animal ones, which alone they endeavour to possess and actuate, independently of reason.—Nay more, our reason, and the judgment itself, are intended to be biassed and inclined by them; action being only used as an indirect way of coming at the reason, where a direct and immediate one was wanting; i. e. where the judgment cannot be taken by the proper means, argument, it is to be taken indirectly by circuit and stratagem.

The natural order of things, then, is here inverted; our reason, which should go before and direct our passions, is dragged after them: instead of coolly considering, and taking cognizance of things; and according to what we perceive therein, raising ourselves to the passions of grief, indignation, or the like, we are attacked the other way; the impression is to be carried backwards, by virtue of the natural connection there is between the reason and the passions: and thus the helm, the principle of our actions, is taken out of our own hand and given to another. See PASSION.

The case is much the same here as in sensation and imagination: the natural and regular way of arriving at the knowledge of objects is by sense; an impression begun there is transmitted to the imagination, where the image is produced, similar to that which first struck on the organ.—But the process is sometimes inverted: in hypochondriac, lunatic, and other delirious cases, the image is first excited in the imagination; and the impression thereof communicated back to the organs of sense: by which means objects are seen which have no existence.

Upon the whole, action does not tend to give the mind any information about the subject that is discussed; nor is it designed to convey any arguments or ideas which the simple use of language would not convey. But is it not that upon which we should form our judgments? And can any thing help us to form a just judgment, beside that which in some way or other enlightens and convinces our understanding? When Cicero made Cæsar tremble, turn pale, and let fall his papers, he did not apprise him of any new guilt which Cæsar did not know of: the effect had no dependence on Cæsar’s understanding; nor was it any thing more than might have been produced by the unmeaning sounds of a musical instrument duly applied. However, action may be useful in awakening and fixing the attention, provided that it be accompanied with suitable argument and address. As there is no nation, nor hardly any person, so phlegmatic and destitute of feeling, as not to accompany their words with some actions and gesticulations, whenever they are much in earnest, it would be unnatural in a public speaker, and inconsistent with that earnestness and ardour which he ought to manifest in all affairs of moment, to re-

main quite unmoved in his outward appearance: and to let the words drop from his mouth without any expression of meaning, or warmth in his gestures. There is a coldness of delivery as well as of composition, which should be studiously avoided. Action, properly conducted, gives to the speaker in the senate, at the bar, and in the pulpit, very great advantage in enforcing his argument and impressing an audience. See *GESTURE*.

ACTION, in a *dramatical* sense, is nearly the same with that among orators, with this difference, that the actor adapts his action to an assumed character, whereas the orator is supposed, in reality, to feel the passion which his action expresses, whether joy, or grief, &c. See *DECLAMATION*.

ACTION, in *Poetry*, is an event, either real or imaginary, which makes the subject of an epic or dramatic poem. This, says Aristotle (*De Poet.* cap. vi. p. 657,) is the soul of tragedy. The action of a poem coincides nearly with the fable thereof; it being the usual practice not to take any real transaction of history, but to feign or invent one; or at least to alter the historical fact, so as to render it in a good measure fictitious. Critics consider the principal action, commonly called the *FABLE*, and the incidental action or *EPISODE*.

F. Bossu has two chapters, *Of real action*, the recitals whereof are fables: and *Of feigned actions*, the recitals whereof are historical.

The critics lay down four qualifications as necessary to the epic and tragic action: the first, *UNITY*; the second, *INTEGRITY*; the third, *IMPORTANCE*; and the fourth, *DURATION*; to which some add a fifth, viz. *CONTINUITY*. Dr. Blair specifies three properties, which are essential to the action or subject of an epic poem. It must be *one*, *great* and *interesting*.

Aristotle insists upon unity, as essential to epic poetry; and he observes, that, in order to render this unity more sensible to the imagination, and thus to give it a better effect, it is not sufficient for the poet to confine himself to the actions of one man, or to those which happened during a certain period of time; but the unity must lie in the subject itself, and arise from all the parts combining into one whole. This unity of action is sufficiently apparent in all the great epic poems. Thus, Virgil has chosen for his subject the establishment of Æneas in Italy, which he keeps constantly in view, and which serves to connect all the parts. The unity of the *Odyssey* is of the same nature; the return and re-establishment of Ulysses in his own country. The subject of Tasso is the recovery of Jerusalem from the Infidels; that of Milton, the expulsion of our first parents from paradise; and both of them are unexceptionable in the unity of the story. The anger of Achilles, with its consequences, is the professed subject of the *Iliad*; but, as Achilles is in many books of the poem kept out of sight, and the fancy terminates on no other object than the success of the two armies that are seen contending in war, the unity is not so sensible to the imagination as in the *Æneid*. This unity of the epic action does not exclude all *EPISODES*, or subordinate actions. Moreover, the unity of the epic action necessarily supposes, that the action be entire and complete; or, as Aristotle expresses it, that it should have a beginning, middle, and end.—If the three parts of a whole seem to be generally denoted by the words, *beginning*, *middle*, and *end*, Bossu interprets them more expressly, thus: the causes and designs of a man's doing an action are the beginning; the effects of those causes, and the difficulties occurring in the execution of those designs, are the middle of it; and the unravelling and extricating of those difficulties, are the end of the action.

The poet, says Bossu, should so begin his action, that, on one hand, nothing should be farther wanting for the understanding of what he afterwards delivers; and, on the other, that what thus begins require after it a necessary consequence. The end is to be conducted after the like manner, only with the two conditions transposed, so that nothing be expected after it; and that what ends the poem be a necessary consequence of something that went before it. Lastly, the beginning is to be joined to the end by a middle, which is the effect of something that went before it, and the cause of what follows.

In the causes of an action, one may observe two opposite designs; the first and principal is that of the hero; the second comprehends all the designs of those who oppose the pretensions of the hero. These opposite causes do all produce opposite effects, viz. the endeavours of the hero to accomplish his design, and the endeavours of those who are against it.—As the causes and designs are the beginning of the action, so those contrary endeavours are the middle of it, and form a difficulty, plot, or intrigue, which makes the greatest part of the poem; and the solution or clearing up of this difficulty makes the unravelling.

The unravelling of the plot, or intrigue, may happen two ways; either with a discovery or without.

The several effects which the unravelling produces, and the different states to which it reduces the persons, divide the action into so many kinds.—If it change the fortune of the principal person, it is said to be with a *peripetia*; and the action is denominated *implex*, or mixed; if there be no *peripetia*, but the unravelling be a mere passing from trouble to repose, the action is simple. It has been debated among critics, whether the close of the action in an epic poem should be always prosperous or not? The general opinion and the general practice are on the side of a prosperous conclusion. But there are some exceptions. Lucan and Milton, two authors of great note, have pursued a contrary course: the one concluding with the subversion of the Roman liberty; the other with the expulsion of man from paradise.

Another property of the epic action is, that it be great, or sufficiently splendid and important both to fix our attention, and to justify the magnificent apparatus which the poet bestows upon it. One circumstance that contributes to the grandeur of the action is, that it be not of a modern date. Antiquity is favourable to those high ideas, which epic poetry is designed to excite and cherish. Lucan and Voltaire have, in the choice of their subjects, transgressed this rule. As the action is rendered important, says Bossu, by giving a higher idea of the personages that are introduced than any the readers can conceive from comparing them with those of the present time, and where heroism, says Dr. Blair, is the ground-work, and where the object in view is to excite admiration, ancient or traditionary history is certainly the safest region. The distance of the period, or the remoteness of the scene, affords sufficient licence for fiction and invention. The importance of the action much depends on the dignity and importance of the persons concerned in it. Thus, the fame of Homer's heroes, and the consequences of their dissension, furnish a subject important in itself, and particularly important to his countrymen, who valued themselves on their descent from these heroes. The importance of the action itself should also be regarded. In this respect, the subject of the *Æneid* is greater than that of the *Iliad*, as it is the foundation of the most powerful empire that ever was established on the globe: which is an event of much greater moment than the destruction of a city, or the anger of a warrior. But in comparison of the greatness displayed in *Paradise Lost*, all other greatness
says

says Dr. Johnson, in his *Life of Milton*, shrinks away. The subject of the English poet is not the destruction of a city, the conduct of a colony, or the foundation of an empire: it is the fate of worlds; the revolutions of heaven and earth; rebellion against the Supreme King, raised by the highest order of created beings; the overthrow of their host, and the punishment of their crime; the creation of a new race of reasonable creatures; their original happiness and innocence, their forfeiture of immortality, and their restoration to hope and peace.

Another property required in the action of an epic poem is, that it be interesting. The subject should interest the public; and therefore the poet should select for his hero, one who is the founder, or deliverer, or favourite of his nation; and he should direct the attention to achievements that have been highly celebrated, or that have been connected with important consequences to the public cause. But more than this, in the management of his subject, he should contrive to interest not one age or country, but all readers, by concerting his plan so as to comprehend many affecting incidents. He may sometimes be awful and august; he must often be tender and pathetic; and he must give us many pleasing scenes of love, friendship, and affection: the more an epic poem abounds with situations which awaken the feelings of humanity, the more interesting it is; and these form, always, the favourite passages of the work. No epic poets have been so happy in this respect as Virgil and Tasso. It is needless to mention, that the subject of the *Paradise Lost* is more universally interesting than that of any other poem. The character of the heroes serves also, as we have already observed, to render the action interesting.

As to the duration of the epic action, Aristotle observes (*De Poet. cap. v. p. 656.*) it is not so limited as that of the tragic action: the latter is confined to a natural day; but the epopee, according to that critic, has no fixed time.—In effect, tragedy being full of passion, and consequently of violence, which cannot be supposed to last long, requires a shorter time; and the epic poem, being for the habits which proceed more slowly, requires a longer time, either for them to take hold, or to be rooted up; and hence the difference between the epic and dramatic action in point of duration. Boffu lays it down as a rule, that the more vehement the manners of the principal personages are, the less time ought the action to last: accordingly, the action of the *Iliad*, which is formed upon the wrath of Achilles, &c. lasts no longer than forty-seven days; whereas that of the *Odyssey*, where prudence is the reigning quality, computed from the taking of Troy to the peace of Ithaca, extends to eight years and a half; and that of the *Æneid*, where the prevailing character of the hero is piety and mildness, computed from the taking of Troy to the death of Turnus, includes about six years.

But if we estimate the period only of the poet's own narration, or compute from the time in which the hero makes his first appearance till the conclusion, the duration of both these last poems is brought within a much smaller compass. The *Odyssey*, beginning with Ulysses in the island of Calypso, comprehends fifty-eight days only; and the *Æneid*, beginning with the storm, which throws Æneas upon the coast of Africa, is reckoned to include, at the most, a year and some months. See Blair's *Lect. on Rhetoric*, &c. vol. iii. p. 211—221.

ACTION is also used in *Painting and Sculpture* for the posture of a figure, or the attitude it is supposed to be in; expressed by the position of several parts of the body, or by the passions appearing in the face. Thus we say, the action of such a figure finely expresses the passions by which it is

agitated. The same expression is applied to animals. When the word *action* is used by way of distinction from *attitude*, it may have respect to the figure's being represented in motion, as running, jumping, striking, falling, &c. which the painter distinguishes from such as are at rest, by removing from the centre the imaginary line of gravity used in balancing his figures to some distance, before, behind, or on one side, according to the degree of motion which he means to express. It is evident, that if a man be running, and we view him sideways, his head and chest will be thrown as much before his feet, as immediately to suggest the idea of his falling on his face, unless the hinder leg be quickly brought forward to prevent it. See ATTITUDE and GRAVITY.

M. Watelet, after observing that, however terms may resemble one another in signification, there are none which are perfectly synonymous, proceeds to ascertain the difference between *action*, *motion*, and *expression*, as applied to painting or sculpture. To this purpose he remarks, that there are passions, or rather sensations, which, though they immediately produce neither action nor motion, have their characteristic expressions. Of this kind are dejection, voluptuousness, and melancholy; the expression of which, being passive, arrest motion, and suspend action in those who are under their influence. On the other hand, figures that are engaged in any violent bodily exertion may be said to have motion and action; though they are not affected by those passions, to the external tokens of which the term expression is peculiarly adapted.

Action, he farther observes, requires a motion of some parts of a figure, without supposing that the whole changes its place, which is the idea suggested by the term motion. These distinctions are illustrated by appropriate examples. He supposes a picture of what is commonly called the judgment of Solomon, in which the monarch is represented seated on his throne, and extending his arm to command the division of the infant. Such a figure, even though the face were concealed, ought, in consequence of this gesture, to be said to have action; and yet it could not with equal accuracy be affirmed to have motion. Again: suppose a woman represented as rushing forward to separate two combatants, every part of her appears to concur towards the precipitance of her course, and is drawn in that position which is requisite to the immediate effect of her intention; so that the beholders are ready to imagine that they see her change her place: such a figure may be more properly said to have motion than action. Watelet's and Leveque's *Dict. des Arts de Peinture, Sculpture et Gravure*, art. *Action*.

ACTION of the Mouth, in the *Manege*, denotes the agitation of a horse's tongue, and mandible, or his champing on the bit; which produces a white foam.—This, with the riding-masters, is esteemed not only a sign of health, vigour, and mettle; but also of a sensible mouth.—This action is likewise supposed productive of a good mouth, whence various means are made use of to keep a horse constantly champing. Some persons put a large bit with several detached moveable parts, called a slaving-bit, into his mouth two hours before riding, and then turning his tail to the manger fasten him between the stall-posts; others make use of a similar bit in common, and most persons use it for his watering exercise.—There can be no doubt that this action tends to keep the mouth sensible and alive, as it is termed, especially when accompanied with a judicious bridle-hand upon a horse: but it must be recollected that the bars of a horse's mouth are covered with cuticle or epidermis, which is the outer insensible skin of other parts, the nature of which

which is to thicken upon pressure; therefore the flaverings but put on so long before riding, though it may give temporary sensibility, must conduce to permanent lardaceous.

ACTION, in the *Military Art*, is an ENGAGEMENT between two armies, or between different bodies of troops belonging to them. Although humanity and sound policy will induce the general of an army to avoid an action, when no considerable benefit is likely to accrue from it, yet there are certain circumstances that will direct him in the alternative either of commencing or avoiding it. Wisdom will suggest the importance of bringing the enemy to an immediate action, when it will serve to prevent the junction of his forces; to discourage the hostile declaration of a neutral power; when any advantage may be obtained by the disunion of his forces; when there is reason for apprehending the inconsistency or actual withdrawal of allies; when desertion, on account of an existing or impending scarcity of money, or of the means of subsistence, is dreaded; when new allies may be thus gained, or those of the enemy may be induced to abandon him; and when a reasonable prospect occurs of securing a present advantage, without risking any loss or injury that shall in the event more than counterbalance it. The commencement of an action, when it is desirable, may be expedited by threatening, or actually besieging a port or place, which is of importance to the enemy; by attempting to relieve and succour a place that is besieged; by ravaging and laying waste the country; by presenting the allurements of booty; by depriving the enemy of forage or water; by exhibiting the appearance of an untenable post, or of a feeble force; and by feigning fear, the diminution of forces, the disorder of retrenchments, or a desertion of part of the army, or prevailing discontent and a disposition to mutiny, or orders not to engage. The motives which will induce a prudent general to avoid to begin an action are such as these; the defect or the distance of his resources, the prospect of fresh supplies, the dread of defection, the augmentation of the enemy's allies, the disadvantage of ground, position, number, &c. want, disease, and desertion in the opposing army, actual negotiations, or positive orders not to hazard an engagement. The means of avoiding an action are the choice of posts and retrenchments, well concerted and well executed stratagems, the devastation of the country through which the hostile army must pursue that which is retreating, and from which it must draw some of its supplies; any movements that would cause a diversion, real or feigned negotiations, report of approaching succour, and the appearance of considerable force. These various circumstances are detailed at large, and illustrated by apposite examples selected from the conduct of the most able commanders, both ancient and modern, in the *Encyclopédie*, vol. x. or vol. i. Art. *Militaire*.
Art. ACTION.

This term is likewise used to signify some memorable act done by an officer, or commander of a body of troops.

ACTION, in *Law*, is a right of demanding, and pursuing in a court of judicature, what is any man's due.

Or, *action* is any kind of **PROCESS** or **SUIT** which a person enters for the recovery of his right. See **CAUSE**.

Actions are divided, by Justinian, into two different kinds: *real*, or those against the thing; and *personal*, or those against the person.—For whoever brings an action, either does it against one obnoxious to him, in respect either of contract or offence; in which case arise actions against the person which require the party to do, or give something; or, he does it against one not obnoxious, yet with whom a controversy is arisen touching some matter; as if Caius hold a field which Julius claims as his property, and brings his

action for the same. See the *Institut. lib. iv. tit. 4.* where the principal actions, introduced by the Roman law, are summarily explained.

In common law, from the two classes of *real* and *personal actions*, arises a third called a *mixed action*; which regards both the *person* and the *thing*.

ACTION, *real*, or, as it is called in the *Mirror*, *feudal action*, is that which concerns real property, whereby the defendant claims title to lands or tenements, rents or commons, in fee-simple, fee-tail, or for life: and these actions are either *ancestral*, or *possessory*. *Ancestral* action is that which we have by some right descending from our ancestor.—*Possessory*, sometimes also called *personal* action, is that which hath its beginning in and from ourselves.

But real actions, formerly so numerous and considerable, as writs of right, of entry, &c. with their appendages as *grand cape*, *petit cape*, receipt, view, aid-prayer, voucher, counter-plea of voucher, counter-plea of warrentry, and recovery of value, are now much out of use; on account of the great nicety required in the management of them, and the inconvenient length of their process: a much more expeditious method of trying titles being since introduced in other actions, *personal* and *mixed*. In a *real* action several lands held by several titles may not be demanded in the same writ; but in *personal* action several wrongs may be comprehended in one writ. A bar is perpetual in the latter actions, and the plaintiff has no remedy, except by writ of error or attain; but, in the former, if the defendant be barred, he may commence an action of a higher nature, and try the same again.

ACTION, *personal*, is that whereby a man claims a debt, or personal duty, or damages in lieu thereof; and likewise, whereby a man claims a satisfaction in damages for some injury done to his person or property. The former is said to be founded on contract; the latter upon *torts* or wrongs. Of the former nature are all actions upon debt or promises; of the latter all actions for trespasses, nuisances, assaults, defamatory words, and the like.

Many *personal* actions die with the person; but *real* actions survive. In all actions merely *personal*, arising *ex delicto*, for wrongs actually done by the defendant, as trespass, battery, and slander, the action dies with the person. But in actions arising *ex contractu*, by breach of promise and the like, though the suits shall abate by the death of the parties, they may be revived by or against the executors who have assets to answer the demand; as they are rather actions against the property than the person.

ACTION, *mixed*, is that laid indifferently for the *thing* detained, or against the *person* of the detainer; being thus called, because it has a mixed respect, both to the *thing*, and to the *person*.

Others better define it, a suit given by law to recover the thing demanded, and damages for the wrong done.

Such is, affize of *novel disseisin*, which, if the disseisor make a feoffment to another, the disseisee shall have against the disseisor, and the feoffee, or other terre-tenant, to recover not only the land but damages also. And the like is action of **WASTE**, *Quare impedit*, &c. See **ASSISE**.

Actions are also divided into **CIVIL** and **CRIMINAL**.

ACTION, *civil*, is that which only tends to the recovery of what, by reason of a contract, or other like cause, is a man's due.—As, if a person by action seek to recover a sum of money formerly lent, &c.

ACTION, *criminal*, is that the object of which is judgment of death, as appeals of death, robbery, &c. or judgment for damage to the party, fine to the king and imprisonment, as appeals of maihem, &c. To this class belongs action *penal*.

ACTION,

ACTION, penal, aims at some penalty upon the party sued, either corporeal or pecuniary.

Such is the *Actio Legis Aquiliæ*, in the *Civil Law*; and with us, the next friends of a man feloniously slain, or wounded, shall pursue the law against the offender, and bring him to condign punishment.

ACTION is also distinguished, as it lies for the recovery either of the simple value of the thing challenged; or of the double, treble, quadruple, &c.

Thus, a *Decies tantum* lies against embracers: and against jurors that take money for their verdict, of either, or both parties.

To this class also belong all actions on a statute that punishes offence by restitution, or fine proportionable to the transgression.

Action, again, is divided into *prejudicial*, called also *preparatory*, and *principal*.

ACTION, prejudicial, is that which arises from some question, or doubt in the *principal* one.

As, if a man sue his younger brother for land descended from his father; and if it be objected, he is a bastard; this point of bastardy must be tried, before the cause can proceed: whence this action is termed *præjudicialis, quia prius judicanda*.

ACTION upon the case, Actio super casum, is a general action, given for the redress of a wrong done any man without force, and not especially provided for by law; in order to have satisfaction for damage.

This, of all actions, is now most in use.—Where there arises an occasion of suit, that has neither fit name, nor certain form already prescribed; the clerks of the chancery, anciently, conceived a proper form of action for the thing in question: which was called an *action upon the case*, by the civilians *Actio in factum*.

This is called an *action on the case*, because the whole cause or *case*, as much as in the declaration (except time and place) is set down in the writ; and there is no other action given in the case, except only where the plaintiff has his choice to bring this or another action. This action lies in a variety of instances; as for words spoken or written, which affect a person's life, reputation, office, or trade, or tend to his loss of preferment, in marriage or service, or to his disinherittance, or which occasion him any particular damage. **Action on the case** likewise lies upon an *ASSUMPSIT*. It lies also, in all instances, wherein no general action could be framed: *e.g.* against CARRIERS, against a common inn-keeper for goods stolen in his house, for deceit in contracts, bargains, and sales, for neglect or malfeasance, for injuries done in commons, for malicious prosecution and false arrests, against sheriffs for default in executing writs, permitting escapes, &c. for conspiracy, nuisances, &c. &c. See Comyns's Digest. art. *Actio*, and Jacob's Law. Dict. by Tomlins, art. **ACTION**.

ACTION upon the statute, Actio super statutum, is a writ of action, brought against a man, upon an offence against a **STATUTE**, whereby an action is given that did not lie before.

Thus, where one commits perjury, to the prejudice of another, he who is damaged shall have a writ upon the statute, and a cause accordingly. Such action is now obsolete.

ACTION, popular, only differs from an action upon the statute, in that, where the statute gives the suit or action to the party grieved, or otherwise to one single person certain, it is called action upon the statute; and where the authority is given by the statute to every one that will so sue, it is an action popular: and from the words used in the process, it is called a *qui tam action*. See INFORMATION.

Action is also divided into *perpetual* and *temporary*.

ACTION, perpetual, is that whose force is not determined by any period or term of time.

Of this kind were all civil actions among the ancient Romans; viz. such as arose from laws, decrees of the senate, and constitutions of the emperors; whereas actions granted by the prætor died within the year.

We have also *perpetual* and *temporary actions* now in England; all being perpetual which are not expressly limited.

Divers statutes give actions, on condition they be pursued within the time prescribed.—Of these statutes the principal are the following, viz. 32 Hen. VIII. cap. 2. 31 Eliz. c. 5. 21 Jac. I. c. 2. c. 16. 10 W. III. c. 14. 27 Geo. III. c. 44. See LIMITATION.

But, as by the civil law no actions were so perpetual, but that by time they might be prescribed against; so, in our law, though action be called perpetual, in comparison of those that are expressly limited by statute; yet is there a means to prescribe against real actions, after five years, by a writ levied, or a recovery suffered. See PRESCRIPTION.

Again, *actions* are either *local*, as ejectment, waste, &c. which must be brought in the county where the land lies; or *transitory*, such as debt, detinue, &c. which may be brought in any county.

By stat. 21 Jac. I. c. 4. all suits on penal statutes shall be laid in the county where the offence was committed. See VENUE.

Action is also *joint* or *several*; *joint*, where several persons are equally concerned, and the one cannot bring an action, or cannot be sued, without the other; *several*, in case of trespass, &c. done, where persons are to be severally charged, and every trespass committed by many is several.

There are also various kinds of *actions* suited to different cases, as *actions* of COVENANT, DEBT, DETINUE, TRESPASS, TROVER, &c.

ACTION, Chose in, see CHOSE in *Action*.

ACTION of a writ, is when a person pleads some matter whereby he shews, that the plaintiff had no just cause to have the writ he brought, though it be possible he might have another writ or action for the same matter.—Such plea is called, a *plea to the action of the writ*.

When by the plea it appears, that the plaintiff has no cause of any action for the thing demanded, it is called a *plea to the action*. See PLEAS.

ACTION, in affairs of *Commerce*, or **ACTION of a COMPANY**, is a part or share in the company's stock or CAPITAL, which consists of a number of such actions.

Actions in France and Holland amount to the same with *shares* or *subscriptions*, in England.

Thus, the capital of a company, which has three hundred actions of a thousand livres each, consists of three hundred thousand livres. Hence a person is said to have four or six actions in such company, if he hath contributed to the capital, and be interested in it for four or six thousand livres.

A proprietor cannot have a deliberate vote in the assemblies of a company, unless he has a certain number of actions, fixed by the letters patent of its establishment; nor can he be a director, unless he has a still greater number of actions. Actions are bought and sold, transferred, &c. much in the same manner as STOCKS are with us.

ACTION also denotes an obligation or instrument, which the directors of such companies deliver to those who pay money into their stock. See BANK and ACTIONARY.

To *met* or *liquidate* an *action*, is to sell, or turn it into money, &c.

To *sue* an *action*, is to pay exactly when they become due.

due, the several sums subscribed to the stock of the company, according to the several orders of council made for the creation of the new actions.

ACTIONARY, or **ACTIONIST**, a term frequent in foreign news-papers; denoting the proprietor of an action or share in the company's stock.

ACTIVE, something that communicates motion or action to another. In this sense, the word stands opposed to *passive*. Thus we say, an *active* cause, *active* principles, &c.

The quantity of motion in the world, Sir Isaac Newton shews, must be always decreasing, in virtue of the *vis inertia*, &c. So that there is a necessity for certain active principles to recruit it: such he takes the cause of gravity to be, and the cause of fermentation: adding, that we see but little motion in the universe, except what is owing to these active principles.

ACTIVE principles, in *Chemistry*, are those which are supposed to act of themselves, and do not need to be put in action by others.

Salt, sulphur, and mercury, have been usually considered by the chemists as active principles; and phlegm and earth as passive ones.

Mr. Homberg, and some chemists after him, only make one active principle, viz. sulphur, or fire; which they take to be the source or principle of all the motion and action of the universe.

The term active principle, says Dr. Quincy, has been used to express certain divisions of matter, that are, by some particular modifications, comparatively active, in respect of others. But the progress of science; and particularly of experimental philosophy and chemistry, has introduced new and more rational ideas on this subject.

In a strict sense, all motion in matter is rather passion; and there is no active principle, unless we thus call the known powers of gravitation, attraction, and repulsion, on which the Newtonian philosophy is founded: so that let bodies exist under what modifications soever, there can be no alteration made of these universal properties.

ACTIVE, in *Grammar*, denotes a word having a signification that serves to explain or denote an action.

Thus we say a verb *active*, a conjugation *active*, &c. or an *active* participle.

ACTIVE Verbs, are such as do not only signify doing, or acting, but have also nouns following them, to be the subjects of the action or impression: and they are thus distinguished from *verbs neuter*.

Thus *to love*, *to teach*, are verbs *active*; because we can say, *to love a thing*, *to teach a man*.

Some grammarians, however, make three kinds of verbs active: the *transitive*, where the action passes into a subject different from the agent; *reflected*, where the action returns upon the agent; and *reciprocal*, where the action turns mutually upon the two agents who produced it. See **VERB**.

ACTIVE Power, in *Metaphysics*, is the power of executing any work of art or labour, in contradistinction to **SPECULATIVE powers**. The exertion of this power is called **ACTION**; and as every action produces some change, so every change must be caused by some exertion, or by the cessation of some exertion of power. That which produces a change by the exertion of its power, we call the *cause* of that change; and the change produced the *effect* of that cause: and that being in which the change is produced is said to be *passive*, or to be acted upon. Thus (says Dr. Reid, *Ess. on the Active Powers of Man*, p. 13.) we see, that action and passion, cause and effect, exertion and operation, have such a relation to *active power*, that if it be understood, they are understood of consequence; but if power be

a word without any meaning, all those words which are related to it, must be words without any meaning. See **POWER**.

ACTIVITY, the power of acting, or the active faculty.

The activity of fire exceeds all imagination.—The activity of an acid, a poison, &c.—Bodies according to Sir Isaac Newton, derive their activity from the principle of **ATTRACTION**.

ACTIVITY of a body, the *sphere of*, is the space which surrounds it, so far as its efficacy or virtue extends to produce any sensible effect.

ACTIUM, in *Ancient Geography*, a small town near a promontory of the same name in the mouth of the Ambra-cian gulph, on the coast of ACARNANIA, and opposite to NICOPOLIS on the other side of the bay. This place was famous for a temple of Apollo, mentioned by Thucydides (l. i. c. 29. p. 24. Ed. Duker), and by Strabo (l. vii. tom. i. p. 500. Ed. Casaub.) thence denominated *Actius*; (Virgil *Æneid*. viii. 704.) and afterwards for the victory obtained by Augustus over Anthony and Cleopatra in a naval battle on the 2d of September, in the year of Rome 723. Nicopolis was built in order to commemorate this victory, and games were instituted called the **ACTIAN games**. There were anciently solemn games at Actium, at which the Lacedæmonians used to preside, mentioned by Strabo, and alluded to by Virgil, *Æn*. iii. 278. The victory at Actium was also celebrated by games instituted at Rome. Sueton. Tib. vi. Dion. Cass. Hist. Rom. lib. li. 19. liii. 1. liv. 19. tom. i. pp. 649—696—749. Ed. Reimari. The **ACTIAN æra** took its rise from the battle of Actium. The promontory is now called *Capo di Figalo*. The medals of Actium were silver, gold, and bronze; and the ordinary type is a flying pegasus.

ACTON, in *Geography*, a village about six miles West of London, where is a well of purging water, noted for the pungency of its salt. Its colour is whitish, its taste is sweetish, with a mixture of the same bitter which is in the *EPSOM water*. Its salt is not quite so soft, and is more calcareous than that of the Epfom water, being more of the nature of the salt of lime: it is however more nitrous than the other. A quantity of it being boiled high, and mixed with a solution of sublimated in pure water, throws down a yellow sediment. It strikes a deep red or purple with the tincture of log-wood in brandy, as is usual with nitrous salts. It does not precipitate silver out of the spirit of nitre, as common salt does; a pint and a half of the water yields forty-eight grains of salt. See Allen's History of Purging waters.

ACTON, a township of Middlesex county in the Massachusetts, containing 853 inhabitants; 24 miles N. W. of Boston.

ACTON Burnel, a village in Shropshire, about three miles from Great Wenlock, where a parliament was held in the reign of Edward I. when the famous act 11 Ed. I. A. D. 1283, called Statute-merchant, was renewed.

ACTOR, in *Antiquity*, was the name of a person who had the superintendence of all the goods of a Roman citizen. He was called "actor bonorum, and actor prædiorum fundorumque."

ACTOR Summarum, was a slave, to whom was committed the office of cash-keeper: and that he was a slave we may infer from the punishment of the cross which Domitian caused to be inflicted on one of these actors. See Sueton. in Domit. c. x. t. 2. p. 1038.

ACTOR, in a general sense, one who performs any act.

ACTOR, among *Civilians*, the proctor or advocate in civil courts or causes: as *actor ecclesiæ* has been sometimes used

used for the advocate of the church; *actor dominicus* for the lord's attorney; *actor vici*, the steward or head bailiff of a village.

ACTOR, in the *Drama*, one who represents some person or character upon the theatre. The drama, in its original, only consisted of a simple chorus, who sung hymns in honour of Bacchus; so that the primitive actors were no more than singers and musicians. Thespis was the first who took upon him to introduce a person, or actor, who was to ease the chorus by reciting the adventures of some of the heroes. Thus came the recitation or declamation in use. Æschylus, finding a single person tiresome, thought to entertain the audience more agreeably by the introduction of a second person, who should converse and conduct dialogues with the first. He likewise dressed his actors more decently than they had been before, and put on them the *BURIN* and the *MASK*. Sophocles, finding the two persons of ÆSCHYLUS too few for the variety of incidents, added a third; and here the Greeks stopped: at least, we seldom find in any of their tragedies above three persons in the same scene. They might probably think it wrong to admit more than three speakers at the same time on the stage; a rule which Horace has expressed in the following verse of his *Art. Poet*:

—“Nec quarta loqui persona laboret.”

In their comedies they took a greater liberty. The moderns have introduced a much greater number of actors upon the stage. This heightens the trouble and distress that should reign there, and makes a diversity, in which the spectator is sure to be interested. Horace speaks of a kind of secondary actors in his time, whose concern it was to imitate the first, and degrade themselves in order to become better foils to their principals. The proper business of these subaltern actors is unknown to us.

The actors wore habits and symbols suited to their respective parts. Kings bore the regal appendages, as the diadem and sceptre; and their garments were long robes of purple and other colours, ornamented with gold. Heroes were often covered with the skin of a lion or tyger, and armed with swords, spears, quivers, and clubs. The age, sex, and condition, of every personage of the drama were almost always indicated by the colours of the dress. The same actors sometimes performed both in tragedy and comedy; but they seldom excelled in both. In order to acquire greater vigour and suppleness of body, they exercised in the palestra; and others, to render their voices more ductile and sonorous, carefully observed a strict regimen. Cicero, *Orat. cap. iv. tom. i. p. 423. Ed. Olivet.* Plato, *de Leg. l. ii. tom. ii. p. 665. Ed. Serrani.*

Besides considerable pay which was given to actors who had acquired great reputation, *e. g.* a talent in two days, (Plutarch in *X Rhet. Vet. tom. ii. p. 348. Ed. Xylandri.*) they enjoyed all the privileges of citizens: and as it was required that they should be free from all the stigmas of infamy, with which the laws punished offences, they arrived at the most honourable employments. A famous actor, named Aristodemus, was sent on an embassy to Philip, king of Macedonia. Others possessed great influence in the public assemblies. Æschylus, Sophocles, and Aristophanes, did not blush to act a part in their own pieces. Athen. *Deipnos. l. i. c. 17. p. 20. c. 18. p. 21. Ed. Casaub.* At Athens, actors were thus highly honoured. But at Rome, they were despised, and degraded from their rank as citizens, expelled from their tribe, and deprived of the right of suffrage by censors. The French have adopted the ideas of the Romans, and the English those of the Greeks.

ACTORS, in *Roman Antiquity*. See **ACCUSATION**.

ACTORICUM, in *Ancient Geography*, a territory of Epirus, according to Suidas, which he says was afterwards called Leucadia, belonging more properly to Acarnania.

ACTORION, or **ACTORIS**, in *Entomology*, two species of *PAPILIO*, found in Surinam; one with tuberculated brown wings; the anterior marked with a yellowish fascia, and the hinder with a blue spot and an ocellum underneath; the other, with wings of an uniform colour, marked with brown and white.

ACTORUM Tabule, were tables instituted by Servius Tullius, in which the births of children were registered. They were kept in the treasury of Saturnus.

ACTRESS, **ACTRIX**, a female who acts, or does the office of an actor.

Actresses, or women actors, were unknown to the ancients, among whom men always performed the part of women; and hence one reason for the use of masks among them. *Mem. Acad. Inscrip. tom. vii. p. 188.* Among the Greeks, the women only danced; and their place in tragedies and comedies was supplied by eunuchs, whose voice resembled theirs.

Actresses are said not to have been introduced on the English stage till after the restoration of king Charles II. who has been charged with contributing to the corruption of our manners, by importing this usage from abroad. But this can be but partly true: the queen of James I. acted a part in a pastoral; and Prynne, in his *Histriomastix*, speaks of women actors in his time as whores; which was one occasion of the severe prosecution brought against him for that book. Whitlock, *Mem. 1632. Wood's Athen. Oxon. tom. ii. p. 434.*

ACTRIDA, in *Ancient Geography*, a town placed by Pliny in Arabia Felix.

ACTUAL, something that is real and effective; or that exists truly and absolutely. The philosophers use *actual* heat, or cold; in opposition to *virtual* or *potential*.

Actual heat, considered actively, is the act of producing heat: passively taken, it is the quality whereby a body is denominated *hot*.—Virtual or potential heat, actively taken, is the power or faculty of producing heat; passively taken, it should be the power or faculty of being heated, or receiving actual heat.

In medicinal language, actual is also opposed to *potential*, and is applied to any thing endowed with a quality which operates by an immediate power inherent in it. For example: a red-hot iron, or fire, is called an actual cautery, in contradistinction to cauteries, which have a power of producing the same effects on animal solids, as actual fire; and which are called potential cauteries or caustics. Boiling water is actually hot, and brandy is potentially hot.

Actual sin is that committed knowingly, by a person arrived at the years of discretion: in contradistinction to what Theologians have called *Original* sin.

Actual possession and *actual* right of possession are terms used in *Law*, for the meaning of which see **POSSESSION**.

ACTUARIÆ navis, in *Antiquity*, a sort of long and light ships, thus denominated as being particularly contrived for swiftness and expedition; they answer to what the French call *brigantines*.

Cicero, in an epistle to Atticus, calls a ship *decem scalmarum*, of ten banks of rowers, *actuaria*.

ACTUARIUS, or **ACTARIUS**, primarily denotes a notary, or officer appointed to write down the acts or proceedings of a court, assembly, or the like.

In the eastern empire, the *actuarii* were properly officers who kept the military accounts, received the corn from the *suscipitores*, or store-keepers, and distributed it to the soldiers.

diers. These acted as a kind of brokers with the soldiers; made bargains with them for receiving their pay before it became due; for which there were fixed rates. Aquin. Pitife. and Du-Cange.

ACTUARIUS was also a title of dignity, in the court of Constantinople, peculiar to physicians. Du-Cange.

From an appellation, the word has become a proper name of a celebrated Greek physician, on being appointed physician to the court of Constantinople, whose name was *John*, and who was the son of Zachary, a Christian writer. He is said, by some, to have lived about the year 1300; though others refer him to the year 1100. He is said to be the first Greek author, who has treated of mild purgatives, such as manna, cassia, senna, and Myrobolans, which were long before in use among the Arabians, and to have introduced them into the practice of physic. He is also the first author that mentions distilled waters. His works, of which Friend gives a favourable opinion, are compiled, principally, from Galen, Aëtius, and Paulus Aegineta. They were originally written in Greek, and have been translated into Latin, and published, some of them accompanied with the Greek text. They are as follow: 1. De medicamentorum compositione. Paris, 1539, 12mo. republished at Hall, by Gesner, 1540; and with the Greek, 1546. 2. Methodi medendi, libri sex. Ven. 1554, 4to. Paris, 1516, 8vo. with the rest of his works. 3. De actionibus et affectibus spiritus animalis, ejusque nutritione, libri duo, 1547, 8vo. Venet. 4. De Urinis, libri septem. Paris, 1548. Fab. Bibl. Græca, tom. xiii. p. 635.

ACTUARIUS, or ACTUARY, also means the clerk who registered the acts and constitutions of the convocation.

ACTUATE, to bring into act, or put a thing in action. Thus an agent is said, by the schoolmen, to actuate a power, when it produces an act in a subject.—Thus the mind may be said to actuate the body. And thus a medicine, &c. is said by some ancient physicians, to be *actuated*, when, by means of the vital heat, it is made to produce its effect.

ACTUS, in the *Ancient Agriculture*, the length of one furrow; or as far as a plough goes before it turns. Plin. lib. xviii. cap. 3. tom. ii. p. 97. Ed. Hard.

In English it may be rendered by a *furrow*.—It is also used by Vitruvius as a determinate measure, containing 120 Roman feet.

ACTUS minimus, was 120 feet in length, and four in breadth; being equal to the *SEXTANS*, or sixth part of the *JUGERUM*, or *INTEGER*.

ACTUS major, called also *actus quadratus*, was the square of 120 feet, or 14,400, being the *semis*, or half of the *JUGERUM*.—This was also denominated *modius*, and *mina*. Varro de Re Rust. lib. i. cap. 10.

ACTUS Intervicinalis, a space of ground four feet in breadth, left between the lands as a path, or way.

ACUANITES, ACUANITÆ, in *Ecclesiastical History*, are those called more frequently *MANICHEES*. They took the name from Acua, a disciple of Thomas, one of the twelve apostles. Bib. Univ. tom. xxv. p. 330.

ACUBA, in *Botany*, is a tree of St. Domingo, which rises to a great height, and yields an excellent fruit. The fruit is a kind of fig, resembling in taste the muscada pear, but so hard that it must be softened in water before it can be used. The wood is the hardest of any in the island. M. de Lamarck (*Encyclopedie*, vol. vi. p. 39.) apprehends, that it is a species of *CHRYSOPHOLLUM*, and the same which is called *Auzuba*, and according to Plumier denominated *Acomas*.

ACUBA, in *Ancient Geography*, a fountain or lake of Africa, in the Syrtis.

ACUBENE, in *Astronomy*, a name given by some to a star of the fourth magnitude, in the southern claw of *CANCER*, marked α by Bayer.

ACUFIDA, in *Ancient Geography*, a town of Africa, in Mauritania.

ACUHYATLI, in *Zoology*, the name of a large serpent, of a poisonous quality, in America, more usually known by its name of *cucurucu*, or *curucuca*.

ACUTION, in *Grammar*, *Prose*, and *Medicine*. See *ACUTION*.

ACUL, in *Geography*, a small port on the north coast of the island of St. Domingo.

ACULEATED, a term applied to a plant or animal that has *ACULEI*, or prickles.

Naturalists divide fishes into those with *aculeated*, and non-*aculeated* fishes. Phil. Trans. N^o 204.

ACULEATED Leaf. See *LEAF*.

ACULEATUS longus, in *Ichthyology*, a name given by some to the *PUGNITIUS marinus longus*, a small prickly West-India fish. Willughby. See *STICKLE-BACK*.

ACULEI, formed from *acus*, a needle; among *Botanists*, &c. denote the prickles or spines of plants of the thorny kind.

Among *Zoologists*, *aculeus* is also used for the sting of a bee, scorpion, or the like. See *STING*.

The word *aculeus* is also used for certain parts of the *ECHINI marini*.

ACULEI pinnorum. See *PINNÆ*.

ACULEOSA, a name of the *carduus polyacanthos*. See *GORTERIA*.

ACULER, in the *Manege*, is used for the motion of a horse, when in working upon volts he does not go far enough forward, at every motion, so that his shoulders embrace or take in too little ground, and his croup comes too near the centre of the volt. Horses are naturally inclined to this fault in making demi-volts.

ACUMANTIS Mons, in *Ancient Geography*, a mountain of Cyprus, situate to the south of the promontory of *Acamas*. See *ACAMANTIS*.

ACUMEN, *oſulus*, in the *Ancient Music*, was used to signify a sound produced by the *intention*, or raising of the voice.

Acumen differs from *intention*, as the *effect* from the *cause*. Aristoxen. p. 10, &c. Ed. Meibom.

ACUMINA, among the *Ancients*, denoted a kind of military omen, or auspice, supposed to have been taken from the points of edges or darts, javelins, swords, or other weapons, viz. by examining whether they were bright or solid, sharp or blunted.

ACUMINATED Leaf. See *LEAF*.

ACUMINCUM, in *Ancient Geography*, a town of Lower Pannonia, called by Ammianus Marcellinus *Acunincum*, and supposed to be the same with *Acunum* on the Danube.

ACUMULO, in *Geography*, a small place in the province of *ABRUZZO*, in Italy, 17 miles north-west of *Aquila*. N. lat. 42° 36'. E. long. 13° 24'.

ACUNA, CHRISTOPHER DE, in *Biography*, a Spanish Jesuit, born at Burgos, in 1597, and admitted into the society in 1612, at the age of fifteen years. After having been employed for some years in endeavouring to make converts in Chili and Peru, in South America, he returned to Spain to give an account of his discoveries on the river of the *Amazons*, a description of which he published at Madrid under this title, viz. *Nuevo Descubrimiento del Gran Rio de las Amazonas*; i. e. a new discovery of the great river of the *Amazons*. He embarked again for America, and was at Lima in 1675. Political motives occasioned a suppression of

of the discoveries of this Jesuit, and his work became very scarce. The Spaniards were jealous of the Portuguese, and wished to prevent their deriving any advantage from the relation of Acuna. The work was translated by M. de Gomberville, in four volumes 12mo in 1682; and, it is said, that the only copy of the original, besides that which the translator used, is in the Vatican library. Gen. Dict.

ACUNUM, in *Ancient Geography*, a town of Pannonia, north-east of Sirmium.

ACUNUM is also the present Ancona; supposed by M. d'Anville to be the Acufion of Ptolemy.

ACUPUNCTURE, a method of curing many diseases, by pricking several parts of the body with a needle, or instrument of that form; practised by the Chinese and Japanese, and other nations in that part of the world. They perform the operation with a large gold or silver needle, which they strike into the several parts of the body, either with their hand, or with a hammer made on purpose. This severe and desperate operation is performed on the head and breast, as well as the abdomen, arms, legs, thighs, and many other parts of the body, nay even in the abdomen of women with child, when the fœtus is restless. The disease, for the relief of which this operation is chiefly performed, is ascribed by the Japanese physicians to the immoderate use of the sakki, a strong wine made of rice, which gradually fills the abdomen and lower parts of the body with a noxious stasis, that occasions convulsions and exquisite pains. The place in which the puncture is commonly made, is the middle between the navel and the pit of the stomach; and the holes are distributed into three rows, with three punctures in each row, at the distance of about half an inch, and the whole disposed in the form of an oblong square. The needles are vended by the emperor's licence.

Surgeons are furnished with images, wherein all the places in the body proper for the needle are designed by marks. M. Ten Rynne was an eye-witness of the use of this puncture on a soldier, who being afflicted with violent disorders of the stomach, and frequent vomitings at sea, suddenly relieved himself by pricking a thumb's breadth deep into four different places about the region of his PYLORUS. Ten. Ryn. Diff. de Acupunct. ap. Phil. Transf. N° 148. p. 231, seq.

We sometimes also find mention of an acupuncture practised in Europe; but this amounts to no more than the perforating or opening a part, e.g. the cornea, with the point of a needle; which has been done with good success, for the cure of an *hydrophthalmia* and *hypopyon*.

ACUR, in *Ancient Geography*, a town of Asia, according to Ptolemy, in Lat. 15° 26'. Long. 124° 45'.

ACUROA, in *Botany*, a genus of the *diadelphia decandria* class and order: the characters of which are, that the calyx is quinquefid; that it has five petals; and that the legumen is roundish, coriaceous, not gaping, with a single cell, and a single seed. There is one species, viz. *A. violacea*.

ACURON, a name given to the ALISMA.

ACUS, in *Ichthyology*, the name of several species of fish, whose form is long and slender, belonging to different genera in the Linnæan system. The *GYMNOTUS acus* is distinguished by having no fin on the back, belly, and tail, and by an anal fin terminating before the apex of the tail, with sixty rays. It is found in the Mediterranean. The colour of the upper part is whitish, beclouded with reddish and brown spots, and underneath it is bluish. It has no tentacula.

The *SYNGNATHUS acus* is of an heptagonal figure, and has a pinnated tail. This is the *typhle* of Gesner; and, according to Aldrovand, the acus of Aristotle, and the acus

altera major species of Aristotle, according to Willughby and Ray. It is the *horn-fish* of Jonston. It is found in the northern ocean of Europe; in length, as stated by Gmelin, it is about two or three feet, and it is variegated with alternate spots and belts of a brown and light-oker colour. The acus of Aristotle, according to Rondeletius, Jonston, Willughby, and Ray, and the secunda species of Aristotle's acus according to Gesner, is the *SYNGNATHUS TYPHLE* of Linnæus. This is the shorter *pipe-fish* of the British zoology, and the *sea-adder* of Borlase. The *acus vulgaris* of Aldrovand, Willughby, and Ray, the acus of Oppian, and the acus 1^{ma} species of Rondeletius and Gesner, is the *BELONE* of Aristotle; the *ESOX belone* of Linnæus, the *SEA-PIKE* of the British zoology, and the *gar-fish* of other authors. The *acus maxima chinensis*, with a compressed body, is the *PIGULARIA chinensis* of Linnæus. The *acus maxima japonica viridis* of Catesby, is the *ESOX viridis* of Gmelin's Linnæus. Mr. Daines Barrington conceives, that a fossil which he found near Christchurch, in Hampshire, had the appearance of the scales of this fish, though it be a stranger to our seas. Phil. Transf. vol. lxxii. p. 171.

The *acus lumbriciformis* of Willughby and Ray, is the *SYNGNATHUS ophidion* of Linnæus, and the little *pipe-fish* of the British zoology.

ACUS is also used by some authors for the *AMMODYTES*, or sand-eel, a small eel caught in the sand.

ACUS, in *Natural History*, is a name given to the oblong CIMEX, with filiform antennæ, or the *CIMEX stagnorum* of Linnæus, with a roundish black body, and two globose points in the middle of the thorax, which is very common in the lakes of England. ACUS is also a species of *ASCARIS*, straight, rigid, and acicular, and bending at both ends. It is white, about two inches long, and found in the intestines of the pike. ACUS is also a species of the *VOLUTA*-shell, marked with transverse series of red points, and terminating in a smooth pointed wreath. It is scarce an inch long, and of a white or yellowish colour.

A species of *BUCCINUM*, of a whitish colour, with horizontal undulated lines, with bifid crenulated rugose windings, and the columella spirally twisted, is called *acus*.

ACUS *Pastoris*, in *Botany*, a name of the *SCANDIX*.

ACUS *Moskata*, a name of the *GLERANUM moskatum*.

ACUSCHY, in *Zoology*, a species of *CAVIA*. See *AKOUSCHY*.

ACUSI, in *Botany*, a species of *APOCYNUM*.

ACUSILAUS, in *Biography*, one of the most ancient Greek historians, was born at Cercas, near Aulis, not long before PHERECYDES of Athens, and compiled genealogies of the ancient royal families from tables, which his father is reported to have found in digging the foundations of his house. He goes back to the ages before the war of Troy, and as far as Phoroneus, king of Argos. Suidas.

ACUSILAUS is also the name of an Athenian orator, who went to Rome in the time of Galba, where he practised rhetoric, and gained a large fortune of a hundred thousand drachmæ, with which he returned to Athens, where he died. Suidas.

ACUSIORUM Colonia, now ANCONA, in *Ancient Geography*, is situated, according to Lucas Holstenius, between Orange and Valence, near Montelimart, on the banks of the Rhine. It was called *Acunum*; and, according to Ptolemy, was one of the cities of the Cavari.

ACUTÆ *Insule*, in *Ancient Geography*, are comprehended in the number of the Echinades. They are a little more to the south-west, in the south of the promontory of *Araxum*. M. d'Anville calls them *OXIÆ insule*.

ACUTE,

ACUTE, *sharp*, something that terminates in a point, or edge; disposed either for piercing or cutting.

In this sense the word usually stands opposed to *obtuse*.

ACUTE angle, in *Geometry*, is that which is less than a right angle, or which does not subtend 90 degrees.

Such is the angle ACB (*Plate Geometry, fig. 1.*)

ACUTE-angled triangle, is that whose three angles are all acute; called also an *oxygonous triangle*.

Such is the triangle ACB (*Tab. Geometry, fig. 1.*)

ACUTE-angled Cone, is that whose opposite sides form an acute angle at the vertex; or whose axis, in a right cone, makes less than half a right angle with the side. See **CONE**. Pappus, in his mathematical collections, p. 164. Ed. Pissaur. 1588, says, that this name was given to such a cone by Euclid, and the ancients before the time of Apollonius; and they called an

ACUTE-angled Section of a Cone, which was made by a plane, cutting both sides of an *acute-angled* cone, an **ELLIPSE**; but they did not consider, before it was pointed out by Apollonius, that such a section might be obtained in any cone whatever. See **CONIC Section**.

ACUTE, in *Music*, is understood of a sound, or tone, which is sharp, shrill, or high, in respect of some other: in which sense the word stands opposed to *grave*. Both these properties of sound depend on the quickness or slowness of the vibrations by which they are produced; and are independent of loudness or force; for a tone may be acute or high, without being loud, and *vice versa*. There are degrees of acuteness and gravity beyond our powers of appreciation. The warbling of birds is of that kind. No birds but the nightingale and cuckoo produce musical tones which we can imitate, or compare with those of our musical instruments. A bullfinch and canary bird can be taught tunes by our flageolets and bird-pipes; but their natural warble is incommensurate with our scale. The grave additional tones in our large piano-fortes become the more difficult to tune as they descend. The octave below double C can, with the utmost difficulty, be made to satisfy a nice ear by the most experienced tuner.

Sounds considered as acute and grave, that is, in the relation of gravity and acuteness, constitute what we call *tune*, the foundation of all **HARMONY**.

ACUTE Accent, in *Grammar*. See **ACCENT**.

ACUTE Leaf. See **LEAF**.

ACUTE Disease. See **DISEASE**.

ACUTELLA, in *Botany*, a name used by some to express the common **ANONIS**, or **REST-harrow**, a small prickly plant, with red or white flowers, and famous for its spreading and tough root. Ger. Emac. Ind. 2.

ACUTIATOR, in writers of the barbarous ages, denotes a person that whets, or grinds cutting instruments: called also in ancient glossaries, *acutor*, *ακωτης*, *famiarius*, *coharinus*, &c. Du-Cange.

In the ancient armies there were *acutiores*, a kind of smiths, retained for whetting or keeping the arms sharp. Aquin.

ACUTITION, or **ACUTION**, in a general sense, the same with acuating or sharpening.

ACUTION, in *Grammar*, denotes the pronouncing, or marking a syllable with an acute **ACCENT**.

ACUTION, or *acution*, in *Medicine* and *Chemistry*, is used for sharpening or increasing the force of any medicine.

ACWORTH, in *Geography*, a township of Cheshire county, in New Hampshire, incorporated in 1766, and containing 704 inhabitants. It is eight miles east-by-north from Charlestown, and 73 north-west-by-west from Portsmouth.

ACY, a town of France, in the department of the Aisne, one league south-east of Soissons.

ACYLIA, in *Ancient Geography*, a town of Italy, built by the Romans, to restrain the barbarians who inhabited the Alps. It was a Roman colony.

ACYPHAS, a city of the Doric Tetrapolis, called by Strabo and others *Pindus*.

ACYROLOGIA, compounded of *ακυρος*, *improper*, and *λογος*, *discourse*, denotes an improper acceptance, or expression, by which a word or phrase is used in some unusual or oblique sense, hardly reducible to the rules of language. Such, e. g. is the word *spero*, sometimes used in Roman writers for *timeo*. The acyrologia bears a near affinity to the **CATACHRESIS**, inasmuch that many terms and expressions alleged as instances of the latter, are by others brought as examples of the former.

ACYTUS, a small island near Cydonia, in the isle of Crete.

ACZUD, in *Geography*, a town of Moldavia, in European Turkey. N. lat. 47° 20'. E. long. 29° 10'.

AD, in *Grammar*, a Latin preposition signifying *to*, and often used singly, and in composition to express the relation of one thing to another. Among all the eastern nations, *Ad* was a peculiar title; and, according to the learned Mr. Bryant's opinion, was originally conferred upon the sun. *Analys. of Anc. Mythol.* vol. i. p. 24.

AD bestias, in *Antiquity*, is understood of a kind of punishment of criminals, condemned to be thrown to wild beasts. The term was also applied to a sort of gladiators hired to fight with wild beasts.

These are otherwise called *bestiarii*, Calv. Lex. Jur. p. 36.

AD extra, a term used among *School Divines*, in speaking of the external operations of the Godhead.

Acts or operations *ad extra*, are properly those whose term or effect is not within the divine essence; by which they stand exposed to operations *ad intra*. Creation, preservation, regeneration, conversion, renovation, &c. are actions of God *ad extra*.

AD intra, among *School Divines*, is understood of those acts of the Divine Being, whose term and effect is within his own essence. In which sense, acts or operations *ad intra*, stand opposed to those *ad extra*.

AD hominem, among *Logicians*, is understood of a kind of **ARGUMENT** drawn from the belief or principles of those we argue with, and which of consequence must be conclusive to them, though otherwise disbelieved by us; or, it is where a disputant quits his own language and system, and borrows that of his opponent to convince him, by turning his own prejudices or errors against himself. This the schoolmen call *argumentum ad hominem*.

AD libitum, used in *Music*, for a *piacere*, when the principal performer is *at liberty* to give way to his conceptions, to change the measure from quick to slow, or the contrary, without accompaniment, and to manifest his abilities in effusions of fancy, taste, and brilliant passages. But this privilege is often abused in the length and dulness of these extemporaneous flights, as they are called, though generally prepared at home with great pains and application to very little purpose. None but performers of first-rate abilities should be permitted to obtrude their crude, and often clumsy attempts on the public, interrupting the progress of, perhaps, an elegant or ingenious composition.

AD ludas, in *Antiquity, a Roman sentence, whereby criminals were condemned to entertain the people, either by fighting with beasts, or with each other, and thus executing justice on themselves. Kennet. Rom. Ant.*

AD metalla, the punishment of being doomed to work in

in the mines. Criminals condemned to this, were called *metallici*.

It were to be wished that punishments of this kind could be substituted in lieu of our frequent executions; which are as repugnant to the principles of humanity as to those of sound policy.

Ad quiddities, among schoolmen, include the relations, analogies, agreements, disagreements, similitudes, and dissimilitudes of things.

Ad quidities are properly those attributes of things, which answer to the question, *ad quid?* or *what?* By which they differ from mere *QUIDDITIES*, which answer to the question, *quid sit?* or *what is it?* The latter enquire what things are in themselves; the former what they are, *ad alia*. Herb. de. Verit. p. 233.

Ad valorem, is used in speaking of the duties, or customs, paid for certain commodities; some things are rated by the weight, measure, tale, or the like; others pay *ad valorem*, according to the value or worth, sworn to by the owner.

Ad Æsim, in *Ancient Geography*, a town of Italy near the river Ælis, between Senogallia and Ancona.

Ad Angelos, a place remarkable for the martyrdom of St. Mark, and which is thought to have been near Alexandria.

Ad Aquas, a name given to several places in Moesia, Dacia, Numidia, Spain, &c.

Ad Aquas calidas, a town of the Picentini, about ten miles from Ascoli.

Ad Aquas gradatas, a town situated near Aquilcia, and remarkable for the martyrdom of three brothers, of the illustrious family of Anieius.

Ad Aquas labodas, or *Labodas*, a place called *Thermæ Selinontia*, in Sicily, famous for its baths, and situated near the mountain now called S. Calangero.

Ad Aquilas, a denomination distinguishing several places in Mauritania, Attica, Gaul and Italy.

Ad Aras, the name given to various places, in which altars were erected; one in Asia between Thirronia and Melentenis, not far from the Euphrates; and another in Boetia, in Spain, between Altigi and Corduba.

Ad Arnum, a place of Etruria, in Italy, west of Florentia.

Ad Aureos, a place in Venetia, between Vicentia and Verona.

Ad Baflicam, a place of Africa, in Numidia, between the colonies of Saldæ and Igilgili.

Ad Bivium, a place in Italy, 30 miles from Rome, now Valmontone.

Ad Caballos, *Bagnacavallo*, in Italy, was also called *Tiberiacum*.

Ad Calculos, called by Aristotle *Psephis*, was situated in a small island near Etruria.

Ad Calem, *Cagli*, a place of Umbria in Italy, on the Flaminian way.

Ad Calorem, a place in Italy, between Salernum and Marcellianum in the Appian way, called also *Ad Codorum*.

Ad Capræ paludes, or *CAPRILIA*, a country near Rome in which Romulus died.

Ad Capras, *CAPRÆ*, *Capraia*, a district of Umbria in Italy, where Totila, king of the Goths, died of his wounds.

Ad Castra, a denomination given by the Romans to several places where they had *castra* or camps.

Ad Centenarium, a place of Gaul, about five miles from Summus Pireneus, belonging to the Sardones.

Ad Centesimum, a place in Italy, south-east of Asculum, so called, because it was at the distance of 100 miles from Rome. The Romans, who paid great attention to the measurement

of distances, denominated places by their distance from Rome, in miles.

Ad Centuriones, a place in Spain near the Pyrenees.

Ad Columellas, a place in Italy, five miles from Ravenna.

Ad Columnam, was situated in Brutium, north of Regium, and opposite to the town of Messina, in Sicily.

Ad Confluentes, a place in Italy, between Cesena and Ariminum: and another small place near Parma.

Ad Cottias, *Cozo*, was situated between Vereclia and Laumellum, in Italy.

Ad Crispas, now *Oran*, a place of Mauritania Cæsariana, in Africa.

Ad Dianam, a place of Numidia, in Africa, 32 miles from Hippo-regius.

Ad Diacones, a place in Mauritania Cæsar. between Albula and Regia, south-east of Siga: there was also a place of the same name in Armenia minor in Asia, between Ototædazizo and Aza.

Ad Duas Columnas, a place of Italy, between Laumellum and Ticinum.

Ad Duodecim, the name of a place in the Cottian Alps, south-east of Segulio, and of another in Italy, north-east of Patavium.

Ad Duodecimum, a name applied to several places, one in Magna Græcia north of Hydruntum; another belonging to the Ædui, between Augustodunum and Cabillonum; another in Gaul, between Diviodurum and Decem Pagi, belonging to the Mediomatrici, and another, now Doodwerd, between Noviomagus and Lugdunum Batavorum.

Ad Duos Pontes, a place in Spain between Vicus Sparcorum and Grandimirum.

Ad Ensem, a small place in Umbria, north of Iguvia, in the Flaminian way between Hevillus and Cale.

Ad Fanum Martis, a place of Gaul in the Cottian Alps, west of Ocellum.

Ad Feroniam, a place near Mount Soracte, in the territory of the Falisci, north of Rome, where were a temple and grove consecrated to the goddess Feronia. There was another *Feronia* south-east of Luna, near the road to Luca.

Ad Ficum, or *Ficas*, a place of Numidia, south of Igilgili.

Ad Fines, a denomination given by the ancients to several places, because they were on the limits of a country. There were several places of this name in Italy, Belgium and Gaul. See *AD FINES*.

Ad Flexum, a place in Italy, between Brixia and Ariolica, West of the lake Benacus.

Ad Flumen, a place in Pannonia, corresponding to that which is now called Saint-Veitam-Flaum, in Croatia.

Ad Fromulos, a place of Norica.

Ad Gallum Gallinacium, a place of Africa propria, in the road from Utica to Carthage.

Ad Græcos, a place of Italy, north of Clusium, and west of Cortona.

Ad Herculem, the name given to the port of Leghorn in Tuscany: also to a small place in the island of Sardinia; and to another 12 miles from Gades, called *Templum Herculis*.

Ad Horrea, *Canes*, a place of Gaul, between Antipolis and Forum Julii, pertaining to the Oxibii.

Ad Intercisa, a place of Italy, belonging to the Senones, between Callis and Forum Sempronii.

Ad Iadios, a place of Pannonia, in the route from Sirmium to Salona.

Ad Laminas, was situated between Varia and Carseoli in Italy, and belonged to the Æqui.

Ad Lapidem, a place of Great Britain, supposed to be between Winchester and Southampton, and to be that which is now called South Stonam.

Ad Lippos, a place of Spain, between Cceilonico and Sentice.

Ad Lulliam, now *Argoules*, in Gaul, belonging either to the Morini or Ambiani.

Ad Martis, the name given to different places in Umbria, Etruria and the Alps.

Ad Matrem Magnam, a place belonging to the *Hirpini*, supposed to be the situation of the abbey on Mont Vergine.

Ad Medias, a name given to a place in the island of Sardinia, to another of Infubria in Italy, and to another, called Meza, in that part of Latium in Italy inhabited by the Volsci.

Ad Morum, was situated in the route from Carthage to Castrum, between Eliocroca and Baſti.

Ad Numum, a denomination given to several places, whose distance was nine miles from a more remarkable station; one north of Boville in the Appian way; another in Campania, nine miles from Capua; another, nine miles from Mediolanum or Milan, now Marignan, according to Cluvier; another in Venetia, south-east of Altinum, and another west of Amona; and another, denoting a situation in Gaul among the Tolofates, between Tolosa and Badera.

Ad Novas, a place in Italy, near the mouth of the Rubicon, on the borders of the Adriatic gulf: another place in Italy belonging to the Sabines; another in Spain between Illerda and Tarraco; another in Etruria, south-east of Cosa, and another north of Clusium; and another in Upper Mæſia.

Ad Octavum, an appellation denoting the distance of eight miles from a well-known and principal place; one in Italy belonging to the Taurini, and another in Umbria, partly occupied by the Senones; and another in Duria Minor.

Ad Olivam, a place of Africa, in Numidia, south-east of Saldæ, and east of Tubusuptus; and also another in Sicily, in the route from Agrigentum to Libyæum.

Ad Opulentos, a place of Campania in Italy, near the sea, and three miles from Pompeii and Stabiz.

Ad Palatium, a place in Venetia upon the Athetis, four miles south of Tridentum.

Ad Perticas, a place near Ticinum or Popea, still called Sancta Maria del Pertiche.

Ad Petras rubras, or *ad saxa rubra*, a place near Fidenzæ, now Borghetto.

Ad Pinum, a place of Italy in the Apennine, 12 miles from Venusia, in Apulia. Another is also in the extremity of Italy in the Julian Alps, in the route from Aquileia to Æmona.

Ad Pirum, a place of Italy in the Samnium, and another, with the addition *Philumeni*, in the Adriatic gulf, between Metaurus and Sena Gallica.

Ad Pontem, a denomination given to several places which had bridges: one in Great Britain, now Lincoln; another of Boetia in Spain, between Gades and Corduba; another *Eni*, in Vindelicia; another, *Iſis*, in Norica; another, *Muri*, in Norica, now Muraw; another, *Sontii*, south-east of Forum Julii.

Ad Publicanos, a place of Gaul, on the confines of the territories of the Allobrogi and Centrones, between Cafuaria, Mantala and Obutum.

Ad Quartum decimum, a place in Venetia, E. of Æmona.

Ad Quintanar, a place of Magna Græcia, in Apulia; and of Italy in Latium, on the Latin way.

Ad Ragiana, a place of Upper Media, on one of the streams which form the river Gyndes.

Ad Rotam, a place of Numidia, in Africa, between Cirta and Lambæſa.

Ad Rotas, a place of Italy belonging to the Cenomani.

Ad Rubras, a place of Boetia, in Spain, belonging to the Turdetani, and another of Mauritania, in Africa, between Calaa and Ad Regias.

Ad Salices, a place in Scythia, situated on the borders of the Black Sea, near the most southerly mouth of the Danube.

Ad Salinas, now *Spatana*, a small place on the Adriatic gulf, between the confines of the Prætetuti and Vestini.

Ad Sanos, a place of Italy, situated according to Cluvier in Venetia.

Ad Septem Aras, a place in Spain.

Ad Septem Fratres, seven mountains of Mauritania, known by the name of Abyla; at the bottom of which was a town called *Septa*, whence the modern *Ceuta*.

Ad Septimum decimum, a place of Spain, 17 miles from Tarraco.

Ad Sex Insulas, small islands, whose situation is not precisely ascertained; but M. d'Anville places them near a small promontory, south of Malaca in Boetia, and north-east of Parictina on the coast of Mauritania Cæsariensis.

Ad Sestius, or *Ad Selyas*, a place situated by the Peutingerian tables on the Adriatic gulf, 12 miles from Sena Gallica.

Ad Sextum, a name given to two places in Italy; one in the Claudian way, north-west of Rome, and south-east of the Vei, and another in Etruria, south-west of Sena. It is also the name of a position in Gaul, *Ratz* or *Arratz*, between the Aufci to the west, and Hugunuerro to the east.

Ad Silanum, a position in Gaul, between Segodunum to the south-west, and Anderitum on the north-west, on the frontiers of the Ruteni and Gabali.

Ad Silvianum, or *Ad Silvium*, is placed by M. d'Anville in Apulia, between Venusia to the west, and Blera to the south-east.

Ad Solaria, a place of Etruria, in Italy.

Ad Sorores, a place marked by Antonine, 25 miles from Emerita Augusta, in the road across Spain to Cæsar Augusta.

Ad Speluncas, a small place of Italy, in Messapia, on the sea-coast, west of Brundisium.

Ad Sponsas, a place of Italy, in the Appian way, between the position of Tres tabernas and Forum Appii.

Ad Stabulum, a position of Gaul, between Illiberis on the north-east, and Ad centuriones to the south; situate at the foot of the Pyrenees, and belonging to the Sardones.

Ad Statuas, a place of Etruria, in Italy, 25 miles from Aretium, and 12 from Clusium: another, between Labicum and Præneste, in the Labican way; another in Spain in the route from Valentia to Carthage; and another, in Pannonia on the Danube, between Luffuniam and Ripa alta.

Ad Tabernam frigidam, a place of Etruria, in Italy.

Ad Tarum, a position in Italy on the Tarns.

Ad Templum, a place of Africa, to the south of Byzacene.

Ad Titulas, a place of Liburnia, in the route from Tergeste to Tarfatica.

Ad Tres Insulas, small islands placed by M. d'Anville in a small gulf, south-east of Rufadir, south-west of Siga, and nearly south of Charidemum, pertaining to Boetia.

Ad tres Tabernas, a place in Italy on the Appian way, 17 miles from Aricia, called Castello.

Ad Tricifimum is situated 30 miles, as the name imports, from Aquileia, now Tricestino; another position, in Gaul, 50 miles from Narbo Martius, whence the Itinerary reckons the distance.

Ad Tropœa, a place of Italy in Bruttium.

Ad Turroni, a place of Sardinia, known by the name of Turris Libilonia. It is also the name of a place, called Tourves, in a part of Gaul, called the third Narbonensis, pertaining to the Saceri, north-east of Narbona, and south-east of Aque Sextie.

Ad Turris, a place in Italy on the Aemilian way, in the territory of Cerite: another, on the Appian way in Bruttium, north of Vibo: another at the extremity of the promontory Circeium: another, in Liburnia, on the road from Aquileia to Signia, south-east of Tarfatica: another, in Spain, between Valentia and Carthago: and another between Augusta Emerita and Augusta Caesarea. *Ad Turris albas*, is a place in Italy between Circeium and Antium.

Ad Undecim, a place of Venetia in Italy, west of Aquileia; in the road that leads to Altinum.

Ad Urbanas, a place of Campania in Italy, between Capua and Teanum, called by M. d'Anville, after Pliny, Urbana, and also Colonia Sillana, from the colony established here by Sylla.

Ad Vigefimum, a place of Italy, 20 miles from Rome, on the Flaminian way, south-west of Capena: another, in Lucania, on the gulf of Tarentum, north of Sybaris, and south of Heraclea: another, in Asia Minor, in the road from Trapezus to Satala, in Armenia Minor: and another, called by M. d'Anville *Ad Vigefimum*, south-east of Tolosa, between Badera and Eluſio.

Ad Victorriolas, a small place of Italy in the road from Mutina to Bononia.

Ad Villam Servilium, a place of Numidia in Africa, 20 miles from Hippo Regius, in the way to Cirta.

ADA, in *Geography*, a town of Asiatic Turkey in Nætolia, about a league from the river Zaccarat, in the road from Constantinople to Ispahan.

ADA Gulf, lies on the east side of Kassa straits, and to the east of port HADSHILAR, having a town in the north-west part of it.

ADABA, in *Ancient Geography*, a town of Media.

ADAC, a lake whence one of the branches of the TIGRIS flows.

ADACHA, a town of the Palmyrene region in Asia.

ADAD, compounded of *Ad* with itself, was used, says Mr. Bryant (*Anal. Anc. Myth.* vol. i. p. 23.) for a supreme title, with which both kings and deities were honoured. Macrobius (*Saturn.* l. i. c. 23.) says, that it signified *one*, and was so interpreted by the Assyrians, who gave this name to their supreme deity. Mr. Bryant supposes, that what Macrobius renders *one*, should be *first* or *chief*; and he observes, that it was a sacred title, and when single, was conferred upon a Babylonish deity, but when repeated, it denoted greater excellence. We read of Adad, king of Edom. *Gen.* xxxvi. 35. *1 Kings* xi. 14. And there was another of the same name at Damascus, whose son and successor was denominated Benhadad, *1 Kings* xx. 1. The kings of Syria, according to Nicolaus Damascenus (see Joseph. *Antiq.* l. vii. c. 5.) for nine generations had the name of Adad. The god Rimmon was styled Adad. *Zechar.* xii. 11. The feminine of Adad was Ada, and this was a sacred title, and appropriated by the Babylonians to their chief goddesses. The authors of the *Ancient Universal History* are of opinion, that Benhadad II. was deified by the Syrians, under the

title of Adad. *Adad* then means the first, and signified the deity, who, according to the Assyrians, was the deity of the city of Thebes, that of Benhadad, who was often unfortunate. And Josephus (*Antiq.* l. vii. c. 6.) informs us, that they were both deified. *Adad* was not properly a Babylonish deity, but one who had been deified by the ancient Syrians, and probably revived again after the destruction of the Babylonian empire, whose new gods must have brought him into discredit. *Adad*, thus degraded, and afterwards reinstated, was the sun, as well as Bel or Baal, Osiris and others. *Anc. Un. Hist.* vol. i. p. 443. vol. iii. p. 391. 8vo.

ADADA, in *Ancient Geography*, was a town of Pisidia to the south-east of Seleucia. There was also a town of the same name in Syria, situate to the north-west of Palmyra, and at no great distance from it. We also find a place of this name mentioned by Joshua, (*ch.* xv. 22.) and lying in the south of Judah, towards the borders of Edom.

ADAD Rimmon, a city of Judah, situate in the plain of Megiddo, in the valley of Jezreel, in the half-tribe of Manasseh; where Josiah, king of Judah, was killed by Pharaoh Necho, king of Egypt. It was afterwards called Maximianopolis, in honour of the emperor Maximilian. It is 17 miles from Caesarea in Palestine, and 10 miles from Jezreel. Calmet.

ADÆ, a town of Phrygia, which Strabo places at the foot of mount Ida.

ADÆI, a people of Arabia, placed by Ptolemy in Egypt, in a country encompassed by mountains near the lesser cataract of the Nile.

ADAGE, a sententious proverb or popular saying. Erasmus has made a large and valuable collection of Greek and Roman adages from their poets, orators, philosophers, &c. Mr. Ray has done the same with regard to the English; and Kelly has made a collection of Scots proverbs.

ADAGIO, in *Musick*, one of the words used by the Italians to denote a degree or distinction of time. *Adagio* expresses a slow time; the slowest of any, as some have said, except *grave*. Used substantively, it signifies a slow movement. Sometimes this word is repeated, as *adagio*, *adagio*, to denote a still greater retardation in the time of the music.

Adagio has been said by Rousseau and others to be the slowest degree of time in musical measures, except *grave*; but we think that exception erroneous. In Corelli's works and those of his contemporaries, we find that quavers in adagios, vocal and instrumental, are sung and played as slow as crotchets in *grave*. An *adagio* in a long or solo is, generally little more than an outline left to the performers abilities to colour: and the performer who is not enabled to interest an audience by the tone of his voice or instrument, and by taste and expression, should never be trusted with slow notes, in the performance of which the smallest defects are so easily discovered; and if not highly embellished, they soon excite languor and disgust in the hearers. The talent of executing an *adagio* well, in which performers of great powers of execution often fail, is a merit of the highest class which a musician can possess.

ADAGUESA, in *Geography*, a town of Spain, in the province of Aragon, and diocese of Balbastro, situate on the Vero. N. lat. 41° 58'. E. long. 2° 4'.

ADAGYUS, in *Mythology*, a Phœnician deity, whom Bochart takes to be Hermaphroditus, the son of Venus and Mercury, from the similitude of found between *Adagyus* and *Androgynus*.

ADAJA, in *Geography*, a river of Spain, which runs into the Duero between Salamanca and Tordesillas.

ADAIA, *Porte de*, a large harbour on the north-east of the island of Minorca, well sheltered by the mountains from north-west winds. It is north-east of mount TORO.

ADAIR'S Harbour lies on the west side of Falkland Sound, and nearly opposite to Jordan's bay on the east coast. It is distinguished by a high hill to the north-west of it. Within the harbour the water is from eight to ten fathoms deep; but the numerous rocks and breakers on the coast are dangerous. This harbour is by some called Port Howard.

ADAL, in the sense of Paracelsus, signifies that part of plants in which their medicinal virtue consists; or the pure and active parts of plants, separate from the impure and inert.

ADALARD, or **ADELARD**, in *Biography*, the son of count Bernard, grandson of Charles Martel, and cousin-german of Charlemagne, was born about the year 753. Having abandoned the world for the religious habit, he was nominated by the emperor to the abbey of Corbie, and afterwards appointed prince abbot to Pepin king of Italy. In 823, he founded the celebrated abbey of New Corbie, in Sommy; and died January 2, 826, at the age of 72, much lamented by the virtuous and the learned. He was an excellent linguist, and denominated the Augustine of his age. His principal work was, "A treatise concerning the order, or the state of the palais, and of the whole French monarchy." *Biog. Dict.*

ADALBERON, **ASCELINUS**, was an ambitious prelate, and a servile courtier. He was consecrated bishop of Laon in 977, and died in 1030. He is the author of a satirical poem, dedicated to king Robert, of which an edition was published in 1663, in 8vo. by Adrian Valois, at the end of the panegyric on the emperor Berenger. It contains several curious historical facts. *Biog. Dict.*

ADALBERT, a German divine of the tenth century, archbishop of Magdeburg, was educated in the monastery of St. Maximin of Treves, and was employed in 961, to preach the gospel to the Russians. He was more successful after his return from this embassy, in his labours among the Slavonians, on the borders of the Elbe and Oder. He died in 981. *Dupin's Eccl. Hist. 10th cent. vol. iv. p. 58.*

ADALBERT, bishop of Prague, in the tenth century, was one of the first founders of the Christian religion in Hungary. He also preached the gospel in Prussia and Lithuania, where he was murdered by Sego, a pagan priest. *Dupin, ubi supra. Mosheim's Eccl. Hist. cent. 10. vol. ii. p. 378, 8vo.*

ADALIDES, in the Spanish policy, are officers of justice for matters that respect the military forces. In the laws of king Alphonfus, the Adalides are mentioned as officers appointed to guide and direct the marching of the forces in time of war. Lopez represents them as a sort of judges, who take cognizance of the differences arising upon excursions, the distribution of plunder, &c.

ADALUS, in *Ichthyology*, a name given by authors to the **STURGEON**.

ADAM, in *Biography*; the first man whom God created, and the original parent of the whole human race. He was formed by an immediate act of divine power, *out of the dust of the ground*, as his name imports, on the sixth day in the scripture-arrangement of the works of creation; and God *breathed into his nostrils the vital breath*, so that he became a *living soul* or person. Gen. ii. 7. We read also, Gen. i. 27. that *God created man in his own image*. He was then placed in the garden of **EDEN**, a particular district which was previously ordained and adapted for his subsistence and accommodation. In process of time, probably after some experi-

ence of the inconveniences of solitude, and after he had found that the various animals which had passed in review before him, and to which he had given names, afforded no proper companion, he was provided with a suitable help-mate; who, being formed of a rib taken out of his side, when he was in a deep sleep, as the history informs us, Gen. ii. 21. was called **חַוָּה**, or *woman*. Adam and Eve thus created as fit associates for each other, did not long enjoy, with the security and satisfaction of innocence, the happiness which was designed for them. In the garden, which was the appointed place of their residence, and from the productions of which they were to derive the means of their support, there was one tree, called *the tree of the knowledge of good and evil*, the fruit of which they were forbidden to eat; and the prohibition was enforced by the awful sanction, that in *the day they did eat of it they should surely die*, Gen. ii. 17. The woman, deluded by the misrepresentation of the serpent, and by the alluring appearance of the fruit, disregarded the prohibition; and having herself tasted it, gave it to her husband, who likewise shared her guilt; and they both became obnoxious to the threatened doom. The consequences of their transgression were shame and fear. The man was also subjected to labour, and the woman to the pain of child-birth, and to the dominion of her husband. They were both excluded from paradise, and their return to it was prevented by an awful apparition, *i. e.* by *cherubims and by a flaming sword*. Gen. iii. 24.

After their expulsion from paradise, they had several children; but of these the scripture records the names only of three, *viz.* Cain, Abel, and Seth. The life of Adam was prolonged to the age of 930 years. The time of the death of Eve is not recorded in scripture; but some have presumed to say, that she survived her husband ten years. Such is the concise account which the scriptures give us of the origin of the human race: but this account, even if we allow Moses to have been the writer of it, was not compiled till about 2300 years after the creation; and, in the opinion of many, it is either wholly, or in part, so blended with allegory, that it is not easy to give a satisfactory explication of every circumstance to which it alludes. Whether it be understood literally or allegorically, it suggests many curious questions, which have furnished scope for much learned criticism, and for a variety of fanciful conjectures.

As to the etymology of the name Adam, the greater number of biblical interpreters have derived it from **אָדָמָה**. *Adamah*, signifying the earth or mould, or as some render it, the red earth, of which he was formed. According to Mr. Bryant, **Ad** denotes *first*, or *chief*, and in this sense it may be applied to the appellation *Ad-am*. This conjecture is confirmed by the use of the term *protagonist*, or *first male*, in Sanchoniatho, which seems to be the Greek translation of the Egyptian title of *Adam*, taken, as this author professes, from the pillars of Thoth; and also by a hint of that admirable scholar Sir William Jones, in his *Asiatic Researches*, who queries whether Adam may be derived from *Adim*, which in Sanscrit means the *first*, and is the name of the first Man. Mr. Parkhurst supposes the name Adam to be derived from **אָדָמָה**, *Adamah*, used for *Eden*, (Gen. v. 1.) and thus to denote the likeness of God, in which Adam was created. Ludolphus (*Hist. Ethiopia*, p. 77.) deduces it from the Ethiopic *Adamah*, which signifies *beautiful, elegant, or pleasant*, and refers it to the absolute perfection of his frame and shape, as being the master-piece, to speak *more humano*, of his creator. But whatever be the true etymology of the name, it is an appellative, rather than a proper name, and comprehends both the sexes.

The time of the year in which Adam was created has been

been also a subject of discussion. This has been most generally supposed to be the autumnal equinox, which is the *æra* from which the year anciently commenced.

According to Blair, in his first chronological table, Adam and Eve were created on Friday the 28th October, *ante Christ*, 4004; and Adam died 3074 *ante Christ*, at the age of 930 years.

Another subject of inquiry has been the place where Adam was created, and in which his first habitation was assigned him. See EDEN.

A considerable difference of opinion has prevailed with respect to the vigour of Adam's intellectual faculties, and the degree of knowledge which he possessed at the time of his formation. We may reasonably imagine, that, as our first parents were created in an adult state, they were immediately capable of the full exercise of their natural powers and faculties: and there is a certain dignity of intellect, as well as rectitude of will, that is probably implied in the expressions "our image," and "our likeness," in which God is said to have created them. Mr. Shuckford, however, (*Creation, &c.* of Man, p. 74, &c.) refers this expression to the structure of his body, which was superior to that of other living creatures, agreeably to Ovid's description, *Os homini sublime dedit*.—Metam. or to Cicero's (*De Leg. lib. i.*) *Figuram corporis habilem et aptam ingenio humano dedit, &c.*—And he supposes, that this is an Hebrew form of speech, which refers to God whatever is most excellent in its kind. He adds, that this expression denotes his designation for immortality, so that sin introduced death. But whatever were Adam's original powers, without exercise, and without experience, his actual knowledge must have been, in a very considerable degree, restricted and partial. It seems, therefore, unreasonable and unnecessary to suppose, that he was endowed with a much greater comprehension and vigour of mind, and with a greater compass of knowledge than any of his descendants; and that he was, in real attainment, as well as in capacity of improvement, little inferior to higher orders of beings. The knowledge that was adapted to his condition, and that was subservient to immediate use, was without doubt communicated to him at his first formation: and as he had no native prejudice, and no irregular propensity or bias to mislead him, he possessed peculiar advantages for extending his knowledge, and more especially his moral improvement. But as religious principles, devout affections, and virtuous dispositions are established and strengthened by exercise and discipline, it may be supposed that, without some supernatural defence and assistance, which his history does not mention, he would be liable to be seduced and overcome by a temptation, which the maturity of habit, and the wisdom of experience might have enabled him to withstand. See FALL of MAN and Original SIN.

Adam possessed, without doubt, the necessary powers of articulation, and the faculty of speech; but in the exercise of these faculties he must have been puzzled and perplexed; nor is it easy to conceive, that the few words of which even the scanty vocabulary that served his necessities consisted, could have been invented by him, nor the stamina of that language, which was afterwards enlarged and improved, could have been devised by him without a supernatural communication. See LANGUAGE.

How long our first parents continued in paradise before or after their fall is a question, for the solution of which we have no sufficient evidence, nor indeed are such questions of any real importance. It is probable, that they were not removed to any great distance, and that they found scope enough for their attention and labour near the spot where

they were first settled, and from which they were excluded, according to the literal acceptation of the scripture-history. The scriptures give us no information as to the place where Adam was buried. St. Jerome inclines to the opinion of those who think, that he was buried at Hebron, in the cave of Machpelah, afterwards bought by Abraham for a burying-place. The eastern Christians say, that he gave orders to have his body embalmed, and deposited in a cave on the top of a mountain, which cave was called Al-kenuz, from an Arabic word which signifies to lay up privately; and it is alleged, that this order was given to prevent his posterity from worshipping his relics. It is added, that he ordered his body to be placed in the midst of the earth, because thence should proceed his salvation, and that of his posterity. The primitive fathers generally believed, that he died in the place where Jerusalem was afterwards built, and that he was interred on Mount Calvary, on the spot where Christ was crucified; and where a chapel was erected in honour of him. Some of the Arabians inform us, that he was buried on mount Aboucais, near Mecca; but the ancient Persians say, that he was buried at Serendib, where his corpse was guarded by lions at the time of the war of the giants.

As to the reveries and fables of Jewish Rabbins and Mahometan writers, they are scarcely worthy of being recited. As a specimen, however, the following particulars may be subjoined.

Some of the Rabbins say, that Adam was distinguished by his personal beauty, and that God, before he formed him, assumed an human body, after the pattern of which he was created. They also pretend, that his stature was so gigantic, that it reached even to the heavens, and extended from one end of the world to the other; and that it was reduced after his transgression, first to the measure of 100 ells; and, as others say, to 1000, or 900 cubits, which was done at the request of the angels, who were terrified at his enormous stature, or who were envious and jealous on this account. Thus they pretend he was able to pass through the ocean, which separated Eden from the other parts of the world. Similar to this is the description given of Polyphemus by Virgil, *Æn. l. iii. v. 664.* and of Orion, *Æn. l. x. v. 763.* Writers of this class assert, that Adam was at first both male and female; and that he consisted of two bodies joined together by the shoulders, and that Eve was formed by merely separating the one body from the other. But more absurd even than this is the opinion of Paracelsus, (*vid. Vossium de Philos. c. ix.*) *Negabat primos parents una septem habebat partes generationi hominis necessarias: erantque postea amissa, et stratum gutturi.* The Jews, in order to exalt the importance of the rite of circumcision, affirm, that Adam was created in this state, and that one part of his transgression consisted in his attempt to obliterate the traces of it. Some of them have also imagined, that Eve was the forbidden fruit, and that Cain was the production of the serpent, &c.

The Mahometan writers, in their account of the creation, and first state of man, blend many fables with the particulars, which they seem to have borrowed from the Jewish scriptures. They say, that Azrael, notwithstanding the pre-imitation which he had received of Adam's rebellion, executed the commission for creating him, though the other angels to whom it was proposed had declined the office, and for this reason he was called the angel of death. The earth of which he was formed was, as they say, carried into Arabia, to a place near Mecca, where it was prepared by the angels, and fashioned into the human form by God himself. The angel Iblis, afterwards the devil, degrading a superior,

treated the material of the human frame, which were left to decay, and to last, or as long a day, for many years, with decay. The day, it is said, was animated by the Almighty, and adorned with an intelligent soul: and Eve was made after Adam, and both placed in paradise, out of which they were expelled. The people of Malabar conceived not to have been on earth, but in the seventh heaven. When our first parents were cast down from paradise, Adam is said to have fallen on the island of Sumatra, or Ceylon, and Eve near Mecca; and after a separation of 250 years, they were conducted to each other by the angel Gabriel, on a mountain near Mecca, and afterwards removed to Ceylon, where they propagated their species. In this island there is a mountain called *Pico de Adam*, on which they shew the print of Adam's foot, of an enormous size. Sale's Koran. c. ii. p. 4. &c. The Rabbins and Mussulmans give strange reports of Adam's knowledge. They ascribe to him the invention of the Hebrew letters, and a degree of inspiration, which enabled him to write a great number of books on different subjects, particularly one on the creation, and another on the Deity. They say, that he was the author of the 92d psalm, which was composed immediately after his creation. We have also an account among the apocryphal writings of a book called the "Revelations of Adam;" and there is another mentioned by pope Gelasius, called "Adam's penance."

Adam and Eve are honoured among the Greeks on the Sunday preceding the festival of Christmas; and on Feb. 4. the first day of their Lent, they commemorate their exclusion from paradise with religious mourning and humiliation. In some Latin martyrologies there are fixed days for the commemoration of Adam; as March 25, April 24, and Dec. 24.

Of the opinion of Tatian concerning Adam, see TATIANITES.

ADAM MELCHIOR, a writer of the 17th century, was born in the district of Grotkaw, in Silesia, and educated in the college of Brieg. He was appointed rector of a college at Middleburg, where he published his first volume of illustrious men, "*Vite illustriorum virorum*," in 1615. This volume consisted of philosophers, poets, writers on polite literature, historians, &c. It was succeeded by another, in 1619, which treated of divines; by another of lawyers; and by a fourth of physicians, both which were published in 1620. The subjects of these volumes were the lives of learned men, who were either Germans or Flemings of the 16th, and beginning of the 17th centuries: in 1618, he published a volume containing the lives of twenty divines of other countries. All his divines, however, were protestants. The Lutherans thought him partial, and will not allow his work to be a standard of the learning of Germany. He wrote other works, such as "*Apographum monumentorum Heidelbergensium*;" "*Notæ in orationem J. C. Scaligeri pro M. T. Cicerone contra Ciceronianum Erasmi*;" and "*Parodiæ et Metaphrasæ Horatianæ*." The catalogue of the Bodleian library ascribes to him the "*Historia ecclesiast. Hamburg et Bremen*," which, according to Mr. Bayle, was written by Adam, a canon of Bremen, in the 11th century. This work begins with the reign of Charlemagne, and ends in the time of the emperor Henry IV. To this work is annexed a description of Denmark, and the other northern kingdoms, with an account of the religion and manners of the inhabitants. The last edition of it was printed at Helmstadt, in 4to, in 1670. Bayle gives to Melchior Adam the character of an industrious collector, and acknowledges himself much indebted to his writings. He died in 1622. Gen. Dict.

ADAM, SCOTTUS, a doctor of the Sorbonne, who lived in the 12th century. He was born in Scotland, and educated in the monastery of Lindisfarne, now called Holy Island, near Berwick upon Tweed. He afterwards went to Paris, and became a teacher of school divinity in the Sorbonne. Towards the close of his life he returned to his native country, and became a monk, first in the abbey of Melrose, and next in that of Durham, where he wrote the lives of Columbus, and of other monks in the 6th century. He also wrote the life of David I. king of Scotland, who died in 1153. His works were printed at Antwerp, in fol. in 1659. Biog. Dict.

ADAM, LAMBERT SIGISBERT, an eminent sculptor, was born at Nancy, in 1700, and first instructed by his father, who exercised the same profession. In 1719, he came to Paris for farther improvement. From thence he went to Italy, where he spent ten years, and finished several considerable works, one of which, *viz.* the restoration of the mutilated group of the family of Lyscomedes, discovered by cardinal Polignac, in the ruins of the villa of Marius, gained him great applause. He also formed a model for the fountain of Trevi, which was much approved, but he was prevented from executing it by the jealousy of the Italians. After being admitted a member of the academy of St. Luke, at Rome, he returned to Paris in 1733. Here he executed several designs for the decorations of palaces, gardens, &c. of which the most celebrated are, a group representing the union of the rivers Seine and Marne, at the cascade of St. Cloud, two groups of hunting and fishing, Neptune calming the sea, the triumph of Neptune at Versailles, the bas relief of the chapel of St. Adelaide, St. Jerome, Poetry, and Mars caressed by Love. In 1754, he published a collection of ancient Roman and Greek sculptures, designed by himself, and engraved by able artists, in folio. Excess of application brought on an apoplexy, of which he died in 1759. The style of his works is harsh and savage, resembling rocks by their deep cavities and asperities; but they manifest an acquaintance with the antique, and furnish specimens of patient thought and labour. Gen. Biog.

ADAM, NICHOLAS SEBASTIAN, second brother of the preceding, was born at Nancy, in 1705. From Paris, whither he went for improvement, he removed to Rome in 1726, and assiduously applied for nine years to the study and imitation of the antique, devoting his leisure hours to painting. In 1734, he came to Paris, and by his models of Clitie, and the sacrifice of Iphigenia, obtained the applause of the academy of painting. He also admirably succeeded in his model of Prometheus chained to the rock. His bas-relief for the chapel of Versailles, respecting the martyrdom of St. Victoria, is reckoned one of his best performances. He assisted his brother in executing the group of Neptune; and, in 1740, he obtained the apartment of the deceased Rousseau, in the Louvre, which is a favour granted only to excellent artists. In 1747, he was urged, by liberal offers, on the part of Frederick king of Prussia, to remove to Berlin. His younger brother, to whom the offer was made by the elder Adam, accepted the proposal; and Nicholas remained at Paris, where he was employed by king Stanislaus in executing a monument for his queen in a mausoleum near Nancy. His last performance was the Prometheus, which was greatly admired. This artist was estimable for the simplicity, integrity, and mildness of his character, which conciliated the friendship of his brother artists. He lost his sight several years before his death, which happened in 1778, at the age of 74. Gen. Biog.

ADAM, GASPARD, was born at Nancy, in 1710, and pursued the same course of studies with his brothers above-mentioned.

mentioned. He resided some years at Paris, and died there in 1759. Gen. Biog.

ADAM of *Frankfort*. See ELSHEIMER.

ADAM, ROBERT, an eminent architect, was born in 1728, at Kirkcaldy, in Fifeshire, and educated in the university of Edinburgh. Upon his return from Italy, in 1762, he was appointed architect to his majesty, but resigned this office in 1768, on being elected to represent the county of Kinross in parliament. The genius of Mr. Adam extended itself beyond the decorations of buildings, to various branches of manufacture; and besides the improvements which he introduced into the architecture of the country, he displayed great skill and taste in his numerous drawings in landscape. Such were his assiduity and activity, that in the year preceding his death, he designed eight public, and twenty-five private buildings. The new university of Edinburgh, and many other considerable edifices were erected from his designs, and under his direction; and they are lasting monuments of his distinguished talents in the line of his profession. He died March 3, 1792, and his remains were interred in the fourth aisle of Westminster Abbey. His brother, *James Adam*, who died, October 2, 1804, was also eminent as an architect; and his abilities are apparent in the Adelphi buildings, and Portland place, in London.

ADAM, in *Geography*, a town of European Turkey, in Moldavia, ten miles north-north-west of Galatz.

ADAM, or ADOM, in *Asia's Geography*, a town of Perra, on the banks of Jordan, where the river began to be dried up for the passage of the Israelites over against Jericho. Joshua, ch. iii. 16.

ADAM'S APPLE, in DENT, a Species of Cereus.

ADAM'S *Bridge*, or, according to Sir William Jones, *Ramas Bridge*, in Bengali, is a bridge of mud and stones extending across the north end of Adams' I., from the island of that name, on the north-west coast of Ceylon, to Ramacete, or Ramakott island, off Ramas point.

ADAM'S N. ²/₂, in *B. l.*. See Yucca.

ADAM'S PEAK, in Ceylon, a high mountain in the island of Ceylon, in the form of a sugar-loaf, and terminating in a circular plain about 200 paces in diameter. The summit is covered with trees, and intersected with streams, and has also a deep lake, which supplies the principal rivers that water the island. This mountain is seen at the distance of twenty leagues at sea; but though its height is considerable, it is not equal to that of the Pic of Teneriffe. Lat. 5° 55'. Long. 80° 30'. See ADAM.

ADAMA. See ADMAN.

ADAMA, a high mountain in Abyssinia, being one of the ridges of the range of mountains called AMID AMID.

ADAMAI, one of the fenced cities belonging to the tribe of Nephtali, mentioned Joshua xix. 36. and called by the Seventy *Armaith*, and by the Vulgate *Edema*. It was also called *Maith*.

ADAMANT, *Adamant*, in *Natural History*, an ancient name for a precious stone, by us called a DIAMOND. *Adamant* is used by the fine ancient naturalists for the spume or scoria of gold, which, not being malleable, is cast away. This is particularly called *χρυσόπνευμα*, and is mistaken by Pliny for a gem of that name. Mr. Boyle more particularly gives the denomination *adamant lucidus* to a diamond in his possession, which had the property of shining in the dark, since discovered in many others, at least when excited by friction. See Boyle's works by Birch, vol. i. p. 452. 796.

ADAMANT is also used for a species of iron, denoting the hardest, or most highly tempered part of it. This is sometimes called the adamantine part of iron.

ADAMANT is sometimes also used for the MAGNET, or

load-stone; in which sense Skinner think it may be derived from the French *aimant*, which signifies the same.

ADAMANTII, in *Eccl. dignified History*, a name given by some Christian historians to the followers of Origen, so named *Adamantini*, on account of his indefatigable industry in reading and writing, or the firm and unshaken of his reasoning, according to some; or that a *Hamantini*, because his name was *Adamantius*; however, *Ideler* (lib. vi. cap. 14.) this was a common name given to Origen, without assigning any reason for it. There is another person named *Adamantius*, who was a *Thyphaleut* (works, vol. iii. p. 257, &c.) the author of a treatise against the Marcionites, which he places about the year 320.

ADAMANTLA, in *Thymus*, the name of a plant in Crete.

ADAMANTINE SPAR, Spodumene, Spodum.—*Nolla corundum*.—*Adamantinus Corundum*. Linn. This stone is found either crystallized or in mafs. When crystallized its ufual form is that of a regular hexaedral prifm (CRYSTALLOGRAPHY, plate i. fig. 1.) of a rough furface, and but little external luitre; this, however, being incapable of being fplit in a direktion either perpendicular or parallel to its axis, is obviously not the primitive cryftalline figure belonging to this fubftance. Cryftals of adamantine fpar are occasionally met with, which, inftead of folid angles at the junction of the fides of the prifm with the planes of the extremities, prefent alternate ifofceles triangles of different fizes, but all forming folid angles of $122^{\circ}. 24'$, with the extreme planes of the cryftal (fig. 2.): if by following this indication of nature we detach fucceffively the cryftallic laminae, we find at length entirely lofe the hexaedral prifm, and fhall have in its place a rhomboidal parallelepiped (fig. 3.) of which the plane angles at the rhombs will be 86° . and 94° .; the folid angles at the fummit will meafure $84^{\circ}. 31'$. and that at the reunion of the bafe will be $95^{\circ}. 29'$. Alfo, the diameter G H will be to the whole height E F as A B to B F (fig. 1.) The parallelepiped thus obtained, can be fplit by a direktion parallel to its faces, and muft therefore always preferve the fame form, which is that of the nucleus or primitive cryftal. In fome inflances the folid angles of the prifm are replaced by ifofceles triangular planes, as in fig. 2. but which form folid angles of $160^{\circ}. 42'$. with the planes of the extremities: hence results a new modification which fhews itfelf in the cryftalline varieties (fig. 4, 5, 6.) A third modification is produced by the gradual decrease in diameter of the hexaedral prifm; the varieties of this clafs are moftly irregular, but fome fpecimens exhibit a regular truncated hexaedral pyramid (fig. 7.).

Corundum crystals are procured from China and India; those from the latter country are in general the purest. Of the Indian variety the colour is grey, with shades of green and light brown; the fracture is conchoidal, and sometimes vitreous; its external lustre is casual, but generally very slight, that of its cross fracture is feeble, but when broken in the direction of its laminae, it is resplendent; in thin pieces, and at the edges of the crystals it is semitranslucent; it is brittle, and is found in the matrix of a rock-crystal and mass of corundum, and is also associated to 3. 959. The Chinese variety differs from the Indian in containing grains of magnetic iron ore disseminated through its substance; in being composed of a finer colour and having externally a chatoyant lustre: its specific gravity is rather greater, and its hardness is commonly somewhat inferior. There are two varieties known of corundum in mass, that from the south of France, and composed of fracture, in gr. 3. 876. It is chiefly the material of

that from the coast of Coromandel is of a foliated texture, and seems in fact to be confusedly crystallized, but its sp. gr. is only 2.755.

Adamantine spar is used throughout India and China for the purpose of polishing steel and gems, for which its great hardness renders it peculiarly well adapted. Of the names of this stone, and the method of procuring it in China and Bengal we have no account, but an interesting topographical information respecting the corundum of the coast was procured by Mr. Greville in 1792. In the Mysore country, about four miles south of the river Cavery not far from Cannock, is an excavation from six to sixteen feet deep, running east and west about a mile and a half in the direction of a vein of adamantine spar that traverses a bill of gritty granite. The matrix of the vein consists of granitic fragments cemented by corundum; masses of this, weighing several pounds, are cut out with iron crow, and then broken to pieces, among which the crystals of corundum are found: these are loaded on horses and bullocks, and distributed to the cast of sikandars or polishers throughout India; its price, at Madras, is about six shillings a pound.

This mineral appears to have been first brought into Europe by Mr. Bulkley, a correspondent of Dr. Woodward, who, in his catalogue of foreign fossils, published about 1719, has the following notices: "*Nella corindum* is found in fields where the rice grows; it is commonly thrown up by field-rats, and used as we do emery, to polish iron."—"*Tella corindum*, Fort St. George, Mr. Bulkley. It is a talky spar, grey with a cast of green; it is used to polish rubies and diamonds." In Dr. Woodward's additional catalogue of foreign fossils, 1725. "*Nella corindum* is found by digging at the foot of hills about five hundred miles to the southward of this place. They use it as emery to clean arms, &c. it serves also to grind rubies by making it like hard cement by the help of stick lac mixed with it. East India. Mr. Bulkley." From this time no farther information was obtained concerning it till about 1767, when Mr. Berry, seal engraver of Edinburgh, received from Dr. Anderson of Madras a box of crystals, with information of their being the material used by the Indian lapidaries to polish crystal and all gems but diamonds. They were found by Mr. Berry to cut agate, cornelian, &c. but for minute engraving were not equal to diamonds, in consequence they were laid aside as curiosities. Dr. Black ascertained their difference from all the known European minerals, and their hardness gained for them the name of *adamantine spar*. In 1784, Mr. Greville obtained specimens from India, together with the native name *corundum*, which ascertained their identity with Dr. Woodward's specimens. A description of its external characters by M. de La Metherie and Haüy appeared in the *Journal de physique* for January and March 1787. Its chemical composition, however, still remained unknown till Klaproth was enabled, by the liberality of Mr. Greville, in sacrificing some specimens for the purpose, to undertake its analysis. The extreme hardness of the adamantine spar, rendered the first attempt to decompose it imperfect: by the strongest nitro-muriatic acid, nothing was separated but the iron, which is accidentally diffused through the Chinese variety, and after this the most concentrated acids were digested upon it in vain. Carbonated potash ignited together with it for two hours, was perfectly ineffectual, and even eleven times repeated calcination and fusion with caustic soda produced only a partial decomposition. The results of the first analysis were principally aluminous earth, together with a matter that appeared to be either a mixture of aluminous and siliceous

earth, or a new simple earth with peculiar properties. In this state of the inquiry Mr. Kirwan, and several other eminent chemists, were induced to consider the adamantine spar as containing an earth *ad generis*, which was called the *adamantine*, or *corundum earth*. Soon after Klaproth, having improved his method of analysis by the use of caustic potash as a solvent, undertook a second time the analysis of this uncommonly refractory fossil in which he completely succeeded, reducing the supposed adamantine earth to aluminous and silica.

The Chinese spar yielded

Alumine	- - - -	84.
Oxyd of iron	- - - -	7.5
Silex	- - - -	6.5
		98.0
Loss	-	2.
		100

That from Bengal gave

Alumine	- - - -	89.5
Oxyd of iron	- - - -	1.25
Silex	- - - -	5.5
		96.25
Loss	- -	3.75
		100.

The Philosophical Transactions for 1798 contain a valuable paper on corundum by Mr. Greville, which is the last addition that has been made to our information on this subject; we here find the first authentic account of the corundum mine in the Mysore, the characteristic differences between the Chinese and Indian varieties, the crystallography of the mineral by Count Bournon, and a comparison between the characters of corundum, TOPAZ, RUBY, and SAPPHIRE.

Corundum is said to have been found in France, in the Forez, by Count Bournon, and in Bretagne by Morveau; of these, however, the latter at least is said by Haüy (*Journal des Mines*.) to be titanite. Perhaps a mineral found by M. Raspe at Tiree, one of the Hebrides, which was supposed by him to be Jade, belongs more properly to adamantine spar; its specific gravity is 3.049, and in hardness it corresponds with the matrix of corundum, that is, it will scratch glass readily, but not rock-crystal. Greville on corundum, *Philos. Transf.* for 1798. Kirwan's *Mineralogy*, vol. i. art. *Adamantine Spar*.—Klaproth's *Analytical Essays*.

ADAMANTINÆ *Terra*, in the Linnæan system of *Mineralogy*, denote the sixth order of earths; which are chiefly composed of adamantine earth. To this order belongs one species, which is the *adamantinus* or *corundum*.

ADAMARA, in *Geography*, a district of Abyssinia, near the province of Waldubba, containing several considerable villages, that are inhabited by Mahometans; who by their number and strength contribute to the safety of the monks in that part of the country. It is so called from *Adama*, which in the Amharic dialect signifies *pleasant*, the name of an adjacent mountain. The river Anzo runs in a contiguous valley. Bruce's Trav. vol. iii. p. 179.

ADAMAS, in *Astronomy*, a name given to the moon.

ADAMAS, in *Geography*, a town of Cordova in Spain, seven leagues from Cordova. *Adamas* is also a river of India, the source of which Ptolemy places in Mount Uxentus, and its mouth in N. lat. 18°. 7' and long. 142°. 4'.

ADAMEEA,

ADAMBEA, in *Botany*, a genus of the *polyandria monogynia* class and order; the characters of which are, that the corolla has from five to seven petals, the calyx is hemispheric, and parted into five or seven divisions; the capsula is fleshy, covered by the calyx, containing five or seven cells, and polyspermous. Gmelin mentions one species; but La Marek (*Encycl.* vol. i. p. 39.) describes two, viz. *A. glabra*, which grows on the coast of Malabar, in sandy and stony places, rises to about seven feet, and sends forth branches which are terminated by panicles of fine purple flowers, large, and resembling roses; and *A. hirsuta*, which grows on the mountains of Malabar to the height of about nine feet; its branches of flowers resemble those of the former species.

ADAMI, in *Geography*, a town of Judah, in the tribe of Nephthali. Joshua xix. 33.

ADAMI, *Pomum*, in *Anatomy*, a protuberance in the fore-part of the throat. Some fancy, that it is thus called upon a strange conceit, that a piece of the forbidden apple, which Adam eat, stuck by the way, and was the occasion of it. In reality it is only the convex part of the first cartilage of the larynx, called scutiformis and thyroides. This is usually larger in the male than in the female subject.

The name, Adam's apple, is also given to a kind of fruit frequent in Italy, resembling a lemon, said to be a good remedy against the itch. See **CITRUS**.

ADAMIC Earth, is a name which some have given to common clay, called also terra zoica, rubella, and lutum. Woodw. Method. Foss. p. 4. The occasion of the name is supposed to be, that this is taken for the *adamah*, or ruddy earth, of which the first man was formed. This application is likewise given to the mud deposited by sea-water, which is a sediment of the most slimy and unctuous parts contained in it.

ADAMITES, or **ADAMITANS**, in *Ecclesiastical History*, a sect of persons who took upon them to imitate the nakedness of Adam; as if man had been reinstated in his original innocence. They are supposed to have been a branch of the **CARPOCRATIANS** and **BASILIDIANS**. Prodicus was their author, according to the account given by Theodoret; though, according to Tertullian and Clement of Alexandria, the followers of Prodicus were never called by this name. Epiphanius is the first writer who speaks of the Adamites, and he places them towards the end of the second century.

He professes to have no certain account of these people; but he says, that they met together, both men and women, naked as they were born; and so performed their readings and prayers and other acts of religious worship. They are a kind of monks, who reject marriage, and they call their church a paradise. When they approached their places of worship, which were made warm for their accommodation, they took off their clothes; and when they left them, they clothed themselves again. Dr. Lardner is of opinion that there never were any such people; and to this purpose he alleges, that they are not mentioned by any ancient writer before Epiphanius, and that he had no certain account of them; nor does he give the least intimation of the country or period in which this sect appeared. He does indeed say, that the Gnostics prayed naked; but they were a wicked people, and practised lewdness in their assemblies; whereas he represents the *Adamites* as endeavouring to imitate Adam and Eve, not only in their nakedness, but likewise in the innocence of their original state. But Dr. Lardner thinks that Epiphanius's charge against the Gnostics is not true. Theodoret's account of this sect was borrowed from Epiphanius, as he had no knowledge of Prodicus, the supposed

founder of it, but what he received from Clement of Alexandria, who does not say any such thing of him. Besides, it is said that Prodicus was against praying at all, and therefore the Adamite custom of praying naked could not be derived from him. Lardner's Works, vol. ix. 337—340.

A similar sect appeared in the twelfth century, under the direction of one Tanchelin, known by the name of Tanchelin, who propagated his errors at Antwerp in the reign of the emperor Henry V. This was followed by the **TURLUPINS**.

In the fifteenth century Picard pretended to re-establish the law of nature, which, according to him, consisted in two things, viz. community of women and nakedness. His followers are said to have walked naked in the public places; whereas the original Adamites only put off their clothes in their assemblies. See **BEGHARDS**, **BRETHREN of the free-spirit**, and **PICARDS**.

An ingenious writer, viz. Beaufobre, has shewn that the *Adamites*, i. e. the nakedness of these people, is a mere calumny, forged by their adversaries, the Calixtines and Papists, at the time when the Vaudois first appeared in that country. See Beaufobre's Dissertation at the end of L'Enfant's History of the War of the Hussites, and Bayle's Dict. Art. **ADAMITES**, **PICARDS** and **PRODICUS**.

Jovet and Moreri speak of Adamites in England; and indeed the Romish and reformed mutually reproach each other with having Adamites among them.

ADAMITES, a name also given by some writers to the first patriarchs, the sons or descendants of Adam by Seth; in which sense Adamites are the same with Sethites, and stand distinguished from **CAINITES**. There are various traditions concerning the quarrels, wars, &c. between the Adamites and Cainites.

ADAMITES, *Pro*. See **PRE-ADAMITES**.

ADAMS, in *Geography*, a township of Berkshire county in the Massachusetts, containing 2040 inhabitants, about 140 miles north-west of Boston. In the northern part of this district, the mill-stream, called Hudson's Brook, which rises in Vermont, and falls into the north branch of Hoosuck river, has formed a deep channel, about 30 or 40 rods in length, and in some places 60 feet deep, through a quarry of white marble; and over this channel the rocks form a natural bridge, about 12 or 15 feet long, 10 broad, and 62 feet above the water.

ADAMSDORF, a town in Germany, in the Circle of Upper Saxony; one league east of Lippehe.

ADAMSON, **PATRICK**, in *Biography*, a Scots poet, who was born March 15, 1536, at Perth, of mean but honest parents, and had his collegiate education at the university of St. Andrew's, where he obtained the degree of Master of Arts. In 1566, he set out for Paris as tutor to a young gentleman; and here he wrote a Latin poem on occasion of the birth of the prince, who was afterwards James VI. of Scotland, and first of England. In this poem he gave the titles of France and England to his own prince, which offended the French court, and occasioned his arrest and confinement. As soon as he was released, he retired with his pupil to France, the object of the desire of Henry. During the matter at Paris, he was concerned in this case, and very narrowly escaped falling martyrdom for the protestant religion. In his sepulchre, as he called it, he wrote two excellent Latin poems, which are still extant, viz. a pastoral version of the story of Job, and the tragedy of Herod, which he had only imagined. In 1573, he returned to Scotland and entered into holy orders, and officiated as minister of Paisley. In 1575, he was appointed one of the consistory

missioners for settling the jurisdiction and policy of the church, by the General Assembly; and being in the next year deputed to report their proceedings to the Earl of Morton, then regent, he was named by this nobleman as one of his chaplains, and afterwards advanced by him to the archbishopric of St. Andrew's. This preferment subjected him to various disputes with the General Assembly, which continued for several years. In 1577, he composed a catechism in Latin verse for the use of the young prince, which was much admired and applauded in England, France and the Low Countries, when the author was already known by his Latin translation of the Confession of Faith, which was printed in France, during his residence in France, at the hazard of his life. In 1582, he was seized with a disorder, for the relief of which he took some simple medicine that was recommended to him by an old woman. This woman was charged with witchcraft, and within three or four years executed at Edinburgh; and the prelate was traduced by his enemies for applying to the devil in order to save his life. The archbishop, however, recommended himself to the favour of king James VI. by zealously defending the episcopal order; and he was sent as his ambassador to queen Elizabeth, which office required his residence in London for some years. Queen Elizabeth was jealous of his popularity, as a preacher, and dreading the impressions which he made on the minds of the people in favour of the young king, his master, prohibited his preaching during his stay in her dominions. Soon after the execution of the first earl of Gowrie, viz. in 1584, the archbishop was recalled, and sat in the parliament held at Edinburgh, and concurred in enacting several laws for settling the peace of the kingdom, and for establishing the king's authority in ecclesiastical offices. Many attempts were still renewed for degrading his reputation, and making him odious to the people; nor was the royal declaration of the reasons which induced those laws, sufficient to restrain them. At a provincial synod, held at St. Andrew's in 1586, the prelate was accused and excommunicated: but upon his submission at the next General Assembly at Edinburgh, he was absolved from the excommunication. In 1588, a commission was granted by the General Assembly, before which he was cited, for trying him on account of various crimes, with which he was charged. In the beginning of next year, he published the Lamentations of Jeremiah in Latin verse, which he dedicated to the king, and in which he complained of his hard usage: and at the close of the year he published a similar translation of the Apocalypse, together with a copy of Latin verses, addressed to his Majesty, and deploring his distress. His application, however, was of no avail. The revenue of his see was granted to the duke of Lenox, and the prelate, with his family, were literally reduced to the want of bread. The scanty relief he obtained was procured for him in the most humiliating manner; so that he lingered out a most cheerless existence till the latter end of the year 1591. His character has been very differently appreciated by persons of discordant sentiments in religion and politics. It is generally allowed that he supported, under the authority of the king, oppressive and injurious measures; and that his bigotry and timidity involved him in the difficulties and disgrace which beclouded the close of his life. During the reverse of his condition and the trials with which he was exercised, he manifested sentiments of pious resignation. Of his learning there is no question; and he is said to have been one of the most polite prelates of the age in which he lived. Besides those pious works, which were collected and published in a 4to. volume, by Mr. Wilson, this prelate wrote many things which were never published; such as six books on the

Hebrew republic, various translations of the prophets into Latin verse, prelections on St. Paul's epistles to Timothy, various apologetical and funeral orations, and a very candid history of his own times. Beng. Brit.

ADAMSTOWN, in *Geography*, a town of Lancaster county in Pennsylvania, consisting of about 40 houses; 20 miles north-east of Lancaster.

ADAMUS, in *Alchemy*, is used to signify the philosopher's stone, which persons addicted to this kind of science call an animal, and, as they say, has carried its invisible Eve in its body, ever since they were united by the creator.

ADANA, in *Geography*, a town of Natolia, or Asia Minor, in the province of Caramania. It is situated on the river Choquen; on the banks of which, is a small but strong castle, erected upon a rock. The water of the river is brought to the town by means of water-works, which convey it into the several fountains; and a bridge of 15 arches leads to these works. The climate is healthy, and the winter mild; but the summer is so hot as to render it necessary for the inhabitants to retire to the neighbouring mountains, and to shelter themselves in groves and grottoes. The adjacent country is rich and fertile, and produces melons, cucumbers, pomegranates, pulse and herbs of all sorts through the year; besides corn, wine and fruits in their proper season. Adana is much resorted to by the inhabitants of the other towns of Cilicia, especially from the mountain side, for its wines, corn and other fruits, which are hence dispersed into the most barren parts. It is about 30 miles north-east of Tarsus. N. lat. 38° 10'. E. long. 36° 12'.

ADANA, in *Ancient Geography*. See ADEN.

ADANATES, a people of the Cottian Alps, called by Pliny *Edenates*.

ADANI *Isulæ*, two islands of the Red Sea, according to Ptolemy.

ADANO, see STURGEON.

ADANSON, MICHAEL, in *Biography*, was born at Aix in Provence, in April 1727, and at a proper age he was sent to Paris, where he prosecuted his studies in medicine, botany, and astronomy with singular zeal. He was a pupil of the celebrated Reaumur. In the year 1748, he went to Senegal, where he spent six years in examining the productions found in the neighbourhood of the famous river of that name. In return for some valuable communications respecting the geography of the country, and on the plants and animals he had discovered there, which he sent to the Royal Academy, he was made one of their corresponding members. On the death of Reaumur, in the year 1759, he was elected a member in his place, and about the same time was made honorary member of the Royal Society of London. At the end of six years, he returned to Paris, where he published his *Histoire naturelle du Senegal*, 4to. containing observations on the diseases incident to hot climates; and in 1763, his *Famille des Plantes*, 2 vol. 8vo.

In February 1775, he presented to the academy a plan of a natural history which he did not live to perfect. The time of his death, which happened soon after, is not precisely known.

ADANSONIA, in *Botany*, the name of which is derived from Mr. Adanson, above mentioned, is a genus of the *monadelphia* order and *polyandria* class, and belongs to the natural order of *Scrobinifera* and *Melastaceæ* of Jussieu. Its characters are, that the calyx is a one-leaved semiquinquefid, cyathiform perianthium, with divisions revolute, and deciduous; the corolla consists of five, roundish, nerved, revolute petals, connected by the claws with each other, and the stamina: the stamina have

have numerous filaments united at bottom into a tube, which they crown, expanding horizontally: the pistillum has an ovate germ, very long, tubulous and variously intorted style; the stigmata are many (10) prismatic, villous and radiate-expanded: the pericarpium is an ovate, woody, not gaping, ten-celled (from 10 to 14) capsule, with farinaceous pulp, and the partitions membranaceous: the seeds are numerous, kidney-shaped, rather bony, and involved in a friable pulp. The *Adansonia digitata*, Ethiopian four-gourd, or Monks' bread, called also Abavo, Guanabanus and Baobab, is the only known species of this genus. See BAOBAB.

ADAOUS, in *Geography*, a people of Africa, residing on the ivory coast in the kingdom of Sacca.

ADAPTER, in *Chemistry*. See ADOPTR.

ADAR, in the *Hebrew Chronology*, the 12th month of the ecclesiastical year, and the 6th of the civil year. It contains only 29 days, and answers to our February, and sometimes enters into the month of March, according to the course of the moon. On the 7th and 13th days of this month, the Jews observe two fasts; the former on account of the death of Moses, and the latter called that of Esther, in commemoration of the conspiracy of Haman. On the 9th they have a fast in commemoration of the schism between the schools of Shammai and Hillel. The 12th is a feast in honour of two profelytes at Laodicea, who preferred death to the violation of the law; some observe the 13th as a feast in memory of the death of Nicanor, an enemy of the Jews. The feasts of Purim are celebrated on the 14th and 15th days; the lesser on the 14th (Esther ix. 21.) and the greater on the 15th day. The 17th is observed in commemoration of the Sages of Israel, who escaped from Kofik, a city of Arabia, whither they were driven by the persecution of Alexander Jannæus. The 20th is observed as a feast in remembrance of the rain obtained in a time of drought, during the reign of this prince. The dedication of the temple of Zerubbabel was on the 23d day, Ezr. vi. 16.; and the 28th was observed in commemoration of the repeal of the decree by which the kings of Greece had forbidden the Jews to circumcise their children, to observe the sabbath, and to decline foreign worship. Selden de Syned. l. iii. c. 13. Megillat. Taanith et Gemara.

As the lunar year is shorter than the solar by 11 days, which in three years amount to about a month, the Jews then insert a 13th month, which they call VEADAR, or a second Adar, consisting of 29 days. This intercalation postpones the great feasts, &c. a whole month.

ADAR, in *Geography*, a city in the tribe of Judah. Joshua xv. 3. Eusebius places another town of this name in the neighbourhood of Lidda or Diospolis, in the district of Thamna.

ADARCE, in the *Materia Medica* of the ancients, a saltish humour, concreting about the stalks of reeds and other vegetable matter, in form of incrustations. The ancients speak of adarce, as chiefly produced in Cappadocia and Galatia, though we also read of it in Italy; and also of a native kind produced in Indian reeds, much as fugar in the cane. Its colour is like that of the fine powder of the Asian stone, or Sarcophagus, and its substance is lax and porous, much like the bastard sponge; so that it might be called the bastard sponge of the marshes. It is a topic adapted to rub and scour the skin in a leprosy, sun-burning, tetters, freckles, and similar blemishes, being on the whole of an acrimonious quality. Dr. Plot describes it in his natural history of Oxfordshire.

The incrustations often seen about our springs, are very different in their nature and qualities from the *adarce* of the Greek physicians.

ADARCI, in *Natural History*, a name given by some writers to the *CELLIPORA spongitæ* of Linnaeus.

ADARCON, *Adarconim*, an ancient coin mentioned in scripture, usually of gold, derived, as some think, from those gold pieces coined by Darius, called *daricon*. See DARIC. Hostius makes the adarcon only equal to the attic drachma; but Bishop Cumberland, after the scholiasts of Aristophanes and Harpocration, twice as much.

ADARE, in *Geography*, a small town in the county of Limerick in Ireland, which was once fortified.

ADARI, a town, according to Ptolemy, of Arabia Felix.

ADARINA, a town of India, according to Ptolemy.

ADARME, in *Commerce*, a small Spanish weight used through their American provinces, equal to the sixteenth part of an ounce. Stephens renders it in English by a dram.

ADAROPOLIS, *Adaropropolis*, *Adari civitas*, a city in the Persian gulf.

ADARTICULATION is used by some *anatomists* for *arthrosis*, by others for *diarthrosis*. See ARTHRODIA and DIARTHROSIS.

ADASA, or *Adarsa*, in *Ancient Geography*, a city of Palestine, in the tribe of Ephraim, four miles from Bethoron, and not far from Gophna. 1 Maccab. vii. 45. This place is called Adazar, and Adaco or Acedosa, by Josephus. Here Nicanor, with 35,000 men, was overcome and routed by Judas Maccabæus, with an army of 3000. We learn from Josephus, that Judas, in another war, was killed in this place. Joseph. Ant. l. xii. c. 17. and de Bell. l. i. c. 1.

ADASATRA, or *Adisathron*, a town according to Ptolemy, and according to others a mountain of India. The middle of this mountain is placed by Ptolemy in lat. 23°. and long. 132°.

ADATAIS, or ADATYS, in *Commerce*, a muslin or cotton cloth very fine and clear, of which the piece is ten French ells long, and three quarters broad. This muslin comes from the East Indies, and the finest from Bengal.

ADATES, in *Ancient Geography*, a town of Pisidia in Asia Minor.

ADATTHA, a town of Asia, not far from the Euphrates. In Ptolemy's charts, it is west of the mountains which separate, to the south-east, Cappadocia from Comagene, in lat. 37° 30'. long. 69° 30'.

ADAYES, in *Hydrography*. See MEXICANO river.

ADCHER, in the *Materia Medica*, a name given by Avicenna and Serapion to the SCÆNANTH, or camel's hay. The Arabians have not restricted this word to the scænanth alone, but express by it all the kinds of rushes. Thus Avicenna tells us, that the Adcher is of two kinds, the one bearing no fruit, the other bearing a hard black fruit: this plainly belongs not to the scænanth, but to the common rush, of which Dioscorides has, in the same manner, described two kinds, thus differing from one another.

ADCORDABILES *denarii*, in ancient *Law-books*, denote money paid by the vassal to his lord, in the nature of a fine, upon the sale or exchange of a FEUD. The word is formed from *acorder*, to agree.

ADCRESCENTES, in the Roman empire, the same with ACCENSII.

ADDA, or ADDUA, in *Geography*, a river of Switzerland and Italy, which rises in Mount Braulio, on the confines of the Grisons, and, passing through the Valteline, traverses the lake Como, and the Milanese, and falls into the Po near Cremona. A canal has been carried from the city of Milan to the Adda. History records a famous battle

on the banks of this river, in which Flaminius was victorious over the Insubrian Gauls.

ADDA is also the name of a small district in the duchy of Milan, where Louis XII. gained a victory over the Venetians in 1509.

ADDA, *Et.*, in *Zoology*, a species of small lizard described by Mr. Bruce, and represented as a native of Athara beyond the rains, in the situation to which he refers the ancient island and city of Meroe. Its length is six inches and a half: its body is round and tail of the same form, but very sharp pointed: its forehead is flat, of a conical shape, and rounded at the end: the head is darker than the body, and its face covered with black lines crossing one another at right angles: its eyes are small, and defended by a number of strong black hairs which serve for eye-lashes: its upper jaw projects beyond the under, and its jaws are furnished with several short and fine teeth: its ears are large, open, and nearly round: its body is of a light yellow colour, crossed with eight black bands: the scales are close, and largest along the back, and their surface is polished: its legs from the shoulder to the middle toe are near one and three-fourths of an inch long, and its feet have five toes, each of which is furnished with a brown claw tipped at its end with black. Its motion is very swift, though it crawls with its belly almost close to the ground. It burrows in the sand, but comes out in the heat of the day to bask in the sun; and when it is not much frightened, it will shelter itself behind stones, or in the withered roots of the absinthium when they are dried so as to be nearly of its own colour. This is one of the few lizards which the Arabs believe to be free from poisonous qualities, and they ascribe to it many medicinal virtues. It is thought to be a certain remedy for the elephantiasis; and to be efficacious in cleansing the skin of the body and the face, from cutaneous eruptions; and it is also used against films and suffusions of the eyes. Such are the virtues ascribed to it by Arabian authors.

ADDACA, in *Geography*, a town according to Ptolemy of Mesopotamia.

ADDACE, in *Zoology*, the name by which the Africans call the common ANTELOPE.

ADDÆA, in *Ancient Geography*, a town of Asia in the southern part of Mesopotamia, near the Euphrates; placed by Ptolemy in lat. 34° , and long. $77^{\circ} 15'$, and probably the same with *Anatho*.

ADDÆUS, a river of Asia, which is supposed to be the *Anamis* of Arrian, and the *Andanis* of Ptolemy.

ADDEPHAGIA, compounded of *αδδν*, much, and *φαγειν*, I eat, in *Medicine*, a term used by some physicians to denote a greediness in children, whereby they load themselves with new food, before the old is digested. Some use Addephagia in a more extensive sense for voraciousness in general, so as to comprehend the BULIMIA, PICA, and MALACIA.

ADDER, in *Zoology*, a venomous reptile of the serpent kind, more usually called a VIPER. See COLUBER. The adder is sometimes confounded with asp: thus the deaf adder, spoken of in the English Bible, is not properly the adder, but the asp. Calmet.

The adder differs from the snake, as the former is much shorter for its bulk, and especially its tail below the vent; that it is marked on the back with black lines or spots, which the snake has not; that its belly is blackish, and of one colour, whereas the snake's is party-coloured, of a pale yellow and blue; that it never grows to the size of some snakes; and lastly, that it is viviparous, whereas the snake is oviparous.

ADDER, *Sea*, in *Ichthyology*, the English name of the SYNGNATHUS TYPHLE. See SEA-ADDER.

ADDER, *water*, in *Zoology*, a name given to the NATRIX. See COLUBER.

ADDER'S Bank, in *Geography*, a shoal which lies off the north-west point or entrance of the river Issequibo, in Guiana, in South America, which, with some others, extends far into the sea, and reaches to Cape Nassau, or the east point of the river Pomaron.

ADDER-BOLTS, in *Zoology*. See DRAGON-FLIES.

ADDERGEY, in *Geography*, a village in the district of Salent, or Talent, in Abyssinia, not far from the river Tacazzé, situate amongst rugged and barren mountains, and surrounded by a thick wood in form of an amphitheatre, which is full of lemons and wild citrons. The river mai-lumi rises near the village, and precipitating into a cataract 150 feet high, at some distance discharges itself into the Tacazzé. N. lat. 13° , $24'$, $56''$. E. long. $37^{\circ} 57'$. Bruce's Trav. vol. iii. p. 170.

ADDER-STUNG is used with respect to cattle when stung, whilst they are grazing, by any kind of venomous reptiles, particularly the adder. Dogs are peculiarly liable when hunting to this accident; and if relief is not obtained it sometimes proves fatal. The symptoms are great pain, anxiety, and swelling of the wounded part; after which, the body swells universally.—Oil has been given with advantage, as likewise onions: but the remedy most to be depended on is the caustic volatile alkali, which is the eau de luce of cabinets, the aqua ammonia pura of the college dispensatory, and the sal volatile of the shops. To a horse or ox two moderate table-spoonfuls may be given in half a pint of milk; to a large dog three tea-spoonfuls in the same manner, and to a lesser dog or other small animal a proportional dose. Whatever is given internally may with propriety be applied externally to the wound.—The adder is perhaps the only animal in our island whose bite occasions any considerable morbid consequences; the goat-sucker, the hedge-hog, and the shrew-mouse, are animals perfectly inoffensive, and incapable of inflicting any venomous wound.

ADDER'S Tongue, in *Botany*, a medicinal plant, so called either from its resembling, or its curing, the bite of a viper. It is more commonly called OPHIOGLOSSUM. This is a spring plant, and is only to be found in April and May. It is not uncommon in wet meadows, and is easily distinguished among the other spring plants by its spike or tongue. It is esteemed one of the best vulnerary herbs this country produces; but it is more in use among the common people than in the shops. They give its juice internally, and use the herb bruised, or an ointment prepared from it with lard, or May-butter, externally, at the same time. Farriers, &c. prepare an ointment of this herb, called *adder's tongue ointment*, used as a remedy against the bites of venomous beasts. Phil. Transf. vol. xlix. pt. ii. n^o. 112. p. 853.

ADDER'S Wort. See BISTORT.

ADDEXTRATORES, or ADDEXTARI, in the court of Rome, denote the pope's mitre-bearers. Some suppose that they are thus called, on account of their walking at the pope's right hand, when he rides to visit the churches.

ADDICE. See ADZE.

ADDICO. See ADDICTIO.

ADDICTI, in *Antiquity*, insolvent persons, or those who being sentenced to pay a debt, but unable to do it, were adjudged to a temporary kind of servitude to the creditor. In this sense addicti were a species of *servi*; from whom, however, they differed in this, that a slave, when discharged, became a *libertus*; whereas an *addictus* became *ingenuus*. Again, a slave could not be discharged without the consent of his master; whereas the *addictus* was discharged

charged of course when his debt was satisfied. Pitisc. Lex. Ant. and Calv. Lex. Jur.

ADDICTIO, **ADDICTION**, in the Roman *Law*, a transferring or passing of goods to another, either by sentence of a court, or in the way of sale, to him that bids most for them. The word stands opposed to *addictio*, or *ADDICATION*. It is formed of *addico*, one of the fluted words used by the Roman judges, when they allowed the delivery of the thing or person on whom judgment had passed. Hence goods, thus adjudged by the prætor to the right owner, were called *bona addicta*; and the debtors delivered up, in like manner to their creditors to work out their debt, were called *servi addicti*.

ADDICTIO in diem, denoted the adjudging of a thing to a person for a certain price; unless by such a day the owner or some other person gave more for it.

ADDINGTON, **ANTHONY**, in *Biography*, finished his studies at Trinity College, Oxford, where he took his degree of doctor in medicine, 1744. He then settled at Reading, in Berkshire, and there acquired considerable reputation for his judicious and successful method of treating diseases. About the year 1754 he came to London, and in 1756 was made Fellow of the Royal College of Physicians, and soon attained that eminence in his profession, to which he was entitled by his genius and talents. In a few years after, the indifferent state of his health obliging him to quit London, he returned to Reading, where he opened a house for the reception of maniacal patients. In 1789 he was sent for to visit his present Majesty, then labouring under a severe fever, and was the first of the physicians attending him, who gave a favourable prognostic of the event of the complaint, which was soon after verified, to the great satisfaction of the country. The doctor died at Reading, on the 21st of March, 1790. While practising in London he became acquainted with the great Mr. Pitt, afterwards Earl of Chatham, with whom he lived in the strictest intimacy. It was on the recommendation of his lordship's son, then Chancellor of the Exchequer, that he was called on to visit his Majesty. By the same interest Henry Addington, Esq. his eldest son, was made first speaker of the House of Commons, and having filled that arduous office, nearly through two parliaments, with great reputation, he was raised, by his Majesty, in March, 1801, to the high dignity of Chancellor of the Exchequer, which his friend and patron had resigned.

The only publication we have of the doctor's, is an essay on the sea scurvy, printed 1753, containing an account of a method of preserving water sweet in long voyages. This was proposed to be effected by mixing a portion of the acid of sea salt, with the water. A more effectual mode has since been discovered by Mr. Henry of Manchester.

ADDISON, **LANCELOT**, in *Biography*, the son of a clergyman of the same name; was born in the parish of Croby Ravenworth, in Westmorland, in the year 1632. Having received the rudiments of classical learning in the grammar school of Appleby, he was sent to Queen's College, Oxford, in 1650, and admitted to the degree of bachelor of arts in 1654; and distinguishing himself by his genius and application, he became master of arts in 1657, and in 1658 he was selected to be one of the *Terra filii* for the act which was celebrated in that year. As in the orations delivered on this occasion he reflected on the persons then in power, he was obliged to recant and ask pardon on his knees. After this he soon retired from the university, and chose for his retreat the neighbourhood of Petworth in Sussex, where he zealously propagated principles of loyalty to the king, and of attachment to the church. Upon the

restoration of King Charles II. he was recommended to Dr. King, bishop of Chichester, who would have provided for him, if he had not previously engaged to go to Dunkirk, as chaplain to the garrison. When that place was delivered up to the French in 1662, he accepted the same office to the garrison of Tangier, but returned to England in 1670, and was made one of the chaplains in ordinary to the king. After struggling with some difficulties by the loss of his chaplainship at Tangier, he obtained a rectory in Wilts, and one of the prebends in the cathedral church of Sarum; and in 1675, took the degrees of bachelor and doctor in divinity at Oxford. Thus advanced and decently provided for, he lived in the country with hospitality, discharged his parochial duty with diligence, and devoted his leisure hours to writing on behalf of religion and the established church. In 1683 he was installed into the deanery of Litchfield, and in 1684 collated to the archdeaconry of Coventry, which he held with his deanery *in commendam*. After the Revolution he might, it is said, have been made a bishop, if he had not, in the convocation of the preceding year, and on other occasions, manifested a degree of zeal for the church which afforded a pretext for misrepresenting him to persons in power. His integrity, however, was unquestionable, and his literary reputation universally acknowledged. He departed this life on the 20th of April, 1703, in the 71st year of his age, and was buried in the church-yard of the cathedral at Litchfield. He was twice married, and had three sons and three daughters by his first wife; but by his second wife, who survived him, he left no issue. The treatises which he published are as follow: viz. 1. *West Barbary*, or a short Account of the Revolutions of the Kingdoms of Fez and Morocco, &c. 1671, 8vo. 2. *The present State of the Jews*, &c. with an annexed Discourse on the Mischna, Gemara, and Talmud, 1675, 8vo. 3. *The primitive Institution*, or a seasonable Discourse of Catechising, &c. 4. *A modest Plea for the Clergy*, &c. republished by Dr. Hickeys in 1709, 8vo. 5. *The first State of Mahometism*, &c. 1678, 8vo. 6. *An Introduction to the Sacrament*, &c. 1681; republished with an appendix, called the Communicant's Assistant, &c. in 1686, 12mo. 7. *A Discourse of Tangier*, &c. 1685, 4to, second edition. 8. *The Catechumen*, 1690, 12mo. 9. *An historical Account of the heresy, denying the Godhead of Christ*, 1696, 12mo. 10. *The Christian's daily Sacrifice*, or right Performance of Prayer, 1698, 12mo. 11. *An Account of the Millennium*, the genuine Use of the two Sacraments, viz. Baptism, and the Lord's Supper, with the Christian's Obligation frequently to receive the latter.

ADDISON, **Joseph**, the son of Dean *Addison*, the subject of the preceding article, was born at Millston, near Abrolbury, in Wiltshire, May 1, 1672, and being unlikely to live, was baptized the same day. Mr. Tyers says, that he was laid out for dead as soon as he was born. At the Charter-House, whither he was removed at an early age, and where he was under the tuition of Dr. Ellis, he commenced an intimacy with Mr. afterwards Sir Richard Steele, which lasted during life. At the age of 15 he was entered of Queen's College, in Oxford; and there he soon acquired an elegant Latin style, of which a specimen appeared in a copy of verses that fell accidentally into the hands of Dr. Lancaster, afterwards provost of Queen's College, in 1687, and which induced him to procure the election of Mr. Addison as a demy of Magdalen College in 1689: where he took the degrees of bachelor and master of arts. His Latin poetry, in the course of a few years, gained him the reputation of a great poet; and his poems in this language, eight of which were published in the second

volume of *Musæum Anglicanarum Analekta*, were so much approved, not only in both universities, but among foreigners, that the celebrated Boileau was led to conceive a very favourable opinion of the English genius for poetry, from these specimens of it, and to speak of the author in high terms of commendation. The first exhibition of his talents in English poetry was a copy of verses addressed to Mr. Dryden in the 22d year of his age, which was very much admired by the best judges. This was soon succeeded by a translation of the 4th Georgic of Virgil, highly commended by Mr. Dryden, and a Discourse on the Georgics, prefixed to Mr. Dryden's translation, which is allowed to possess the distinguishing characters of just criticism. Amongst other poems, which appeared in 1694, there was one which contained an account of the greatest English poets, addressed to Mr. H. Sacheverell, with whom he seems to have been intimate; and whose sister he is said to have courted, though their intimacy was afterwards interrupted by the author's adherence to the political principles which Mr. Sacheverell deserted. The subject of his next performance was one of King William's campaigns; and this poem, which was addressed to the Lord Keeper, Sir John Somers, and much approved by him, engaged the attachment and patronage of this eminent statesman.

Mr. Addison having resisted urgent solicitations to enter into holy orders, and abandoned a resolution which he seems to have once formed, obtained, from the friendship of Lord Somers, an annual pension of 300l. which enabled him to gratify his inclination of making a tour to Italy towards the close of the year 1699. In 1701, he transmitted from Italy an epistolary poem to (Montague) Lord Halifax, which some have pronounced as the best of his performances. On his return he published an account of his travels, dedicated to the Lord Somers. Upon the death of King William, his pension was discontinued, and in consequence of the exclusion of his friends from the ministry, he remained for a considerable time inactive and unrecompensed. However, in 1704, Lord Halifax recommended him to the Lord Treasurer Godolphin, as a fit person to celebrate the Duke of Marlborough's victory at Blenheim. Mr. Addison was engaged in a manner peculiarly respectful to undertake this important office; and this produced the poem, intitled the *Campaign*; which was received with very loud and general applause, and which will be admired as long as the victory is remembered. In 1706 the author was appointed under secretary of state; and about this time he composed his inimitable opera of *Rosamond*, and he also assisted Sir Richard Steele in his play called *The Tender Husband*, to which he wrote an humorous prologue. In 1709 he went over to Ireland as secretary to the Lord Lieutenant, the Marquis of Wharton, where her Majesty conferred upon him the office of Keeper of the Records in that kingdom, with an augmented salary. In this year the *Tatler* appeared; the author of which was discovered by Mr. Addison to be his friend Mr. Steele, by an observation on Virgil, which he had communicated to him. In consequence of this discovery he afforded to the author such assistance as induced him to say of it, that he fared by this means, like a distressed prince, who calls in a powerful neighbour to his aid; that is, that he was undone by his auxiliary. The *Tatler* being discontinued in 1711, was succeeded by the *Spectator* upon a plan concerted between Mr. Steele and Mr. Addison. It commenced, March 1, 1711, and was concluded, September 6, 1712. Mr. Addison's papers in this work, the excellence of which time has very highly appreciated, are marked by the letters that form the name of the Muse CLIO. It is said, that when his book-

seller came to him for the *Spectator*, Bayle's Historical and Critical Dictionary always lay open before him; and that he was so extremely nice in his prose compositions, that when almost a whole impression of a *Spectator* was worked off, he would stop the press, to insert a new preposition or conjunction. Of the value of this publication, and of the good sense that directed the judgment and taste of the British nation at the period in which it was written, we shall form a very favourable opinion, when we consider that 20,000 copies were sometimes sold in a day. An attempt was made to continue it by other ingenious writers; but it proved unsuccessful. Eighty numbers were published, to which Mr. Addison contributed about a fourth part, and these formed an eighth volume. The *Guardian*, in which Mr. Addison had a principal concern, amused the town in the years 1713 and 1714: his papers are marked by a hand. Two numbers, in a paper called the *Lover*, were also written by him. During his travels, Mr. Addison executed a design, which he had conceived at an early age, of writing a tragedy; and in 1713 appeared his famous *Cato*, with a sublime prologue by Mr. Pope, and an humorous epilogue by Mr. Garth. It had an uninterrupted run of thirty-five nights; and it was read with a satisfaction and commendation equal to the eagerness and pleasure with which it was attended on the stage. It was translated into French, Italian, and German; and the jesuits at St. Omer made a Latin translation, where it was acted by their pupils with great magnificence. The soliloquy of Cato was rendered into Latin verse by Bishop Atterbury, in a style worthy of the sublime original, and which would have been admired even by the critics in the court of Augustus. The author had intended to have written another tragedy, under the title of *The Death of Socrates*: but the offices and honours which were devolved upon him in his advancing years, prevented the accomplishment of his purpose. He was likewise under a necessity of declining another work which he had projected, viz. that of composing an English Dictionary upon the plan of the Italian Della Crusca; in his project for this purpose, he considered the writings of Archbishop Tillotson as the chief standard of our language. During the period in which the Earl of Sunderland was Lord Lieutenant of Ireland, he was his secretary; but on the removal of the Earl, he was appointed one of the Lords of Trade. In 1715 he began to publish the *Freeholder*, which is a kind of political spectator, and admirably conceived and executed, at a period of discord, for the purpose of removing prejudices, settling the government, and making his country happy. This admirable collection of papers contained fifty-five numbers, the last of which was published June 29, 1716. About this time he also published his verses to Sir Godfrey Kneller, on the King's picture, and another copy to the Princess of Wales, with his tragedy of Cato. In 1716 he married the Countess of Warwick, without deriving from the connection, as it has been said, any great addition to his happiness. In the following year, King George I. appointed him one of his principal secretaries of state; but the application and parliamentary attendance which this office required, concurred with an asthmatic disorder, to which he was subject, in impairing his health, and hastening his dissolution; and he was, therefore, under a necessity of resigning it, in lieu of which he had a pension of 1500l. a year. His friends hoped that by recesses from public business, and the tranquillity of retirement, his health would be re-established, and his life prolonged. For some time he seemed to experience the good effects of his new course of life; and he employed his hours of leisure in completing his Treatise of *The Christian Religion*, which

which he had begun long before, and of which the first part, in an unfinished state, is contained in his works. He intended likewise to have paraphrased some of the Psalms of David; but a long and painful relapse broke all his designs, and terminated the life of this excellent person. June 17th, 1719, in the 48th year of his age. He died at Holland-House, near Kensington, leaving behind him an only daughter by the Countess of Warwick. After his decease Mr. Tickell, in pursuance to the instructions which he had received, collected and published his works in four volumes, 4to. This edition contains, besides the pieces already mentioned, the "*Dissertation upon Medals*," for which the materials were collected in Italy, and digested at Vienna, in 1702; "*The present State of the War, and the Necessity of an Augmentation considered*," first published in the form of a pamphlet in 1707; "*The Whig Examiner*," published in 1710, of which five papers are attributed to Mr. Addison, and they are the most severe of his publications: they were written by way of reply to the "*Examiner*," published on the part of the Tories, and contain some harsh animadversions on Dr. Sacheverell, Mr. Prior, and others. A similar piece, intitled, "*The late Trial and Conviction of Count Tariff*," and designed to expose the Tory ministry on the subject of the French commerce-bill, was published in 1713. The comedy of the "*Drummer or Haunted House*," though not noticed in this edition, was afterwards published as Mr. Addison's, by Sir Richard Steele. The following pieces have been also ascribed to Mr. Addison: viz. "*Dissertatio de insignioribus Romanorum Poetis*," written about 1692; "*A Discourse on ancient and modern Learning*," preserved among the MSS. of the late Lord Somers, and printed in 1739, 8vo.; and N^o. 1 and 2 of "*The Old Whig*," pamphlets, written in defence of the peerage bill, 1719.

The character of Mr. Addison, as a classical scholar, as a statesman, as a poet, and elegant writer, and as a man of religious principle and exemplary probity and virtue, has been delineated and ably defended against the attacks of prejudice and envy by many writers; and their testimonies have been collected and duly appreciated by Dr. Kippis, in the last edition of the *Biographia Britannica*. The Latin poems, which were his early productions, his discourse on the Georgics, and his dissertation on medals, afford ample evidence of his classical taste and erudition.

As a statesman it has been alleged against him, that his invincible modesty and timidity disqualified him for conducting any political debate in parliament; that he made a mean figure in the office of secretary of state; that he was unfit for active life; and that he was very deservedly removed from office to make way for a more able successor. Such are the contemptuous charges retailed by Sir John Hawkins, in his *History of Music*, (vol. v. p. 315.) who adds, that Dr. Mandeville, the author of the *Fable of the Bees*, called him, "a parson in a tye wig." In reply to these charges it has been urged, that Mr. Addison was gradually trained up to a qualification for the several employments in which he was engaged; that he was designed for the service of the state by Lord Somers and Lord Halifax; and that he occupied in succession various departments of public business without incurring the reproach of want of ability. As to his removal from public office, the true cause of it was his declining health; and that on his own part it was purely voluntary, appears from his intimate connection with Lord Sunderland and the Lord Viscount Stanhope, who were in office, and his friendship with Mr. Craggs who succeeded him, and from the zealous support which he gave to the ministry after his resignation. The reserve and diffidence charged upon him by Dr. Mandeville,

if the story be true to which the anecdote refers, might possibly arise from his disinclination to be free and intimate with a person whose principles and character he must have disliked.

As a poet, Mr. Addison was for a long time highly extolled; but his reputation has lately been upon the decline. He is ranked by Dr. Warton in the second class of our poetical authors, and joined with Dryden, Prior, Cowley, Waller, Garth, Fenton, Gay, Denham, and Parnell: whilst the first class comprehends Spenser, Shakespeare and Milton. Others have degraded him to a still lower rank. Mr. Gilbert Cooper says, (Letters concerning Taste, p. 34.) that he has no right to a pretension of being a good poet. Dr. Hurd (Critical Commentary and Dissertations, v. iii. p. 122.) speaks of him as one who had no want of natural talents for the greater poetry; which yet were so restrained and disabled by his constant and superstitious study of the old classics, that he was, in fact, but a very ordinary poet. Although it should be allowed that Mr. Addison did not really display, in his poetry, a highly vigorous imagination, yet there are many and distinguished excellencies in his poems, which intitle him, in the opinion of very competent judges, to a higher rank than even Dr. Hurd assigns him. In this connection it may not be improper to observe, that Captain Thompson, in his edition of Mr. Andrew Marvell's Works, (vol. i. Pref. p. 19, &c.) ascribes to Marvell the two fine hymns in N^o 453 and 465 of the *Spectator*, which hitherto have been universally, and without doubt, justly ascribed to Mr. Addison. Whilst it is not to be dissembled that criticism was not a talent, in the exercise of which he excelled, nevertheless those who question his abilities as a critic concede that his taste was truly elegant, and that he may be ranked in this department of literature with Longinus, though he sinks below Aristotle; and that, however defective he may be thought with regard to the philosophy of his criticisms, he determined justly from his feelings, and contributed by his critical remarks on the Georgics, on Ovid, and especially on Milton, more than any other man, to excite and propagate a good taste in the English nation. His Essay on the Pleasures of the Imagination should not be forgotten by those who dispute his critical sagacity; and the candid will recollect, that philosophical criticism had not been cultivated at the period in which he lived, and that in this respect he was far superior to his contemporaries.

Whatever difference of opinion there may have been as to the rank and celebrity to which Mr. Addison is intitled as a poet and a critic, his distinguished and almost super-eminent excellence as a prose writer has been universally allowed. Those whose province it has been to mark his casual errors and defects, have concurred in paying him a tribute of high commendation. Many testimonies of this kind might be cited from the publications of Mr. Cooper, Dr. Hurd, Dr. Young, Mr. Melmoth, Dr. Warton, Dr. Johnson, Dr. Blair, and others. Under this head the following reflections may not be unacceptable to the reader. In various parts of Mr. Addison's prose essays, says Dr. Warton, are to be found many strokes of genuine and sublime poetry; many marks of a vigorous and exuberant imagination. After all, his chief and characteristic excellency was his humour; for in humour no mortal has excelled him, except Moliere: for which he refers to the character of Sir Roger de Coverley, so original, so natural, and so inviolably preserved; and to the *Drummer*, that excellent and neglected comedy. Dr. Young, in his conjectures on original composition, describes his character as a writer at large; and upon a comparison of Addison with Swift and Pope,

he remarks, that he possessed a more refined, decent, judicious, and extensive genius, than either of the latter writers. Swift, says he, is a singular wit, Pope a correct poet, Addison a great author. Addison's crown was elective; he reigned by the public voice :

— volentes
Per populos dat jura, vivuntque affectat Olympo.

VIRGIL.

Addison wrote little in verse, much in sweet, elegant Virgilian prose. His compositions are built with the finest materials, in the taste of the ancients, and on truly classic ground; and though they are the delight of the present age, yet I am persuaded (continues this author) that they will receive more justice from posterity. His admirers call him an elegant writer. That elegance which shines on the surface of his compositions seems to dazzle their understanding, and renders it a little blind to the depth of sentiment which lies beneath: thus (hard fate!) he loses reputation with them, by doubling his title to it. On subjects the most interesting and important, no author of his age has written with greater, I had almost said, with equal weight: and they who commend him for his elegance, pay him such a sort of compliment, as they would pay to Lucretia, if they should commend her only for her beauty. Young's Works, vol. v. p. 130, &c.

Truth and beauty of imagery (says Mr. Melmoth) is the characteristical distinction of Mr. Addison; and the principal point of eminence which raises his style above that of every author in any language that has fallen within my notice. He is every where highly figurative; yet, at the same time, he is the most easy and perspicuous writer I have ever perused. His images are selected with the utmost delicacy and judgment, from the most natural and familiar appearances. One is particularly mentioned, taken out of a thousand that might be named, which appears to me, says Mr. Melmoth, the finest and most expressive that ever language conveyed. It occurs in one of the inimitable papers upon Paradise Lost, where Milton represents the sun in an eclipse; and at the same time a bright cloud in the western regions of the heavens, descending with a band of angels. The whole theatre of nature, says Mr. Addison, is *darkened*, that this glorious *machine* may appear in all its lustre and magnificence. After other expressions of high commendation, Mr. Melmoth closes.—“In a word, one may justly apply to him what Plato, in his allegorical language, says of Aristophanes, that the *graces* having searched all the world for a temple, wherein they might for ever dwell, settled at last in the breast of Mr. Addison.” Fitzosborne's Letters, Let. xxiv. p. 112, &c. Let. xxix. p. 137.

Dr. Johnson, in delineating the literary character of Mr. Addison, observes with Tickell, that he employed wit on the side of virtue and religion. He not only made the proper use of wit himself, but taught it to others; and from his time it has been generally subservient to the cause of reason and truth. He has dissipated the prejudice that had long connected gaiety with vice, and easiness of manners with laxity of principles. He has restored virtue to its dignity, and taught innocence not to be ashamed. This is an elevation of literary character “above all Greek, above all Roman fame.” No greater felicity can genius attain than that of having purified intellectual pleasure, separated mirth from indecency, and wit from licentiousness; of having taught a succession of writers to bring elegance and gaiety to the aid of goodness; and, to use expressions yet more awful, of having “turned many to righteousness.” As a describer of life and manners, he must be allowed to stand perhaps the first of the first rank. His humour, which

as Steele observes, is peculiar to himself, is so happily diffused as to give the grace of novelty to domestic scenes and daily occurrences. He never “outsteps the modesty of nature,” nor raises merriment or wonder by the violation of truth. His figures neither divert by distortion, nor amaze by aggravation. He copies life with so much fidelity, that he can hardly be said to invent; yet his exhibitions have an air so much original, that it is difficult to suppose them not merely the product of imagination. As a teacher of wisdom he may be confidently followed. His religion has nothing in it enthusiastic or superstitious: he appears neither weakly credulous, nor wantonly sceptical: his morality is neither dangerously lax nor impracticably rigid. All the enchantment of fancy, and all the cogency of argument, are employed to recommend to the reader his real interest, the care of pleasing the author of his being. Truth is shewn sometimes as the phantom of a vision, sometimes appears half-veiled in an allegory; sometimes attracts regard in the robes of fancy, and sometimes steps forth in the confidence of reason: she wears a thousand dresses, and in all is pleasing. Johnson's Poets.

Among ourselves, says an anonymous writer, in the 26th number of the *World*, no writer has made so happy and judicious a mixture of plain and figurative terms as Addison, who was the first that banished from the English, as Boileau from the French, every species of bad eloquence and false wit, and opened the gates of the temple of taste to his fellow-citizens.

Dr. Blair observes, that of the highest, most correct, and ornamented degree of the simple style, Mr. Addison is, beyond doubt, the most perfect example; and therefore, though not without some faults, he is, on the whole, the safest model for imitation, and the freest from considerable defects, which the language affords. Perspicuous and pure he is in the highest degree: his precision, indeed, is not very great, yet nearly as great as the subjects which he treats of require: the construction of his sentences, easy, agreeable, and commonly very musical, carrying a character of smoothness more than of strength. In figurative language he is rich, particularly in similes and metaphors, which are so employed as to render his style splendid, without being gaudy. There is not the least affectation in his manner; we see no marks of labour, nothing forced or constrained; but great elegance joined with great ease and simplicity. He is, in particular, distinguished by a character of modesty and of politeness, which appear in all his writings. No author has a more popular and insinuating manner; and the great regard which he every where shews for virtue and religion recommend him highly. If he fails in any thing, it is in want of strength and precision, which renders his manner, though perfectly suited to such essays as he writes in the *Spectator*, not altogether a proper model for any of the higher or more elaborate kinds of composition. Though the public have ever done much justice to his merit, yet the nature of his merit has not always been seen in its true light; for, though his poetry be elegant, he certainly bears a higher rank among the prose writers, than he is entitled to among the poets; and, in prose, his humour is of a much higher and more original strain than his philosophy. The character of his *Roger de Coverley* discovers more genius than the critique on Milton. Blair's Lectures, vol. ii. p. 41, &c.

Mr. Addison's character, as a man of probity and religious virtue, stands in high estimation. His attachment to his principles and his friends was invariable, and afforded the most convincing evidence, in times of political discord, of his inflexible integrity. It was, nevertheless, blended with

with an amiable liberality and candour. Such, indeed, was his general popularity, that Dr. Swift says of him on a particular occasion, "Mr. Addison's election has passed easy and undisputed; and, I believe, if he had a mind to be chosen king, he would hardly be refused." The friendship that subsisted between these two gentlemen continued through life, without interruption, notwithstanding the difference in their political principles and connections: and so nobly did Mr. Addison act on an occasion, in which he was desired by Lord Sunderland not to converse with some people in Ireland that were not agreeable to him, that whilst he professed his great obligation to his Majesty for the honour intended him, (of being secretary to the Lord Lieutenant,) he declared, at the same time, he could not comply with his excellency's request; as he would not sacrifice his friendship for Dr. Swift, to be made chief governor of that kingdom. Suppl. to Swift's works, vol. ii. p. 410. His character for probity has not, however, escaped calumny and reproach. Dr. Johnson relates an anecdote, which every admirer of the distinguished merit of Mr. Addison will be very reluctant to believe, at least without some authority which Dr. Johnson has not produced, and especially in opposition to the evidence that has been alleged of its falsehood. Steele is said to have borrowed 100*l.* in a time of pressing exigence of his friend Addison, probably without much purpose of repayment: but Addison, being impatient of delay, reclaimed the loan by an execution. The following anecdote, which is of a very different kind, was told by the late Dr. Birch. Mr. Addison and Mr. Temple Stanyan were very intimate, and were accustomed to dispute each other's opinions. Mr. Stanyan, however, was reduced to the necessity of borrowing 500*l.* of Mr. Addison; the consequence of which was reserve and diffidence, and an apparent acquiescence in the sentiments of his creditor on the part of Stanyan. A dispute occurred on a topic, with regard to which the latter had always been used to oppose the former; but on this occasion Mr. Stanyan was silent and acquiescing, which conduct hurt Mr. Addison so much, that he said to his friend, "Either contradict me, or pay me the money." It appears also by some particulars recited concerning Mr. Addison, by a late sprightly writer, (Mr. Tyers) that upon his return to England, after his travels, he discharged the old debt contracted at Oxford, with ample interest; and that he refused a gratification of a 300*l.* bank note, and afterwards of a diamond ring of the same value, from a Major Dunbar, whom he had endeavoured to serve in Ireland by his interest with Lord Sunderland; and, it is probably on this occasion, that he writes in a letter; "Believe me, Sir, when I assure you I never did, nor ever will, on any pretence whatsoever, take more than the stated and customary fees of my office. I might keep the contrary practice concealed from the world, were I capable of it; but I could not from myself; and I hope I shall always fear the reproaches of my own heart more than those of all mankind." We are informed by the writer just mentioned, that having received encouragement from a married lady, of whom he had been formerly enamoured, he had the integrity to resist the temptation. Addison has been charged with manifesting a great degree of jealousy, envy, and malevolence in his conduct towards Mr. Pope. Dr. Warton and Cibber seem to have given credit to this charge; and the accusation has been directly and circumstantially produced by Mr. Ruffhead in his life of Pope, p. 184.—193. The late Judge Blackstone took great pains to investigate the grounds of it, and to evince its falsity. Besides the jealousy of Mr. Pope's superior talents, which constitutes part of the charge, Mr. Addison is accused of permitting Mr. Tickell, who was his dependant, to publish a translation

of the first book of the *Iliad*, which some say was the juvenile work of Addison, and which others affirm was Tickell's, revised by him, just at the time when the first volume of Mr. Pope's work was delivered to his subscribers. After a very elaborate investigation of this subject, published in the first edition of the *Biog. Brit.* the learned Judge closes with this paragraph: "As there are so many inconsistencies in the story itself, which never found its way into print till near sixty years after it is said to have happened, it will be no breach of charity to suppose, that the whole of it was founded on some misapprehension in either Mr. Pope or the earl (Warwick); and unless better proof can be given, we shall readily acquit Mr. Addison of this, the most odious part of the charge." At the close of his life, and with the near views of his dissolution, he sent for the young earl of Warwick, and also for Mr. Gay. He told the latter that he had injured him; but if he recovered, he would recompense him. Mr. Gay was ignorant of the circumstance to which he alluded, but supposed that some preferment had been designed for him, which Mr. Addison prevented his obtaining.

Of his interview with the young Earl, Dr. Young has given the following account. After a long and manly, but vain struggle with his distemper, he dismissed his physicians, and with them all hopes of life. But with his hopes of life he dismissed not his concern for the living, but sent for a youth, nearly related, and finely accomplished, but not above being the better for good impressions from a dying friend. He came; but life now glimmering in the socket, the dying friend was silent: after a decent and proper pause, the youth said, "Dear Sir! you sent for me; I believe, and hope, that you have some commands; I shall hold them most sacred." May distant ages not only hear, but feel, the reply! forcibly grasping the youth's hand, he softly said, "See in what peace a Christian can die." He spoke with difficulty, and soon expired.

Mr. Addison, says his Biographer, notwithstanding the several things which have been advanced to lessen him in the public opinion, will always be held in the highest estimation, as an amiable and excellent man in private life, as one of the brightest ornaments of, perhaps, the finest age of English literature; as one who greatly contributed to the spreading of good sense and good taste in the nation; as one of our most easy, elegant, and graceful writers; as having been singularly beautiful in his allegorical papers, and admirable for the vein of humour which runs through many of his compositions. *Biog. Brit.*

ADDISON County, in *Geography*, a county of Vermont in America, on the east side of lake Champlain, and divided nearly into equal parts by Otter Creek. It has Chittenden county on the north, and Rutland county on the south; and contains 6449 inhabitants, dispersed in twenty-one townships. Its dimensions are about thirty miles by twenty-seven, and a range of the Green Mountains passes through it. Its chief town is *Middlebury*.

ADDISON is also a town of the above county, lying on the lake Champlain, separated from New Haven, on the east by Otter Creek. The Snake Mountains are on the south-east. This town contains 401 inhabitants.

ADDITAMENT, in a general sense, denotes a thing added to another. It signifies the same as *Epiphysis*.

ADDITAMENT, in *Physic* and *Chemistry*, are things super-added to the ordinary ingredients of any composition.

ADDITION, the act of joining one thing to another, or of augmenting a thing, by the accession of others.

ADDITION, in *Arithmetick*, is the first of the four fundamental rules, or operations, of that art.

Addition consists in finding the amount of several numbers,

bers, or quantities, severally added one to another. Or, *addition* is the invention of a number, from two or more homogeneous ones given, which is equal to the given numbers taken jointly, or together.

The number thus found is called the *sum*, or aggregate of the numbers given.

The character of *addition* is +, which we usually express by *plus*. Thus 3 + 4 denotes the sum of 3 and 4; and is read 3 *plus* 4.

The *addition* of simple numbers is easy. Thus it is readily perceived that 7 and 9, or 7 + 9, make 16; and 11 + 15, make 26.

In longer, or compounded numbers, the business is performed by writing the given numbers in a row downwards; homogeneous under homogeneous, *i. e.* units under units, tens under tens, &c. and accurately collecting the sums of the respective columns.

To do this, we begin at the bottom of the outmost row or column to the right; and if the amount of this column be ten, or some number of tens, we set down only the overplus, and carry one for each ten to the next column.

Suppose, *e. g.* the numbers 1357 and 172 were given to be added: write either of them *v. gr.* 172, under the other 1357; so that the units of the one, *viz.* 2, stand under the units of the other, *viz.* 7; and the other numbers of the one, under the correspondent ones of the other, *viz.* the place of tens under tens, as 7 under 5; and that of hundreds, *viz.* 1, under the place of hundreds of the other, 3. Then, beginning, say 2 and 7 make 9; which write underneath; also 7 and 5 make 12; the last of which two numbers, *viz.* 2, is to be written, and the other one reserved in your mind to be added to the next row, 1 and 3: then say 1 and 1 make 2, which added to 3 make 5: this written underneath, and there will remain only 1, the first figure of the upper row of numbers, which also must be written underneath; and thus you have the whole sum, *viz.* 1529. The same method will extend to any number of sums, which are required to be united in one.

When a great number of separate sums, or numbers, are to be added, it is more easy to separate them into two or more parcels, which may be added separately, and then their sums added together for the total amount: and thus, by dividing the numbers into parcels in different ways, the truth of the addition may be proved.

Another method of proving addition was suggested by Dr. Wallis in his arithmetic, published in 1657, by casting out the nines. Thus, add the figures of each line of numbers together separately, and cast out always 9 from the sums as they arise, adding the overplus to the next figure, and setting down at the end of each line the excess above the nine or nines. Pursue the same process with the sum total, and the former excesses of 9, and the last excesses will be equal when the work is right. The former examples may be thus proved:

1357	Excels of 9	7	Thus also:	350709	Excels of 9	6
172		1		31806500		5
		—		339087		3
1529		8		46011		3
		—		2935		1
				32545242		0

ADDITION of numbers of different denominations, for instance, of pounds, shillings, and pence, or yards, feet, and inches, is performed by adding or summing up each denomination by itself, always beginning with the lowest; and if, after the addition, there be enough to make one of the

next higher denomination, for instance, pence enough to make one or more shillings, or inches to make one or more feet, they must be added to the figures of that denomination, that is, to the shillings or feet, only reserving the odd remaining pence or inches to be put down in the place of pence or inches. And the same rule is to be observed of shillings with regard to pounds; and of feet with regard to yards.

As in the following examples:

<i>℥.</i>	<i>s.</i>	<i>d.</i>	<i>yds.</i>	<i>f.</i>	<i>in.</i>	Avoirdupois weight.		
120	15	9	27	10	3	15	11	12
65	12	5	36	2	7	4	10	0
9	8	0	14	2	5	12	0	13
						0	15	9
195	16	2	Sum	326	0	3	Sum	33 6 2

ADDITION of Decimals. See DECIMAL.

ADDITION of Vulgar Fractions. See FRACTION.

ADDITION of Logarithms. See LOGARITHM.

ADDITION of Ratios is used by some authors in the same sense with COMPOSITION OF RATIOS, which see.

ADDITION, in *Algebra*, or the addition of indeterminate quantities, expressed by letters of the alphabet, is performed by connecting the quantities to be added, by their proper signs; and also by uniting into one sum, those that can be so united; *i. e.* similar quantities, by adding their co-efficients together if they have the same signs, or subtracting those which have different signs. So that addition comprehends three cases.

Case I. To add quantities which are like, with like signs: add all the co-efficients together, and to their sum annex the common quantities, and prefix the common sign. Thus,

$$7a + 9a = 16a. \text{ And } 11bc + 15bc = 26bc. \text{ Also } 3\frac{a}{c} + 5\frac{a}{c} = 8\frac{a}{c}: \text{ and } 2\sqrt{ac} + 7\sqrt{ac} = 9\sqrt{ac}; \text{ and } 6\sqrt{ab - xx} + 7\sqrt{ab - xx} = 13\sqrt{ab - xx}: \text{ and in like manner, } 6\sqrt{3} + 7\sqrt{3} = 13\sqrt{3}. \text{ Again, } a\sqrt{ac} + b\sqrt{ac} = (a+b)\sqrt{ac}; \text{ and } 2a + 3c\sqrt{3ax^2 - x^3} + 3a\sqrt{3ax^2 - x^3} = \frac{5a + 3c\sqrt{3ax^2 - x^3}}{a + x}.$$

$$\text{And } 6a + 9b - 3c - 4 \\ 4a + 5b - 2c - 3 \\ 10a + 14b - 5c - 7$$

Case II. To add quantities which are like with unlike signs: add all the affirmative or positive co-efficients into one sum, and all the negative ones into another; then subtract the least of these sums from the greatest, and to the difference prefix the sign of the greatest, and annex the common quantity.

$$\text{Thus, } -2 \text{ and } -3 \text{ make } -5; -\frac{4ax}{b} \text{ and } -\frac{11ax}{b} \text{ make } -\frac{15ax}{b}; -a\sqrt{ax} \text{ and } -b\sqrt{ax} \text{ make } -(a+b)\sqrt{ax}. \text{ Also,}$$

$$3 - 2 = 1; 9a - 7a = 2a; \frac{11ax}{b} - \frac{4ax}{b} = \frac{7ax}{b}; \text{ and } -a\sqrt{ac} + b\sqrt{ac} = (b-a)\sqrt{ac}; \text{ and, } 2 - 3 = -1; -\frac{11ax}{b} + \frac{4ax}{b} =$$

$$-\frac{7ax}{b}; \text{ and } 2\sqrt{ac} - 7\sqrt{ac} = -5\sqrt{ac}. \text{ Again, } -3a + 7a + 8a - a - 2a = -6a + 15a = +9a; \text{ and } -5xy - 3xy + 8xy + 7xy = -8xy + 15xy = +7xy; \text{ and } -6\sqrt{ax} + 2\sqrt{ax} - 5\sqrt{ax} + 10\sqrt{ax} = -11\sqrt{ax} + 12\sqrt{ax} = \sqrt{ax};$$

$$\text{And } 8a + 7b - 8c - 7 \\ -6a - 3b + 4c + 4 \\ 2a + 4b - 4c - 3$$

Case III. To add quantities which are unlike, with unlike signs: collect all the like quantities together by the last rule, and set down those that are unlike one another, with their proper signs. Thus, $5xy + 4ax - xy - 4ax = 5xy - xy = 4xy$; and $-6\sqrt{ax} + 2\sqrt{ax} - 5\sqrt{ax} + 10\sqrt{ax} = 12\sqrt{ax} - 11\sqrt{ax} = \sqrt{ax}$. And $9ab - 6\sqrt{ac} + 3bc - 4x + 3x - 7ab + 4\sqrt{ac} - 2bc + 7 - 4 = 2ab - 2\sqrt{ac} + bc - x + 3$.

ADDITION of irrational quantities, or surds. See SURD.

ADDITION, in Law, is that name, or title, which is given to a man over and above his proper name, and surname; to shew of what estate, degree, or mystery he is; and of what town, village, or country.

Additions of Estate, or quality, are yeoman, gentleman, esquire, and such like.

Additions of Degree, are those we call names of dignity; as knight, lord, earl, marquis, and duke.

Additions of Mystery, are such as scrivener, painter, mason, and the like. See CHARACTER.

Additions of Place are, of Thorp, of Dale, of Woodstock. Where a man hath household in two places, he shall be said to dwell in both; so that his addition in either may suffice. Knafe was anciently a regular addition.

By stat. 1 Hen. V. cap. 5. it was ordained, that in all original writs of actions personal, appeals, and indictments, upon which process of outlawry may be awarded, such addition should be made to the name of the defendant, to shew his estate, degree, or mystery, and the place where he dwells; and that the writs, not having such additions, shall abate, if the defendant take exception thereto; but not by the office of the court.—The reason of this ordinance was, to prevent any clandestine or mistaken outlawry, by reducing to a specific certainty the person who is the object of its process.

If one be of the degree of a duke, earl, &c. he shall have the addition of the most worthy dignity. 2 Inst. 669.

Such titles, however, are not properly additions, but names of dignity. The title of knight or baronet, is part of the party's name, and ought to be rightly used; but the titles of esquire, gentleman, or yeoman, &c. being no part of the name, but additions, as people please to call them, may be used, or not used, or if varied, it is not material. 1 Lill. 34.

An earl of Ireland is not an addition of honour here in England; but such a person must be written by his Christian and surname, with the addition of esquire only; and the sons of English noblemen, although they have given them titles of nobility, in respect to their families, if you sue them, they must be named by their Christian and surnames, with the addition of esquire; as—such-a-one, esquire, commonly called lord A, &c. 2 Inst. 556. 666.

No addition is necessary where process of outlawry doth not lie. 1 Salk. 5. If a city be a county of itself, wherein are several parishes, addition thereof, as of London, is sufficient; but addition of a parish not in a city, null within the county, or it will not be good. 1 Danv. 237.

ADDITION, in Music, is a dot placed on the right side of a note, to signify, that the time of the sound of such note is to be lengthened half as much more, as it would otherwise be.

A note of addition amounts to the same with what is by some old English authors called *prick of perfection*.

It is a semibreve, when marked with a dot, is to be as long as three minims; the minim, with the like dot, is to be as long as three crotchets; the crotchet, as three quavers, &c. See CHARACTER.

ADDITIONS, in Heraldry, denote a kind of bearings, in

coats of arms, wherein are placed rewards, or additional marks of honour. In which sense, additions stand opposed to ABATEMENTS, or DIMINUTIONS. See DIFFERENCE.

Additions resemble, but differ from ordinaries. To the class of additions belong a bordure, quarter, canton, gyron, pyle, flasque, flanche, voider, and an inescutcheon gules, called also an *escutcheon of pretence*. On any of these may an addition of honour be placed, according to the pleasure of the prince, or the fancy of the herald; which reward descended to none of the family, except the person's own direct line. In this manner the arms of a kingdom have been sometimes given, by way of addition, to a private subject. The estimation in which these additions are held, has declined since the college has granted them to persons who apply, although neither they nor any of their ancestors have had any particular claim on marks of the royal favour.

ADDITIONS, in Distilling, a name given to such things as are added to the wash, or liquor, while in a state of fermentation, in order to improve the vinosity of the spirit, procure a larger quantity of it, or give it a particular flavour.

All things of whatever kind, thus added in the time of fermentation, are called by those of the business, who speak most intelligently, additions; but many confound them with things of a very different nature, under the name of FERMENTS.

The additions used in the distillery may be reduced to four general heads. 1. *Salts*. 2. *Acids*. 3. *Aromatics*, and 4. *Oils*. A little tartar, nitre, or common salt finely powdered, may be added to the liquor while fermenting, especially in the beginning of the operation; or in their stead, a little of the vegetable, or finer mineral acids, may be dropped in at different times, when found necessary. These are of great use, especially in the fermenting solutions of treacle, honey, and the like sweet and rich vegetable juices, which either wholly want an acid in themselves, or have it in too small a proportion, or have been robbed or divested of it. The proper acids for this purpose are, the juice of Seville oranges, or lemons, or the spirit of sulphur, or Glauber's spirit of salt, or, what is greatly preferable to all these, a particular aqueous solution of tartar, a succedaneum for which may be tamarinds, or the robs of some very good fruits, or the *media substantia vini*. On this foundation stands that ingenious practice of using a suitable proportion of the still bottoms, or the remaining wash, in the subsequent brewing.

After the same manner, a very considerable quantity of any essential vegetable oil, may by proper management be converted into a surprisingly large quantity of inflammable spirit; but great care in this case must be had not to drop it in too fast, nor too much at a time; this might damp the fermentation; and, indeed, the adding a large quantity of oil at once, in the common way of stopping the fermentation at any point required.

The best method of all, of introducing the oil, so as to avoid all inconvenience, is to reduce it first to an elæosaccharum, by grinding it in a mortar, with a due quantity of the finest powder. The oil thus added, with its particles disunited, and in form of powder, will readily mix with the liquor, and immediately ferment with it.

A large proportion of rectified spirit, or of any other spirit, may, by prudent management, be also introduced into the fermenting liquor; and this will always come back with a large addition to the quantity of spirit, that would otherwise have arisen from the distillation. Shaw. See COMBINATORY DISTILLATION.

ADDITIVE, denotes something to be added to another.

Geometrists speak of additive ratios; astronomers of additive equations, &c.

Additive ratio is used, by some writers, for that whose terms are disposed to addition, that is, to composition, in opposition to *subtractive ratio*, whose terms are disposed to subtraction, *i.e.* to division. Phil. Trans. N^o 257.

Suppose the line *ac* divided in the points *b* and *x*,

$\frac{a \quad b \quad x \quad c}{\quad}$

the ratio between *ab* and *bx* is additive; because the terms *ab* and *bx* compose the whole *ax*. But the ratio between *ax* and *bx* is subtractive, because *ax* and *bx* differ by the line *ab*.

Additive equations, in *Astronomy*, those which are to be added to the sun's mean *ANOMALY*, in order to find the true one. See *EQUATION*.

ADDIX, in *Antiquity*, a measure of capacity in Asia and Egypt. See *PILOC*.

ADDIXIT, or *ADDIXERUNT*, was the word by which they expressed the favourable augur of the sacred birds. For an unfavourable augur, a negative was annexed.

ADDOUTORS, in *Law*. See *REPOUNTERS*.

ADDRESS, in a general sense, is used for skill and good management, and of late has been adopted from the French, and is used in genteel phrase, and also in *Commerce*, as synonymous with direction to a person or place. The word is formed of the French verb *adresser*, to direct any thing to a person.

ADDRESS, means also a discourse presented to the king, in the name of a considerable body of his people; to express or notify their sentiments of joy, satisfaction, or the like, on some extraordinary occasion.

We say, the lords address, the commons address.—Addresses were first set on foot under the administration of Oliver Cromwell.—At Paris, their office of intelligence was commonly called *bureau d'adresse*.

ADDRESS, in *Rhetoric*. See *APOSTROPHE*.

ADDUCENT Muscles, or *ADDUCTORS*, in *Anatomy*, are those which bring forward, close, or draw together, the parts of the body whereto they are annexed.

The word is compounded of *ad*, to; and *ducere*, to draw, or bring.

Adducts, or adductors, stand opposed to abducent, or abductors.

ADDUCTION, in *Anatomy*, the motion or action of the adducent muscles, or adductors.

ADDUCTOR brevis femoris. See *TRICEPS*.

ADDUCTOR longus femoris. See *TRICEPS*.

ADDUCTOR magnus femoris. See *TRICEPS*.

ADDUCTOR Oculi arises from the inner side of the foramen opticum, between the obliquus superior and depressor, and is inserted into the globe of the eye opposite to the inner angle. It is from its situation the shortest of the four straight muscles of the eye. It will turn the eye towards the nose.

ADDUCTOR Ossis metacarpi minimi digiti manus, *metacarpus* of Winslow, arises from the os unciforme, and the ligament of the wrist, and is inserted in a tendinous form, into the inner side and front of the metacarpal bone of the little finger. It will bring the metacarpal bone of this finger towards the rest, and will bend it.

ADDUCTOR minimi digiti pedis, arises from the inside of the metatarsal bone of the little toe, and is inserted into the inside of the root of the first joint of the little toe. It will bend the first joint of the little toe, and draw it inwards.

ADDUCTOR pollicis manus, has a broad fleshy origin from the whole length of the metacarpal bone of the middle finger: its fibres are collected together to be inserted tendinous

into the inner part of the root of the first bone of the thumb. It will pull the thumb towards the fingers.

ADDUCTOR pollicis pedis, the *antithenar* of Winslow, arises by a long tendon from the os calcis, from the os cuboides, from the os cuneiforme externum, and from the metatarsal bone of the second toe. It is inserted into the external sesamoid bone of the great toe. Its use is to bring the great toe towards the other toes.

ADDUCTOR proflata, a name given by Santorini to a muscle, which he also calls *levator proflata*, and which Winslow calls *proflaticus superior*. Albinus, from its office, had very properly called it *compressor proflata*.

ADDUS, in *Ancient Geography*, a town of Palestine in the tribe of Judah.

ADDYME, a town of Africa, placed by Ptolemy in Mauritania Cæsariensis.

ADEA, in *Geography*, a district of Abyssinia, called also *HADFA*.

ADEB, in *Commerce*, the name of a large Egyptian weight, used principally for rice, and consisting of 210 okes, each of three rotolos, a weight of about two drams less than the English pound. But this is no certain weight: for at Rosetta, the adeb is only 150 okes. Pococke, Egypt.

ADEBA, in *Ancient Geography*, a town of Hispania Tarragonensis, placed by Ptolemy among the Illercaones.

ADEBAREA, in *Geography*, a desert, hilly district of Abyssinia, called the country of the Slaves, as being in the vicinity of the Shangalla.

ADEDUS, in *Ancient Geography*, a town of Arabia Felix, on the borders of the Red Sea, placed by Ptolemy in long. 72° 15'. and lat. 17° 10'. among the Cassaniti.

ADEGEM, in *Geography*, a town of Flanders, five leagues east of Bruges.

ADEL, a kingdom on the eastern coast of Africa, so called from its metropolis, and *ZEILA* from an eminent seaport, situated to the south of the Red Sea, the Straits of Babelmandel and Cape Guardefui, and has the Indian ocean on the east, on the south the kingdoms of Magadaxo and Adea; and on the west the country of the Gallas, or the kingdoms of Dancali, Dawaro, Bali, Fatigar, and other districts of Abyssinia. The exact extent of this kingdom is not known; but it is supposed from east to west to be about 160 leagues, and from north to south about 72 leagues. The interior part of Adel is very imperfectly described. The principal places in it are Adel the capital and royal residence, situate in the inland country, near the river Hawash, about 300 miles south of, Mocha, N. lat. 8° 5'. E. long. 44° 20'; Assem, a small town on the eastern coast, which furnishes provisions for mariners, but has no haven; Cape GUARDEFUI to the north of Assem; Meta on the northern coast near the river Soal, BARBORA and ZEILA. Some geographers have mentioned other cities in this kingdom, *viz.* Aran, Bali, Doara, Comizara, Novorata, Socel and Aufagurella, situate on a high hill in the centre of the kingdom. The whole coast to the south-east is desert. This kingdom is said to have been founded by a prince of Abyssinia, called Salatrú, who, escaping from the prison in which the princes of the blood are confined in that country, took refuge in the province of Adel, and marrying the daughter of the king of ZEILA, established himself in the possession of these united kingdoms. Of all the enemies, with whom the Abyssinians have had occasion to contend, the kings of Adel have been the most powerful and inveterate: and, indeed, the history of this kingdom consists principally of details of alternate defeats and victories. The Adeliens being Mohammedans, and the Abyssinians Christians, a mutual animosity has subsisted between them; and the rancour has increased

increased in consequence of the succour given to the latter by the Portuguese, and the alarm occasioned by their submission to the authority of the Roman see. At length, however, the Portuguese were totally expelled, and the kingdom of Adel became tributary to the Grand Signior. The kings of this country have been for a long time in high favour at the Porte, and dignified with the title of Saints, on account of their singular zeal, and frequent wars against the Christians. Nevertheless the Sultans have contrived to strip them of their most considerable maritime towns on the Red Sea: so that they have now no port left, except that of Zeila, the rest being all in the hands of the Turks. By these means the kings of Adel are precluded from maintaining any intercourse with Europe.

The country, though it has seldom any rain, is so well watered by rivers and canals, that it is very fertile and productive. It has plenty of wheat, barley, and millet; and a great variety of sheep, cows and other cattle. Some of the sheep have large tails, which weigh between 20 and 30 pounds. But the chief traffic of the inhabitants consists of gold dust, elephant's teeth, frankincense and negro-slaves, which they procure from Abyssinia with which they are almost always at war, and convey to the port of Zeila, where they find purchasers from Arabia, Cambaya, and other parts.

The Adelites, called GIBBERTIS, are a stout and warlike people, and fight with surprising intrepidity against the Abyssinians, partly from a zeal for religion, and partly with the hope of plunder: and they are furnished by the Turks and Arabs with a variety of fire-arms. Their complexion, particularly on the northern coast, is of a tawny brown, and towards the south it is of a more deep black. Their dress chiefly consists of a piece of cotton, which covers them from the girdle to the knee, the rest of the body being naked: but the king and nobles wear a kind of loose garment that covers the whole body, and a cap over the head. All, and especially the women, are fond of adorning their necks, arms, wrists, and ankles with bracelets of glass, amber, and other similar trinkets.

ADELARD, or ATHELARD, in *Biography*, a benedictine monk of Bath, flourished about the year 1130, and for the sake of mathematical knowledge, travelled into France, Spain, Germany, Italy, Egypt and Arabia, and is said to have settled at Paris, where he acquired reputation as a teacher of medicine. He translated Euclid, among other Greek writers, out of Arabic into Latin; and also an Arabic work, intitled "Erichèatarim," upon the seven planets. He wrote a treatise on the seven liberal arts, comprehending, according to the language of the times, the *trivium* and *quadrivium*. He is also said to have written many books of physic and medicine, which are lost. Wallis, in his *Algebra* (p. 6.) mentions the prefaces to two MS. books of Travels; one or both of which had noticed the travels of Athelardus Bathonensis, which had been cited by Vossius, who says that he was learned in all the sciences of his time; but these have since been cut out of the books in Corpus Christi and Trinity colleges, Oxford, and carried away:—a species of larceny, which, in the Republic of Letters, deserves to be treated as a capital offence.

ADELARD. See ADALARD.

ADELBERG, in *Geography*, a town of Germany, in the duchy of Wurtemberg; two leagues south-east from Schorndorff. See ADLESBERG.

ADELBOLD, in *Biography*, a monk of Lobes in the diocese of Liege, and afterwards bishop of Utrecht, wrote the life of his emperor Henry II. surnamed Claudius, with whom he was a favourite. He was made bishop of Utrecht in 1008, and died 1027.

ADEL-Fish, in *Ichthyology*, a name given by some authors to the Lavaretus, or albula nobilis.

ADELFOR, in *Geography*, a gold-mine in the province of Smoland, in Sweden, discovered in 1738. Ducats are coined with its gold.

ADELHOLZEN, or ADELHOFTZ, in *Geography*, a town of Germany in the circle of Bavaria, famous for its medicinal baths; four miles south of Traunstein.

ADELIA, formed of *adelos*, uncertain or obscure, in *Botany*, a genus of the *diœcia monadelphia* class and order, of the natural order of *tricocœ* and *euphorbiæ* of Jussieu. Its characters are, that the male calyx is a one-leaved, tripartite perianthium, with oblong and recurved leaflets; it has no corolla; and the stamina are numerous, capillary filaments of the length of the calyx, united into a cylinder at the base; and the anthers are roundish: the female calyx is a five-parted perianthium, the parts being oblong and permanent; no corolla; the pistillum has a roundish germen, three very short divaricate styles, and torn stigmas; the pericarpium is a tricoccos, roundish, three-celled capsule; and the seeds are solitary and roundish. There are three species, viz. *A. bernardia*, the villous-leaved bernardia; *A. ricinella*, smooth-leaved bernardia; and *A. acidoton*, or box-leaved adelia. These shrubs grow naturally in the island of Jamaica, and are nearly allied to the *croton*. The second grows to the height of eight or ten feet; the third resembles a young ebony, and does not rise above four feet high. They may be propagated by seeds brought from the countries where they grow. Martyn. In the last edition of Linnaeus by Gmelin, this genus is ranked under the *monadelphia icosandria* class and order.

ADELING. See ATHELING.

ADELLA, ADALUS and ADANO, in *Ichthyology*, names given to the STURGEON.

ADELLUM, in *Ancient Geography*, a town of Spain, north-west of Illicis.

ADELM, or ALDHELM, in *Biography*, son of Kenred, and nephew of Ina, king of the West-Saxons, was a learned Englishman, who flourished about the year 680. He was first Abbot of Malmbsury, and afterwards bishop of Sherburn. He was much esteemed, and is said to have been the first Englishman who wrote in Latin, and the first who brought poetry into England. He composed several books, not only in theology, but in the mathematical sciences, as arithmetic, astrology, and de disciplinis philosophorum. He died in 709, in the monastery of Malmbsury, and is honourably mentioned by Bede and William of Malmbsury, and also by Bale and Camden. He was canonized, and many miracles are ascribed to him.

ADELMANSFELDEN, in *Geography*, a town of Germany in the circle of Swabia, two leagues west of Elwangen.

ADELNAU, or ODELNO, a town of Poland, seven leagues south-west of Kalish.

ADELPHI, a small island in the Grecian Archipelago, about a league east-south-east of Scopelo.

ADELPHIANI, in *Church History*, a sect so called from their leader Adelphius, who kept the sabbath as a fast.

ADELSCALC, in *Ancient Customs*, denotes the servant of the king. The word is also written Adelschalche, and Adelscalcus. It is compounded of the German *adel* or *edle*, noble, and *scale*, servant. Among the Bavarians, adelscales appear to have been the same with royal thanes among the Saxons, and those called *ministri regis*, in ancient charters.

ADELSDORF, in *Geography*, the name of two small towns

towns of Franconia; one in the bishopric of Bamberg, and the other in the marquisate of Anspach.

ADEPTION, in the *Civil Law*, the revocation of a grant, donation, or the like. The ademption of a legacy may be either *express*, as when the testator declares in form, that he revokes what he had bequeathed; or *tacit*, as when he only revokes it indirectly or implicitly. Thus, if A. by will gives his daughter M. 100*l.*, to be first paid after his debts, besides a share out of the dividend of his estate; and afterwards, on her marriage, an agreement be made for what she should have out of A's estate, that it should be only 100*l.*, which should be in full of what was intended out of it; this agreement is an ademption of the legacy.

ADEN, a gland. See **GLAND**.

ADEN, in *Geography*, a celebrated mart, giving name to a country of which it is the capital, situate at the most southern extremity of Arabia Felix upon the Indian ocean, near the straits of Babelmandel. According to the Arabs, its founder was Aden the son of Saba and grandson of Abraham. Some suppose that the etymology of the name is the same with that of Eden, and that it was so called from the delightful country in which it was situated. It stands at the foot of several high mountains which surround it almost on all sides. The Arabs have erected forts on the summits of these mountains: and a fine aqueduct conveys the water from thence into a large reservoir or canal, built about three-quarters of a mile from the city, which supplies the inhabitants. Golius supposes, that *Aden* is the *Arabie Emperium* of Ptolemy; and it is without doubt the *Adana* of Uranius, mentioned by Stephanus, vol. i. p. 21. The situation of the harbour of *Aden*, which opened an easy communication with Egypt, Ethiopia, India and Persia, had rendered it for many ages one of the most flourishing factories in Asia. Fifteen years after it had repulsed the great Albuquerque, who attempted to demolish it in 1513, it submitted to the Turks, under Soliman II. in 1539, who did not long remain masters of it. The king of Yeman, who possessed the only district of Arabia that merits the appellation of *happy*, drove them from thence and removed the trade to Mocha, which till this circumstance occurred, was only a village. N. lat. 12° 40'. E. long. 46° 13'.

ADEN, is also the name of a mountain in the kingdom of Fez.

ADENANTHERA, formed of *aden*, glandulous, and *anther*, an anther, *bastard flower-ence*, in *Botany*, a genus of the *dendrandria monogynia* class and order, of the natural order of *lomentaceae*, and *leguminosae* of Jussieu; the characters of which are these: the calyx is a one-leafed, five-toothed, very small perianthium; the corolla is five-petalled and bell-shaped, the petals lanceolate, sessile, convex inwards and concave underneath; the stamens are subulate filaments, erect and somewhat shorter than the corolla; the anthers are roundish, incumbent, bearing a globose gland at the outer tip; the pistillum is an oblong germen, gibbous downwards, style subulate and as long as the stamens, the stigma simple; the pericarpium is a long compressed membranaceous legume, and the seeds are very numerous, roundish and remote. There are three species, *viz.* *A. pavonina*, or poinciana, with leaves smooth on both sides, which is one of the largest trees in the East Indies. Its duration is 200 years, and its timber is much used on account of its solidity; the powder of the leaves is used in their ceremonies; the seeds are eaten and are also valued as weights, being each of them four grains; and beaten with water and borax, they form a cement, and the bruised leaves yield a liquor which is esteemed good against pains in the loins. This species must be raised

on a hot-bed from seeds, and it must afterwards be placed in the bark-stove. It has not yet flowered in England. Mr. Miller mentions a variety with scarlet seeds received from India, which is of a very slow growth. 2. *A. falcata*, with leaves tomentose underneath, is a native of the East Indies. 3. *A. scandens* is a native of Mallicollo, an island in the South-seas. These two species are little known with us; having never been cultivated in England.

ADENANTHERA, is also a species of **ANTHERICUM**.

ADENDA, in *Geography*, a town of Africa, in the empire of Morocco, and province of Temsena.

ADENBURG, or **ALDENBURG**, a town of Westphalia, in the duchy of Berg, subject to the elector Palatine; 12 miles north-east of Cologne. E. long. 7° 16'. N. lat. 51° 2'.

ADENIA, in *Botany*, a genus of the *hexandria monogynia* class and order; the characters of which are, that the corolla has six petals; the calyx is very long, and divided into six portions; the nectarium is composed of six linear scales. There is one species, *viz.* *A. venenata*, with palmated leaves and spiked flowers. This species is mentioned by Forskal in his *Flor. Ægypt.* And he says, that the powder of the young branches mixed in any kind of liquor, is a strong poison; and that the *cauparis spinosa* is an antidote to it. The tree grows in Arabia.

ADENOGRAPHY, compounded of *aden*, gland, and *γραφειν*, I describe, that branch of *Anatomy* which describes the glands, and the glandular parts of the body.

Adenography is the same with what some others call *adenology*, or the adenological part of *Anatomy*.

ADENOIDES, q. d. *glandulous*, an epithet applied to the **PROSTATÆ**.

ADENOS, a kind of cotton, otherwise called marine cotton. It comes from Aleppo by the way of Marseilles, where it pays 20 *per cent.* duty, according to the **TARIFF** of the year 1706. Its valuation, by the same *tariff*, is of 76 livres 16 sols.

ADENOSUS *alveolatus*, in *Surgery*, a crude hard tubercle, difficult of discision, and resembling the appearance of a gland. See **ABSCCESS**.

ADENSEN, in *Geography*, a parochial village in the bailiwick of Calenberg in Hanover, which formerly belonged to the lords of Adenoys, whose male issue became extinct in 1331, and whose estates descended by marriage to the counts of Hallermund.

ADEONA, in *Mythology*, a goddess invoked by the Romans when they set out upon a journey. This (says Mr. Bryant) is the same with *Idione* or *Adione*, formed of *ad* and *Iönab*, q. d. *regia columba*, referred to in the Hebrew word for necromancer (Deut. xviii. 11.), and probably the *Dione* of the Greeks. *Mythol.* vol. ii. p. 313.

ADEPHAGIA, the goddess of gluttony, as the name imports, to whom the Sicilians paid religious worship. In the temple erected to her, her statue was placed next to that of *Ceres*.

ADEPHAGUS, or *voracious*, an appellation of *Hercules*.

ADEPS, in *Anatomy*, the fat found in the abdomen. The term also denotes more generally any kind of **FAT**.

ADEPTS, **ADERTI**, from the verb *adipisci*, to obtain, a denomination given to the proficients in *Alchemy*, by which those chemists chose formerly to distinguish themselves who were engaged in experiments on the transmutation of metals, and researches after the universal medicine. The appellation is derived, according to Paracelsus (*de astronomia magnâ lib. 1.*), from the Latin term *philosophia adepta*, philosophy acquired by contemplation, in opposition to that which

which was taught and transmitted in the schools, *philosophia elementaris*. Such is the nature, says Paracelsus, of this higher philosophy, that it does not originate from man but from heaven; and one mortal can no more communicate it to another, than the paper on which letters are traced, can of itself declare their meaning. Hence the enthusiasts who gave themselves up to this kind of study, intitled themselves *philosophi adpti*, as they spoke of others by the name of *philosophi terreni*. Van Helmont also says, "*vocantur hi adpti quorum rector spiritus Dei est*," (*de magnet. audin. curat.* 119.) "Adepts are those who are guided by the spirit of God."

Originally, however, this flattering epithet was common to several sciences, for Paracelsus expressly mentions adept theology, adept geometry, adept medicine, &c. All these sublime distinctions are however fallen into neglect, and the believers in the philosopher's stone have alone retained possession of the title of adepts. The term therefore in the vocabulary of the alchemists, means a person, who, besides being a master of all that has been written, or is current by tradition, relative to the occult qualities of bodies, has by contemplation, and in some mysterious manner, acquired an insight into those secrets of nature, on which depend the transmutation of metals, and the universal medicine. It was a tradition among the adepts, that the number of persons thus divinely initiated, was never either more or less than twelve. The most celebrated of this fraternity are Raymond Lully, Paracelsus, Van Helmont, and Isaac Hollandus; men superior in real chemical knowledge to most of their contemporaries, but who were led partly by their own vanity and love of mysticism, and partly by the easy and eager credulity of the public to be contented with the fame of conjurers, when they might have deserved the notice of posterity as philosophers.

The term *adepts* is sometimes more generally applied to those who are proficient in any kind of science.

ADEQUATANGIE *Creek*, in *Geography*, is the eastern head water of Susquehanna river, in the state of New York.

ADEQUATE, something equal to, or co-extended with, another; and filling the whole measure and capacity thereof.

In this sense the word stands opposed to **INADEQUATE**.

ADEQUATE, or *total*, in *Logic*, is applied to the objects of science. The *adequate* object of a science includes the *material* and *formal* object: the *material* object of a science is that part which is common to it with other sciences; the *formal* is that which is peculiar to itself.

ADEQUATE *ideas*, or *notions*, in *Metaphysics*, are such images or conception of an object, as perfectly represent it, or answer to all the parts and properties of it.

M. Leibnitz defines an *adequate notion* to be that of whose several characters we have distinct ideas.—Thus, a circle being defined, a figure bounded by a curve line which returns into itself, and whose points are all equally distant from a certain intermediate point therein, our notion of a circle is *adequate*, if we have distinct ideas of all these circumstances, viz. a curve returning upon itself, a middle point, an equality of distance, &c.

All simple ideas are adequate and perfect; and the faculty, be what it will, that excites them, represents them entire.

The ideas of modes are likewise adequate, or perfect; except of those modes which occasionally become substances; for when we speak of modes separately existing, we only consider them separate from the substance by way of abstraction.

All abstract ideas are also adequate and perfect; since they represent all that part of the subject which we then consider.—Thus, the idea of roundness is perfect, or adequate, because it offers to the mind all that is in roundness, in general.

Of the same kind are all ideas, of which we know no original, or external object really existing out of the mind, by occasion of which they were excited in us, and of which we think them the images. Thus, when a dog is before us, it is the external object without us which raises the idea in our mind; but the idea of an animal in general, has no external object to excite it: it is created by the mind itself, and must of necessity be *adequate* or perfect.

On the contrary, the ideas of all substances are *inadequate* and imperfect, which are not formed at the pleasure of the mind, but gathered from certain properties, which experience discovers in them.

This is evident, because our knowledge of substances is very defective; and we are only acquainted with some of their properties; thus, we know, that silver is white, that it is malleable, that it melts, &c. but we do not know what farther properties it may have; and we are wholly ignorant of the inward texture of the particles whereof it consists.—Our idea of silver, therefore, not representing to the mind all the properties of silver, is *inadequate* and imperfect.

ADER, GUILLAUME, in *Biography*, practised medicine at Toulouse in the beginning of the 17th century; and published "Enarrationes de Ægrotis et Morbis in Evangelia." Tolose, 1620, 4to. "De pestis Cognitione, Prævisione et Remediis." 1628, 4to.

ADER, EDER, HAAZ or HERED, in *Ancient Geography*, a town thus variously called, allotted to the tribe of Judah; which, before that distribution was made, is said to have been the capital of Arab, one of the Canaanitish kings. This prince attacked and vanquished the Israelites before their entrance into the promised land. The town was situated to the south, and near the lake Asphaltites.

ADERAIMIN. See **ALDERAIMIN**.

ADERANPATANAM Bay, lies about north-west by west from Point Pedro, in the island of Ceylon, and west by south from Calimer Point, on the coast of Coromandel.

ADERBIGAN, or **ADERBEITZAN**. See **ADDERBEITZAN**.

ADERBORGH, a small town of the circle of Upper Saxony, in Pomerania, belonging to the king of Prussia; three leagues north-west of Stetin.

ADERBOURG, a small town in Germany, in the marche of Pranderburg.

ADERCAN, a town of Persia, in the province of Laristan; 20 leagues north-east of Laar.

ADERCO, in *Ancient Geography*, a town of Iberia.

ADERKAN, in *Geography*, a town of Persia, in the province of Farsistan; 45 leagues south of Schiras.

ADERNO, a small place in the Val di Demona in Sicily, anciently called Adranum, and situate near the river Fiume d'Aderno, at the foot of Mount Gibel. E. long. 15° 25'. N. lat. 38° 5'. The remains of the walls of this ancient city still retain an air of grandeur. The pretended temple of Adrano in the vicinity of it is nothing more than a bath, constructed of bricks and lava, in the lower period of antiquity, when both Sicily and the Roman empire had lost all their eminent artists. See Houel's Voy. Pittoresque des Îles de Sicile, vol. ii. N°. 26.

ADERSTADEN, a town of Germany, in the principality of Halberstadt; 16 miles south-east of Halberstadt.

ADES, or **HADES**, *ades*, from *a* and *des*, to *des*, denoting the invisible

insoluble state. In the heathen mythology, it comprehends all those regions that lie beyond the river Styx, viz. Erebus, Tartarus, and Elysiun. See HELL.

Dr. Campbell observes, that the word *ᾗδης*, *ades*, occurs eleven times in the New Testament, and is translated *hell* in all, except one, where it is translated *grave*. He thinks, however, that it ought never in scripture to be rendered *hell*, at least in the sense applied to that word by Christians. In the Old Testament, the corresponding word is קבר *sheol*, which signifies the state of the dead in general, without regard to their character or to their condition, either of happiness or misery. The Seventy, in their translation of the word, have almost invariably used *ᾗδης*. See Gen. xxxvii. 35. ch. xlii. 38. Ps. xvi. 10. Acts ii. 27. Some biblical critics, however, among whom we may reckon Father Simon, Bishop Law, and Dr. John Taylor, have contended that the term, in the Old Testament at least, means no more than קבר *sepulchre* or *grave*. This opinion is examined by Dr. Campbell, and he alleges, that, though our word *grave* may, in some cases, sufficiently express, not the import of the word *sheol*, but the purport of the sentence; yet, in other cases, it gives but a feeble, and sometimes an improper version of the original. He maintains, that with regard to the situation of *hades*, it seems always to have been conceived both by Jews and Pagans, as in the lower parts of the earth, and corresponding in depth to the height of the visible heavens, both which are on this account contrasted in sacred writ. See Job, xi. 7, 8, 9. Psal. cxxxix. 8. Amos ix. 2, 3. Besides, the inhabitants of *hades* are, from their subterranean abode, denominated in the New Testament, (Phil. ii. 10.) κατωχθονισται, a word of the same import with the phrase ἐν τοῖς νεκροῖς, *under the earth* (Rev. v. 13.) which, with the εὐφρανται and τῶν νεκρῶν, celestial and terrestrial beings, include the whole rational creation. In proof of the coincidence of the Hebrew and Pagan notions concerning the situation of the place of departed spirits, he refers to the lines of Virgil, *Æn.* viii. v. 243. &c.

*Non fecus, ac si quæ penitus vi terra debiscens
Internas regere fides, et regna recludat
Pallida, dus inscisa; superque immane barathrum
Cornatur, trepidantem immisso lumine manes.*

Dr. Campbell farther observes, that *keber*, the Hebrew word for *grave*, is never rendered in the ancient translation *ᾗδης*, but *ταφος*, *μνημα*, or some equivalent term; whereas *sheol* is never rendered *ταφος*, or *μνημα*, but always *ᾗδης*. This word is also always singular in meaning, as well as in form; but the word for *grave* is often plural: and the former never admits the possessive pronouns, being the receptacle of all the dead, and therefore incapable of an appropriation to individuals; the latter often. In *hades* all the dead are represented as present, without exception; but the case is quite different with the graves or sepulchres. If. v. 14. ch. xiv. 9. See also Job xxxviii. 17. in which the challenge to Job could have no relation to a sepulchre, the door or entry to which is always known to the living; whereas the case was very different with regard to the habitation of departed spirits. Upon the whole, Dr. Campbell concludes, that the word *grave*, or *sepulchre*, never conveys the full import of the Hebrew *sheol*, or the Greek *hades*. This author proceeds to examine the sense of *ᾗδης*, *hades*, in the New Testament; and refers to Acts ii. 27. in which the writer, in using two expressions, one regarding the soul, the other the body, would undoubtedly adapt his language to the received opinions concerning each; and if this be the case, *hades* was as truly, in their account, the soul's destiny after death, as corruption was that of the body. Another clear proof from the New Testament, says Dr. Campbell, that

hades denotes the intermediate state of souls between death and the general resurrection, occurs in Rev. xx. 14. where the expression denotes that death, and the state of souls intervening between death and judgment, i. e. *hades*, shall be no more; but that to the wicked these shall be succeeded by a more terrible death; *hell*, properly so called. See also ch. vi. 8. The apostle Paul, it is said, without naming *hades*, conveys the same ideas of the state of souls departed. Rom. x. 6, 7. *Hades* is often used figuratively to denote a humble and miserable state; and thus it is opposed to *heaven*. Matt. xi. 23. xvi. 18. Here it may be observed, with Grotius, (Truth of Christian Religion, p. 308. Clarke's edit.) and many others, that *πύλαι ᾗδου*, *the gates of hades*, are a very natural periphrasis for death. So the expression is used by the Seventy as a literal version of the Hebrew. If. xxxviii. 10. See also Wisdom of Solomon xvi. 13. The classical use of this phrase is the same with that of the inspired writers. Homer makes Achilles say, as rendered by our English poet:

Who can think one thing and another tell,
My soul detests him as the gates of hell:

ἔκός ἄνδρα πύλαι.

Il. lib. ii.

i. e. I hate him as death, or mortally.

To say then, that *the gates of death shall not prevail* against the church, is, in other words, to say, it shall never die, or be extinct. The only passage, says Dr. Campbell, in holy writ, which seems to countenance the opinion, that *ᾗδης*, *hades*, means the same thing as *γεέννα*, *gehenna*, or a place of punishment, is in Luke xvi. 23. According to the explication given of this passage, the rich man and Lazarus were both in *hades*, though in very different situations; the latter in the mansion of the happy, and the former in those of the wretched. When *hades* is represented as being under the earth, and heaven, or the seat of the blessed, as being above the stars, these expressions should be regarded merely as attempts to accommodate what is spoken to vulgar apprehension and language. See Campbell's Four Gospels, translated from the Greek. Prelim. Diff. vol. i. p. 206.—236 See SLEEP of the Soul.

ADES, in Geography. See RHADES.

ADESA, or ADESA, a river of Lycia, in Asia Minor. A town of this name is placed by M. d'Anville, on a small river, which unites with a much larger, called Xanthus.

ADESSE, or ADESTA road, lies on the west side of the island of Teneriffe, and six leagues east from Gomera island road, which is opposite. It is open to the south-west.

ADESSENARII, formed of the verb *adeſſe*, to be present, in Ecclesiastical History, a name given to those who in the 16th century held that Jesus Christ is really present in the eucharist, but in a manner different from that which is maintained by the Romanists. The *adesseuarii*, called also *impanatores*, are divided into four different opinions concerning this point. Some hold that the body of Jesus Christ is in the bread; others, that it is about the bread; others, that it is with the bread: and lastly, others, that it is under the bread. See IMPANATION.

ADFFECTED, or AFFECTED Equation, in Algebra, is that in which the unknown quantity is found in two or more different degrees or powers: e. g. $x^3 - p x^2 + q x = a^2 b$, which has 3 different powers of x , viz. x^3 , x^2 , and x^1 . See EQUATION. The term *affected* is sometimes used in speaking of quantities that have co-efficients. Thus, in $2a$, the quantity a is said to be affected with the co-efficient 2: and an algebraic quantity is said to be affected with the sign $+$ or $-$, or with a radical sign, when these signs are prefixed

to it. The term *adfectus*, or *affected*, is said to have been introduced by *Vieta*.

ADFIATION is used to signify a Gothic custom, where a person remarrying, who has children by a former bed, renders them capable of inheriting equally with the common children of both parties. This is done by agreement, and is otherwise called by some *adfectio per matrimonium*. This custom is still retained in Germany, under the name *einkindschaft*, and *unio prolium*. But the learned *Hinnecius* observes, that the *unio prolium* is not an **ADOPTION**. *Elem. Jur. Germ. tom. i. § 161.*

AD FINES, in *Ancient Geography*, a town of Switzerland, supposed to be the modern *Pfin*, in the north of the district of Turgaw, on the river Duro, or Thur, not far from the borders of Swabia, about half way between Constance and Fravenfield. It is so called, because at the time when *Cæcinnus*, the general of the emperor *Vitellius*, with the auxiliary *Rhetians*, defeated the *Helvetii*, the former extended their borders thus far; and in the time of the *Romans*, it was the last town of repute in this quarter.

ADGADNA, in *Geography*, a town in the *Guan*, one of the *Mariana* isles in the South Sea.

ADGE, **AGDE** or **AUDE**, is a river that falls into the gulf of Lyons. It is north-east from *Narbonne*, between *Beziers* and *Montpelier*, and forms a good bay.

ADHA, among the *Mahometans*. See **BAIRAM**.

ADHAD-EDDOULET, in *History*, second prince of the race of *Buiah*, or *Dilamites*, was born about A. D. 935, and succeeded his uncle, *Amad-eddoulet*, in the empire of *Persia*; and by the additions he made to it, became the most powerful prince in the east. In 977, he became emir and master of *Bagdad*, and directed his attention to the improvement of his extensive dominions. He built hospitals, founded mosques, cleansed the beds of rivers, and recovered and rendered more salubrious large tracts of land. He encouraged literature and poetry, and cultivated a taste for science, and a proficiency in that kind of knowledge which was most esteemed among the *Arabs*. By marrying one of his daughters to the caliph *Al Tay*, he mingled the blood of the *Buians* with that of the ancient sovereigns of the *Moslems*. His ambition led him to commit occasional acts of severity; but his government was, upon the whole, wise and beneficent. He fell a sacrifice to repeated attacks of the epilepsy, at the age of 47, A. D. 982, and left four sons, who shared his dominions. When this prince was at the point of death, he is reported to have said, with a faltering tongue, "What have all my riches and prosperity availed me? My power and authority are now at an end!" and these words he continued repeating till he expired. *Mod. Un. Hist. vol. ii. p. 410.*

ADHATODA, in *Botany*, a species of **JUSTICIA**. This name is given to it in the *Zeylanic* tongue, from its supposed virtue of expelling the dead fœtus, which it signifies.

ADHERENCE, *action of*, in the *Scots Law*, is an action competent to a husband or wife, to compel either party to adhere in case of desertion.

ADHERGAT, in *Geography*, a town of *Syria*, on the frontiers of *Arabia*.

ADHESION, or **ADHERENCE**, compounded of *ad*, *to*, and *hære*, *to stick*, in a general sense, the state of two bodies which are joined or fastened together, either by mutual attraction, the interposition of their own parts, or the impulse or pressure of external bodies. Anatomists sometimes observe prophysees, or adhesions of the lungs to the side of the thorax, the pleura, and diaphragm, which give occasion to various disorders. We also read of adhesions of the dura

mater to the cranium; of the dome to the bladder, though some combat this last as a chimera; at least the nature of it are rare. We have also several cases of adhesions of the intestines, mentioned in the *Philosophical Transactions*, N^o 481. The adhesion of two hollow hemispheres, and of two polished planes exhibit other instances of adhesion. See **ADHESION infra**.

ADHESION, in *Logic*. The schoolmen distinguish two kinds of **CERTITUDE**; the one of speculation, which arises from the evidence of the thing; and the other of adhesion, or attachment, which does not depend on the evidence, but on the importance of the matter, and the interest we have in its truth.

ADHESION, or **ADHERENCE**, is also used for the persisting in a former opinion or resolution. After the free conference between the two houses concerning the bill for preventing occasional conformity, when the Lords retired, and it came to the final vote of adhering, they were so equally divided, that in three questions put to different heads, the adhering was carried but by one vote in every one, and by a different person each time. The Commons likewise adhered; and thus the bill was lost.

ADHESION; *adhesion*, Fr. in *Philosophy*, and *Chemistry*, is a term generally made use of to express the property which certain bodies have of attracting to themselves other bodies, or the force by which they adhere together: thus, water adheres to the finger, mercury to gold, &c. Hence arises an important distinction between two words, that in a loose and popular sense are often confounded. *Adhesion* denotes an union to a certain point between two dissimilar substances, and *cohesion* that which retains together the component particles of the same mass. See **COHESION**.

Adhesion may take place either between two solids, as two hemispheres of glass, which, according to an experiment of *Desaguliers*, adhere to each other with a force equal to 19 ounces on a surface of contact $\frac{1}{16}$ of an inch in diameter; or between solids and fluids, as the suspension of water in capillary tubes; or lastly, between two fluids, as oil and water.

The proximate cause of adhesion has been variously stated by different philosophers. *James Bernoulli*, in his *Dissertation on the Weight of the Atmosphere*, published in 1682, maintains, that the resistance which two pieces of polished marble oppose to their separation, is owing to the pressure of the air; in proof of which, he affirms as a fact (what in all probability he had himself never attempted to verify), that the two plates were easily separable *in vacuo*.

Dr. Brook Taylor having observed, in 1713, the ascent of water between two planes of glass, was induced to make several experiments on the adhesive power of surfaces, from which he concluded that the degree of this force might be measured by the weight required to separate them. About the same time *Mr. Hawksbee* proved experimentally the error which *Bernoulli* had fallen into, in attributing the adhesion of surfaces and capillary attraction to the pressure of the atmosphere, (*Philos. Transf. vols. xxv. xxvi. xxvii.*). Nevertheless, in 1772, *M. M. Lagrange* and *Cigna*, taking for granted a natural repulsion between water and oily substances, imagined if there was an adhesion between water and oil, or tallow, that it must be occasioned by a cause different from attraction; and having ascertained the reality of the adhesion, they concluded that it was occasioned by the pressure of the air, and that *Dr. Taylor's* method was not well founded.

Such was the state of opinions on the subject, when, in 1773, *Guyton Morveau* made his celebrated experiments on adhesion

adhesion in presence of the Dijon academy, (*Journ de Physique*, i. p. 172 and 460.) demonstrating, as indeed Hauksbee had done before him, not only that water ascends between two parallel plates of tallow separated from each other $\frac{1}{2}$ of a line, but also that the atmospheric pressure is not in the least degree the cause of the phenomenon, which is solely attributable to attraction: in proof of this, a polished disk of glass, 30 lines in diameter, was suspended to the arm of a balance, and brought into contact with a surface of mercury; the counterpoise required to separate it was equivalent to 9 grains, and a few grains, and upon moving the apparatus into the receiver of an air-pump, and forming as perfect a vacuum as possible, precisely the same counterpoise was required as before.

In the prosecution of his inquiries on this subject, which hitherto had principally interested the mathematical philosophers, Morveau was led to discoveries, which promised at first to reduce the intricate science of chemical affinities to the certainty of algebraic computation; and, if that hope has since been deceived, it still remains an interesting object to the chemist, and affords much subsidiary assistance in the investigation of the general laws of chemical agency.

He observed, that the same disk of glass which, when in contact with pure water, adhered to it with a force equal to 258 grains, required a counterpoise of only 210, in order to separate it from a solution of potash, notwithstanding the superior density of this last. This inequality of effects on equal diameters, and in an inverse order to that of the respective specific gravities of the two fluids, appeared not only to be decisive in favour of Dr. Taylor's method, but to encourage the hope of applying it to the calculation of chemical affinities.

In order to verify this proposition (*Elémens de Chymie de l'Académie de Dijon*, vol. i. p. 63.) plates of the different metals in their highest state of purity were procured, perfectly round, an inch in diameter, of the same thickness, well polished, and furnished with a small ring in the centre of each so as to keep them suspended precisely parallel to the plane of the horizon. Each of these plates was in turn suspended to the arm of an assay balance, and exactly counterpoised by weights placed in the scale attached to the opposite arm; the plate thus balanced was applied to the surface of some mercury in a cup about two lines beneath it, by sliding the plate over the mercury as in the silvering of mirrors, so as to exclude every bubble of air, weights were then successively added till the adhesion between the plate and mercury was broken. Fresh mercury was used for each experiment. The following is the Table of results.

Gold adheres to mercury with a force equal to	446 grains.
Silver	429
Tin	418
Lead	397
Bismuth	372
Zinc	204
Copper	142
Antimony (regulus)	126
Iron	115
Cobalt	8

The striking differences in the above Table shew that the pressure of the atmosphere has no share in them, since in this respect the circumstances of each were precisely similar: nor do they depend on the respective specific gravities; for if so, silver should rank after lead, cobalt before zinc, and iron before tin. The only order which agrees with the above is that of the chemical affinity of these metals, or the respective degrees of their solubility in mercury (See AMAL-

GAM): it is highly probable, therefore, that at least the principal part of the adhesive force thus found by experiment is owing to chemical affinity, and that the above numerical series 446, 429, 418, 397, &c. is an approximation towards the ratio of the relative affinities of gold, silver, tin, lead, &c. for mercury.

M. Achard, of Berlin, convinced by Morveau's discoveries of the accuracy of Dr. Taylor's method, followed them up by a great multitude of experiments which were published in 1780, along with other tracts in his *Chymisch Physische Schriften*. The results of these, if accurate, would make a considerable accession to the science of chemical philosophy, but as there are some rather suspicious circumstances, it will be necessary to investigate M. Achard's system with some minutiae.

He lay down three conditions as essential to the accuracy of each experiment. 1. That the solid, whose adhesion with the fluid is to be ascertained, should be suspended by its true central point, in order to be in a truly horizontal position, and that the force employed to separate the adhesion should always form a right angle with the fluid. 2. That no air bubble should remain interposed between the solid and fluid; which is easily perceived when using disks of glass, but can only be inferred when using opaque solids; to obviate this cause of inaccuracy he has found no method answer so well as sliding the plates on the surface of the fluid as explained above. 3. In adding the counterpoise, especially towards the end, care must be taken to use very small weights, such as pieces of paper, a quarter of a grain each, and to place them in the scale slowly and gradually, so as to avoid any jerk or sudden action.

The first point to be ascertained was whether the temperature remained constant, the atmospheric pressure, as evinced by the barometer, had no influence on the adhesion of surfaces; he found that in this respect there was no difference in the adhesive force between a plate of glass and distilled water.

The results were, however, so different, when he operated at different temperatures with the same elevation of the barometer, nor did this variation arise from the different temperatures of the surrounding air, but solely from that of the water: pursuing this train of experiment he found that the adhesion of solids to fluids is constantly in an inverse ratio to their temperature: and for the verification of his experiments he instituted a number of calculations from the following data. Let x be the temperature of the water; y , the corresponding adhesion; b , its co-efficient; and a the constant force; hence we have the equation $x = a - b y$. To find the value of a and b he made use of two experiments, the one in which water at 104° of Sulzer's thermometer (152° . 278 Fahrenheit) adhered to the glass disk with a force equal to 80 grains, the other where water at 56° S. (96° . 764 Fahrenheit) adhered with a force equal to 89 grains. Proceeding from these two terms $104 = a - 80 b$

$$56 = a - 89 b$$

$$\text{we have, } a = 530$$

$$b = \frac{-48}{9}$$

Hence the relation of the temperature of the water to its adhesion to the glass, may be thus expressed, $x = 530 - \frac{48}{9} y$; and from this are deduced the corresponding values of x and y for all the adhesions of glass to water at any temperature.

From these data, and the corresponding experiments, M. Achard

Achard formed the following Table of the adhesive force of a glass disk, $\frac{1}{2}$ inch in diameter, to water at different temperatures.

TABLE I.

Degrees of Sulzer's Therm.	Degrees of Fahren. Therm.	Adhesion by Experiment.	Adhesion found by Calculation.	Difference.
95	141.687	81.25 grs.	81.55	-0.3
90	135.944	82.5	82.5	0
85	130.141	83.75	83.43	+0.34
80	124.368	84.5	84.37	+0.13
75	118.595	85.75	85.31	+0.46
70	112.822	86.	86.25	-0.25
65	107.049	87.25	87.18	+0.07
60	101.276	88.5	88.12	+0.38
55	95.503	89.	89.06	-0.06
50	89.730	90.25	90.	+0.25
45	83.957	90.75	90.93	-0.16
40	78.184	92.	91.87	+0.13
35	72.411	92.75	92.81	-0.04
30	66.638	93.75	93.73	+0.02
25	60.865	94.5	94.68	-0.18
20	55.092	95.75	95.62	+0.13
15	49.319	96.25	96.56	-0.31
10	43.546	97.5	97.5	0

Of the accuracy of this Table of M. Achard's there seems no reason to doubt, since, in the individual instances, the difference between the force of adhesion found by experiment, and that ascertained by calculation, is so considerable as to exclude the idea of fiction; while, upon the general average, the difference is so small as to give a high opinion of the precision with which the enquiry has been conducted.

We learn from this Table, that for every degree of Sulzer's thermometer (1.1565 Fahren.) taken in a descending series, the force with which a glass disk $\frac{1}{2}$ inches in diameter adheres to the surface of water, is increased by 0.1876 grains according to calculation, or 0.1858 by experiment, in an uniform ratio: now two things take place during the cooling of the water, viz. a portion of caloric is separated, and the bulk of the water is lessened: each of these causes may account for the increased adhesive force, but upon different principles. If it is owing to the escape of caloric, it may be accounted for in the following way. Water at any state of liquidity is, properly speaking, a compound of caloric and water, which combine together by a slight degree of affinity; and in proportion to this force resist the union of any third substance either with the caloric or the water: if part of the caloric is taken away, the water is more disposed to union with a third substance by the whole quiescent affinity of the water and the abstracted caloric; therefore the force by which a plate of

glass adheres to water is increased, exactly in proportion to the diminution of the temperature, or, in other words, the increase of weight is the exponent of the quotient affinity between the mass of water and the caloric taken away. According to Morveau's observations on this subject, Table; "The adhesion is stronger when the water is colder, because containing more ponderable matter in a given volume, it presents to the glass-plate more points of contact; and the force of adhesion being proportional to the sum of these points, it ought to augment or diminish, as the fluid is condensed by cold, or rarefied by heat." These few words express the aim and object of all the experiments of Morveau on this subject; namely, that chemical affinity is only a modification of the attraction of cohesion, and in this manner subject to mathematical computation. The general reasonings on which this opinion is founded will be discussed hereafter in the article *CHEMICAL AFFINITY*; all that is necessary here, is to shew, that the argument just mentioned, deduced from M. Achard's Table, is liable to a very strong objection. The fact being allowed, that the adhesion becomes uniformly greater in proportion to the diminished temperature of the water, it follows, that if this adhesion is owing simply to the cohesive attraction of the proximate particles of the glass and water, the degree of this force will be according to the number of proximate particles in a given superficies; or, in other words, directly as the specific gravity. Now, by the experiments of Achard, the adhesion between the glass-plate and water at 152° Fahren. is equal to 80 grains, and at 96° Fahr. equal to 89 grains. From Kirwan's experiments on specific gravity (Phil. Trans. vol. lxxv. pt. 1. p. 267.) it appears, that the weight of a cubic inch of water at 152° Fahr. is equal to 248.7 grains; and the same at 96 Fahr. equal to 252.47 grs.; if, therefore, the adhesion is as the specific gravity, the adhesive force at 96 Fahr. ought to be only 81.21, instead of 89. for

$$248.7 : 80 :: 252.47 : 81.21.$$

Having ascertained the influence of temperature on the adhesion of surfaces, the next object with M. Achard was to determine the ratio between the force of adhesion and the superficial magnitude of the solid. For this purpose he procured round plates of glass of different diameters, from $\frac{1}{2}$ inch to 7 inches, and having first determined the force of their adhesion with the different fluids, by the number of grains necessary to overcome it, he afterwards calculated the same by the following equation. Let p be the force of adhesion belonging to a disk of glass, whose diameter is a ; and y the adhesive force of a similar disk, whose diameter is b , we shall then have $a^2 : b^2 :: p : y$; and $y = \frac{b^2 p}{a^2}$.

From these materials the following Table has been constructed.

TABLE II.

The force of adhesion between glass disks of different diameters, and different kinds of fluids, determined by experiment and calculation.

Diameter inches.	Distilled water.		Alcohol.		Liquid ammonia.		Solution of potash.		Oil of Turpentine.		Lime-oil.	
	Experi- ment.	Calcul. grs.	Ex. er. grs.	Calcul. grs.	Experi- ment.	Calcul. grs.	Experi- ment.	Calcul. grs.	Experi- ment.	Calcul. grs.	Experi- ment.	Calcul. grs.
5	364.		216.		328.		420.		240.		268.	
7.5	494.5	495.	294.25	294.	447.	446.	571.	571.	326.5	326.	363.25	364.
10	647.25	647.	384.	384.	582.	583.	746.	746.	425.	426.	475.	476.
12.5	818.75	819.	457.5	457.	738.	738.	945.	945.	539.	540.	604.	603.
15	1010.	1011.	600.	600.	912.	911.	1167.	1166.	667.	666.	744.	744.
17.5	1223.5	1223.	725.	726.	1103.	1102.	1410.75	1411.	806.	806.	901.	900.
20	1457.	1456.	863.25	864.	1311.5	1312.	1680.5	1680.	961.	960.	1072.25	1072.
22.5	1709.	1708.	1015.	1014.	1538.25	1539.	1970.	1971.	1126.5	1126.	1259.	1258.
25	1981.5	1982.	1177.	1176.	1786.	1785.	2287.	2286.	1305.75	1306.	1458.5	1459.
27.5	2257.	2257.	1350.	1350.	2049.	2050.	2624.5	2625.	1500.	1500.	1675.25	1675.
30	2587.	2588.	1538.	1536.	2332.	2332.	2986.	2986.	1707.	1706.	1905.	1905.
32.5	4044.	4044.	2399.	2400.	3645.	3644.	4665.8	4666.	2666.	2666.	2977.	2977.
35	5824.5	5824.	3455.5	3456.	5248.25	5248.	6721.	6720.	3839.5	3840.	4289.25	4288.
37.5	7026.25	7027.	4703.	4704.	7143.	7143.	9146.	9146.	5227.	5226.	5835.75	5836.

Hence it appears, that the difference of adhesion manifested by different sized disks of glass with the same fluid, is in the ratio of the squares of their diameters; and this may be admitted as true, at the same time that it may be doubted whether the Table expresses faithfully the results of the experiments. If we bear in mind the first of the conditions which M. Achard himself lays down as essential for the correctness of the experiment, namely, that the disk should be suspended by the true centre of its mass and figure, and that the force employed to detach it should always form a right angle with the plane of the disk, and of the fluid, it will be obviously extremely difficult to procure the concurrence of these circumstances, when operating even with the smallest of the disks mentioned in the Table; and with larger disks, the causes of error must increase at least in proportion to the squares of their diameters. By comparing the differences

between experiment and calculation, when a disk 1.75 inch in diameter was used, with those that took place when a disk 7 inches in diameter was used, we shall find them to be according to the Table, 0.999799 : 1.000025; whereas, if the probable causes of error were only as the diameters, the proportion ought to be 0.999799 : 4.000100; and if the squares of the diameters are admitted as the true proportion, then it should be 0.999799 : 21.700542.

Besides the experiments already mentioned, a series of 600 more was made by M. Achard, with different solids formed into disks of equal diameters, and applied to the surface of some of the simpler and more compound fluids; unfortunately several of the solids and fluids are so heterogeneous in their chemical composition as to afford few important results: those which are of most consequence are assembled in the following Table;

TABLE III.

The force of adhesion of different solids, in disks 1.5 inch in diameter, with water and other fluids, at 72° Fahrenheit's thermometer, determined in grains.

SOLIDS.	Fluids.	Distilled water.	Sulphuric acid.	Concentrated vinegar.	Alcohol.	Acetite of lead.	Acetite of copper.	Deliquescent potash.	Liquid ammonia.	Sulphuric ether.	Oil of turpentine.	Oil of almonds.
	Specific gravity.	1000.	1868.4	1019.7	842.	1131.5	1000.	1368.4	1046.	828.9	81.5	727.8
	Plate-glass - -	71.	115.	87.	54.	98.	96.	105.	82.	54.5	60.	66.
	Rock crystal - -	90.	112.	86.	52.	98.75	95.	103.	80.	53.	58.5	66.
	Gypsum - -	80.	109.75	78.	46.5	87.25	85.	93.	71.	48.	52.5	56.5
	Sulphur - -	96.5	123.	92.5	58.	107.	101.5	110.5	86.	57.5	64.	67.
	Yellow-wax - -	97.	120.5	92.75	56.5	106.5	103.	111.	88.	59.	64.	71.
	Iron - -	93.5	116.	88.	56.	104.	98.25	108.	83.5	55.5	61.	68.
	Copper - -	96.5	123.	92.	57.25	106.	102.	112.	87.	58.	62.5	68.75
	Tin - -	94.5		91.	55.5	103.5	100.	108.5	86.	54.75	61.	69.
	Lead - -	100.25	129.25	98.	59.	111.	107.	115.	91.5	61.	67.	72.
	Brass - -	99.	124.5	96.	59.	110.	103.5	114.	90.	60.	65.	70.5
	Zinc - -	96.		90.25	57.	106.25	102.	110.	85.75	56.75	61.25	69.

If this Table may be at all depended upon, the results are very extraordinary, as will appear at once by arranging the articles in the several columns according to the order of their adhesion. Thus

TABLE IV.

Distilled water.	Sulphuric acid.	Concentrated vinegar.	Alcohol.	Acetite of lead	Acetite of copper	Deliquescent potash.	Ammonia.	Sulphuric ether.	Oil of Turpentine.	Oil of almonds.
Lead	Gypsum	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Brass	Lead	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Wax
Wax	Brass	Wax	Sulphur	Sulphur	Wax	Copper	Wax	Wax	{ Sulphur	Brass
{ Sulphur	{ Sulphur	Sulphur	Copper	Wax	{ Copper	Wax	Copper	Copper	{ Wax	{ Sulphur
{ Copper	{ Copper	Copper	Zinc	Zinc	{ Zinc	Sulphur	{ Tin	Sulphur	Copper	{ Zinc
Zinc	Wax	Tin	Wax	Copper	Sulphur	Zinc	{ Sulphur	Zinc	Zinc	{ Tin
Tin	Iron	Zinc	Tin	Iron	Tin	Tin	Zinc	Iron	{ Iron	Copper
Iron	Plate-glass	Iron	Pl.-glass	Tin	Iron	Iron	Iron	Tin	{ Tin	Iron
Plate-glass	R. crystal	Plate-glass	R. crystal	R. crystal	Pl.-glass	Pl.-glass	Pl.-glass	Pl.-glass	Pl.-glass	{ Pl.-glass
R. crystal		R. crystal	Gypsum	Pl.-glass	R. crystal	R. crystal	R. crystal	R. crystal	R. crystal	{ R. crystal
Gypsum		Gypsum	Gypsum	Gypsum	Gypsum	Gypsum	Gypsum	Gypsum	Gypsum	Gypsum

Hence it is manifest that the strength of adhesion is not owing either to the specific gravity of the solid or of the fluid; nor is it at all more consistent with the acknowledged order of chemical affinities. Why lead and brass should generally be the first in each column, and why sulphur and wax should be interposed between these and the rest of the metals, is wholly unaccountable, and contradictory to all known chemical facts. The column, at the head of which is the acetite of lead, contains besides several peculiar difficulties. The plates of zinc, iron, and tin, would begin to decompose this salt as soon as they came in contact with it, and would in consequence be superficially covered with lead; the acquired weight of lead, therefore,

and the loss of substance sustained by the metallic plates, would be two powerful disturbing causes in the performance of the experiment; besides, as each of the plates would be coated with lead, the greatest part of the adhesive force ought to be reckoned as belonging to the adhesion of lead to acetite of lead, and in consequence the three corresponding numbers in Tab. III. ought to be nearly equal, which they are not; the same objections, and perhaps with still greater force apply to the column whose title is acetite of copper, on account of the more perfect adhesion of the revived copper to the surface of the zinc and iron plates.

In the Journal de Physique (vols. xv. xvi. and xix.) is a series of papers by M. Dutour, on the subject of capillary attraction,

attraction, which contains some excellent observations on Dr. Taylor's method: he maintains, that the force of adhesion is then only truly expressed by the weight of the counterpoise, when upon raising the solid plate out of the fluid no particles of this last are found adhering to it: thus the adhesion of mercury to glass, to marble, to those metals with which it does not readily amalgamate, is accurately expressed by the weight necessary to counterpoise this adhesion: but where the solid comes out covered with a thin plate of the fluid, as is the case when a plate of gold or silver is applied to a surface of mercury, it is obvious that the separation of the solid and fluid does not take place at their plane of adhesion, but some way below it in the substance of the mercury, so that the weight of the counterpoise is rather the expression of the cohesion of the mercury, than of the adhesion between it and the gold. Hence arises the necessity of taking into consideration the cohesive force of the fluid: themselves in calculating with any accuracy the adhesion between solids and fluids, and this requires so much nicety, is so liable to be affected by small changes of temperature and other circumstances, as to preclude any great dependance upon it, in determining the comparative energy of different cases of chemical affinity.

Upon the whole then we may conclude that there exists a tendency to adhesion between many, and probably between all substances in nature, absolutely independent of atmospherical or any other external pressure; that the force of this adhesion between solids and fluids is in an inverse ratio to the thermometrical temperature, and a direct ratio to the squares of the surfaces; that every solid adheres with a peculiar force to each fluid, and that the different degrees of adhesive force between the same fluid and equal surfaces of different solids form a series which corresponds with the order, and is perhaps the exponent of the proportion of their respective chemical affinities to the same fluid; that this force is truly expressed by the weight necessary to break the adhesion in all cases where the solid comes out clean from the fluid, but that whenever any particles of the fluid adhere to the solid, the weight of the counterpoise is then expressive of the mixed forces of the adhesion between the surfaces of the solid and fluid, and of the cohesion between the component particles of the fluid, which last case in the present state of our knowledge, cannot be depended on with any accuracy in the calculation of chemical affinities. *Encyclop. Method. Art. Adhesion.*

Some, however, have supposed, and others have allowed, that, although in the case of polished planes, brass hemispheres and leaden bullets, which adhere to one another with a considerable force both in the air and in vacuo, the principal cause is their mutual attraction, yet the pressure of the air may contribute in a slight degree to their adhesion. But the effect of this cause is very inconsiderable, and, compared with the other, scarcely deserves notice.

ADHESION, in *Surgery*, the same as AGGLUTINATION, a preternatural process, by which various parts of the body cohere together and become one mass. A partial cohesion, for example, often takes place between the pleura of the lungs and ribs, between the heart and pericardium, the liver and diaphragm, or between other contiguous viscera, after an attack of inflammation. This process also follows if two abraded or ulcerated surfaces be applied for some time to each other, as when the fingers have been severely burnt and not kept asunder. What is called "healing of wounds by the first intention," likewise comes under this denomination: the doctrine of *adhesion* is, therefore, of considerable importance in surgery, and should be carefully attended to. The right understanding of this doctrine has

led to many of the greatest improvements in modern practice, especially in the extirpation of TUMORS, in the treatment of recent WOUNDS and in AMPUTATION. The perfect UNION of living parts can only happen where there is a mutual elongation or insculcation of the blood-vessels at the two contiguous surfaces, or at least where the vessels from one part shoot into the adjacent substance, and thus keep up a vital communication.

ADHIL, in *Astronomy*, a star of the sixth magnitude, upon the garment of ANDROMEDA, under the last star in her foot.

ADHOA, in *Ancient Geog.*, denotes what we otherwise call RELIEF. In which sense we also sometimes find the word written *adoba*, *adobanentum*, and *adobanennum*. Du Cange.

ADJA, or AGGA, in *Geography*, a burg and fort of Guinea, on the coast of Fantin, belonging to the East India Company.

ADIABA, in *Ancient Geography*, a town built by Simon Maccabæus, in a plain, or sephala, as a place of defence.

ADIABDA, a town of Asia, in Albania, placed by Ptolemy in long. 79°, and lat. 45° 30'.

ADIABENE, the chief province of Assyria, which sometimes gave its name to the whole country. It was so called according to Ammianus, (l. xxiii. c. 20.) from the two rivers Diaba and Adiaba, which Valesius (in loc.) says, are more frequently denominated Zabas and Anzabas. Stephanus (de Urb. vol. i. p. 22.) confounds Adiabene with Mesopotamia. In this province, which was the richest and most fruitful of Assyria, Ptolemy (l. vi. c. 1.) and Ammianus place Ninus or Nineveh, Gaugamela, and Arbela; and with them Strabo (l. xvi. vol. 2. p. 1071) agrees; for though he places Ninus and Gaugamela in Aturia, and Arbela in a district of its own name, yet he makes both Aturia and Arbelis parts of Adiabene. This province became a distinct kingdom in consequence of the disturbances that prevailed among the Seleucids, and was held by successive sovereigns in opposition to the Syrian kings, till they were expelled by the power of the Roman emperors. The first king mentioned in history, reigned in the time of the Mithridatic war, and joined Tigranes against Lucullus. In the reign of the emperor Claudius, Monobazus, called also Bazeos, ruled over the Adiabeniens; who was succeeded by Izates, his son, by his sister Helena, whom he had married. Izates, being instructed in the Jewish religion (see Jos. Antiq. l. xx. c. 2. tom. 1. p. 957, &c. Ed. Haverc.) introduced it among his subjects; upon which they conspired against him, and called in Abias the king of Arabia, to their assistance. Failing in this attempt, they solicited the assistance of Vologeses, king of the Parthians; he was equally unsuccessful; and Izates closed his life and reign in peace, and left five sons, who were educated under their grandmother Helena at Jerusalem, and there taught both the Jewish language and religion. Little is known concerning the affairs of this kingdom from the death of Izates, who was cotemporary with the emperor Claudius, and who bequeathed his crown to his brother Monobazus, until the reign of Trajan, when it was governed by one Mebarfapes, who joined Chosroes, king of the Persians, against the Romans. This war proved unsuccessful, and Mebarfapes was driven from the throne; and though Manus king of Arabia, attempted to restore him to the kingdom, his enterprise for this purpose was ineffectual, and he was obliged to conclude a peace with Rome. Trajan, having obtained possession of Adenyfræ, a fortified place of great strength, which was delivered to him by Sentius, a centurion, who had escaped the treachery

of Mebarfapes, formed a bridge of boats over the river Tigris, and made himself master of the whole kingdom of Adiabene, A. U. C. 863, or in the 115th year of the Christian æra. The Adiabeniens, however, emancipated themselves from the Roman yoke; but were again reduced by Severus, A. U. C. 948, denominated from this circumstance Adiabenicus. See Dion. Cals. Hist. Rom. vol. ii. p. 1137. Ed. Reimari. In the reign of Sapor II. king of Persia, the Adiabeniens, as we learn from Sozomen (l. ii. c. 12.) embraced the Christian religion, and were on that account treated with great cruelty by this king, to whom they were subject.

ADJACENT, or **ADJOINING**, of *ad*, *to*, and *jacere*, *to lie*, something situate near, or by the side of another.

ADJACENT angle. See **ANGLE**.

ADIADA, in *Ancient Geography*, a town of Palestine, in the tribe of Dan. See **ADIDA**.

ADIANTUM, *Maidenhair*, in *Botany*, the name of a genus of plants of the *crystogamia filices* class and order, the characters of which are these; that the fructifications are collected in oval spots, at the end of the fronds or leaves, which are folded back; or at the reflex tip of the frond underneath. Prof. Martyn enumerates thirty-five, and Cmelin forty-four, species; of these some have a simple frond, viz. 1. *A. reniforme*, a native of the island of Madeira, and introduced here, in 1778, by Mr. F. Masson. 2. *A. sagittatum*. 3. *A. philippense*, a native of the Philippine islands. 4. *A. repens*, native of the isle of France. 5. *A. decurrens*. Others have a compound frond, viz. 6. *A. trilobum*, native of America. 7. *A. radiatum*, an elegant plant, with small fronds, a native of Jamaica and Domingo. 8. *A. pedatum*. 9. *A. fuscum*. 10. *A. caudatum*, native of the East Indies and Japan. 11. *A. ferruleatum*, native of Jamaica. 12. *A. hastatum*, native of the Cape of Good Hope. 13. *A. lanceum*, native of Surinam. 14. *A. macrophyllum*, native of Jamaica. 15. *A. deltoideum*, native of Jamaica. 16. *A. pumilum*, native of Jamaica. 17. *A. cuneatum*, native of Jamaica. 18. *A. triphyllum*, a beautiful little fern, found by Commerfon in Buenos-Ayres. Those with a decompound frond are; 19. *A. denticulatum*, native of Jamaica. 20. *A. flabellulatum*, native of China. 21. *A. trifoliatum*, native of America. 22. *A. chusanum*, native of China. 23. *A. capillus veneris*. 24. *A. truncatum*. 25. *A. guianense*. 26. *A. cristatum*, native of South America. 27. *A. furcatum*. 28. *A. striatum*, native of Jamaica. 29. *A. serratum*. 30. *A. villosum*, native of Jamaica. 31. *A. pulverulentum*, native of South America. 32. *A. cafferorum*. 33. *A. fragrans*, or *Polypodium fragrans*, native of Madeira, introduced here, in 1758, by Mr. F. Masson. 34. *A. striatum*, native of Jamaica. 35. *A. microphyllum*, native of Jamaica. 36. *A. borbonicum*. 37. *A. tenellum*. 38. *A. scandens*, native of Cochinchina. Those with a super decompound frond are, 39. *A. fragile*, native of Jamaica. 40. *A. tenerum*, native of Jamaica. 41. *A. clavatum*, native of Dominica. 42. *A. trapeziforme*, native of New Zealand, and between the Tropics. 43. *A. aculeatum*, native of Dominica and Jamaica. 44. *A. hexagonum*, or *PTERIS heterophylla*. 45. *A. pteroides*, native of the Cape of Good Hope, introduced, in 1775, by Mr. F. Masson. 46. *A. Æthiopicum*, native of the Cape of Good Hope and Japan.

Of all the species above enumerated one only belongs to Great Britain, viz. the *A. capillus veneris*, or true maiden-hair, which is found rarely in Scotland and Wales on rocks and moist walls, and which is a native of the south of Europe and the Levant. The fronds or leaves of this species are doubly compound; the leaflets or wings are alternate;

the pinnae or leaflets are wedge-shaped, lobed, and pedicelled, or on leaf-stalks: it is perennial, and flowers from May to September. This is a very succulent plant, yielding almost its whole weight of juice; but neither its taste nor smell promises any efficacy. If the syrup of capillaire, which is made from it, be good for any thing, it is from the orange-flower water that is put into it. The *A. pedatum*, or Canadian maiden-hair, is a native of Canada, Japan, and the Society isles, and was brought into England from Virginia by John Tradescant, the son, before the year 1640. It flowers in August and September. In Canada this plant grows so plentifully, that the French, when they were in possession of that country, sent it to France as a package for goods, and the apothecaries at Paris used it instead of the true maiden-hair. The leaves of both these species have a slight sweetish roughish taste, and a pleasant but weak smell, very perceptible when boiling water is poured upon them. Infusions, or decoctions of them inspissated, yield a moderately rough, bitterish, mucilaginous extract. Maiden-hair has been long esteemed good against disorders of the breast, for promoting expectoration, softening recent coughs, and allaying the tickling in the throat occasioned by defluxions of thin rheum. For these purposes a syrup of the true sort, flavoured with orange-flower water, has been usually brought from France; and a syrup of the Canada sort, made with maple sugar, is sometimes received from America. Our confectioners prepare a syrup of the maiden-hair, which they sell under the name of *capillaire*. But the English maiden-hair, or **ASPLENIUM**, has been commonly substituted in the pectoral syrups and infusions made among us. The Canada species is said to be superior to both. But the virtue of the maiden-hair may be obtained to much greater advantage, by drinking an infusion of the herb as tea, sweetened either with sugar, or by the addition of a little liquorice. Lewis, Mat. Med.

Culture. The only species that have been cultivated with us are the 1st, 8th, 23d, 30th, 33d, 42d, and 45th, in the above enumeration. The *A. capillus veneris* may be preserved in pots filled with gravel and lime-rubbish, in which it will thrive much better than in good earth. The *A. pedatum* will live through the winter in the open air, if the season be moderate; but as severe frosts will sometimes destroy it, a plant or two should be kept under shelter. The *A. villosum*, and *A. trapeziforme* must be preserved in a stove, and will afford by their shining black stalks, and odd-shaped leaves, an agreeable variety among other exotic plants. The *A. reniforme*, *fragrans*, and *pteroides*, may be kept in the green-house.

ADIANTUM aureum. See **POLYTRICHUM**.

ADIANTUM nigrum, a species of **ASPLENIUM**.

ADIANTUM, in *Natural History*. See **TUBULARIA**.

ADIAPHORISTS, or **ADIAPHORITES**, compounded of *ἀδιαφορος*, *different*, and denoting *indifferent*; in *Ecclesiastical History*, a name given in the 16th century to the moderate Lutherans, who adhered to the sentiments of Melancthon; and afterwards to those who subscribed the INTERIM of Charles V. Melancthon, whose sentiments were moderate, and temper mild and gentle, declared on this occasion, that, in his opinion, compliance was due to the Imperial edicts in matters of an *indifferent* nature; but both he and his associates ranked in this class many things which appeared to Luther and his disciples to be of the highest importance; particularly the doctrine of justification by faith alone, and the necessity of good works to eternal salvation, as well as the number of the sacraments, the jurisdiction claimed by the pope and the bishops, extreme unction,

unction, and the observance of religious festivals and superstitions. Hence sprung the *adiaphoristic* controversy, a term coined, which divided the church for many years, and retarded the progress of the reformation. See *Form of Concord*.

ADIAPHOROUS is a denomination given by Mr. Boyle to a kind of food derived from tamar and some other vegetable bodies, and which is neither acid, viscid, nor mucous; but in many respects different from any other sort of spirit.

ADIAPNEUSIA, from *α, ān*, and *πναι, I breathe*, in *Medicine*, signifies defective perspiration, from dense pores, &c.

ADIAPYOTON, a Greek word signifying *finer*, and applied by some medical writers to a remedy for the colic, which is flint spar, harts-horn, white pepper, &c. made into an electuary.

ADIARRHŒA, from *α, ān*, and *ρρῆναι, I flow*, signifies a total suppression of all the necessary evacuations.

ADJAZZO. See *Ajazzo*.

ADICARA, in *Ancient Geography*, a town of Asia, near the Persian gulf, which Ptolemy places in long. 79°, and lat. 29°, 30'.

ADICE, in *Botany*. See *NETTLE*.

ADIDA, **ADIDA**, or **ADIADA**, in *Ancient Geography, a city of Judea, not far from Jerusalem. Josephus says, (*De Bell. Jud.* l. iv. c. 9. tom. 2. p. 300. Ed. Haverc.) that when Vespasian besieged Jerusalem, he established a camp and guards in this place as well as in Jericho. Simon Macchabæus also encamped in this place to dispute the entrance into the country with Tryphon, who had barbarously seized his brother Jonathan, at Ptolemais. 1 Maccab. xiii. 13. ch. xii. 38. *Jos. Ant.* l. xiii. c. 6. § 14. tom. 1. p. 653. *Adida* is probably the same with *Abdus*.*

ADJECTIVE, in *Grammar*, a kind of noun joined with a substantive, either expressed or implied, to shew its qualities or accidents.

The word is formed of the Latin *adjicere*, to add to; as it is designed to be added to a substantive, without which it has no precise signification.

Father Buffier defines adjectives in a manner somewhat different from other grammarians.—Nouns, according to him, are substantives, when the objects which they represent are considered simply, and in themselves, without any regard to their qualities; on the contrary, they are adjectives, when they express the quality of an object. Thus, when I say, simply, *a heart*, the word *heart* is a substantive, because none of its qualities are expressed; but when I say, *a generous heart*, the word *generous* is an adjective; because it adds a quality, or attribute, to the heart. Adjectives, then, appear to be nothing else but modificatives.

In effect, the end of an adjective being only to express the quality of an object; if that quality be the object itself whereof we speak, it becomes a substantive; e. gr. If I say, *this book is good*; *good* here is an adjective; but if I say, *good is always to be chosen*, it is evident *good* is the subject I speak of; and consequently *good*, there, is the substantive.

On the contrary, it often happens in other languages, and sometimes in our own, that a substantive becomes an adjective; as, for instance, in these words: *the king, hero as he is, remembers he is a man*, where the word *hero*, though ordinarily a substantive, is apparently an adjective. From this idea of an adjective, it appears that many of the nouns, which, in the common grammars, are accounted substantives, are really adjectives, and *vice versa*: grammar in this, and a thousand other instances, depending upon custom.

An adjective, according to the definition of Mr. Harris,

(*Hermes*, p. 186.) has no assertion, and only denotes such an attribute, as has not its essence either in motion or its privation. Thus in general the attributes of quantity, quality, and relation, such as many and few, great and little, black and white, good and bad, double, treble, quadruple, &c. are all denoted by adjectives. Every adjective may also be considered as capable of being resolved into a substantive, and an expression of connection equivalent to *et*, e. g. a good man, is a man of goodness; in which case the adjective expresses not only an attribute, but also the connection between the attribute and its substance: and the particular kind of connection is ascertained by experience. In this view of the subject the adjective appears to have two uses. The first and principal is that of restricting or modifying a general term, as in the instances above recited. The second is, when the abstract substantive contained in the adjective is modified by the noun, with which, in the concrete or adjective form, that abstract substantive is joined. The former may be called the direct, and the latter the inverse, acceptation of adjectives. In the following passage, Livy says, *Regnum est Romæ ob urbe condita ad liberatam annos ducentos quadraginta quatuor*, i. e. monarchy subsisted at Rome from the building of the city to its deliverance: here the participles, or adjectives, *condita* and *liberatam*, are used inversely; i. e. the abstract substantives contained in these words are modified or restricted by the substantives *urbe* and *urbem*, with which they are supposed to unite. Mr. Harris observes (*ubi supra*, p. 187), that attributes sometimes assume an assertion, and appear as verbs: as *albeo*, or *albus sum*, *tumet* or *tumidus est*, and *ισοζέει* q. d. *ισος ἐστίν*, is equal. Of these there are but few, and they may be called *verbal adjectives*. Participles likewise insensibly pass into adjectives, as *doctus* or *learned*, lose their power as participles, and mean a person possessed of an habitual quality. Thus also *vir eloquens* denotes a person who possesses the habit of speaking, and not a person now speaking. Substantives may be also converted into adjectives; when we say the party of Pompey, the style of Cicero, the philosophy of Socrates, the persons perform the part of attributes, or stamp and characterise their subjects; so that they assume the form of adjectives. And we accordingly say, the Pompeian party, the Ciceroian style, and the Socratic philosophy. Even pronominal substantives admit the like mutation. Instead of saying the book of me, of thee, and of him, we say, my book, thy book, and his book; or the country of us, of you, and of them, we say our country, your country, and their country; which words may be called *pronominal adjectives*. In English the adjective is not varied on account of gender, number, or case. Dr. Lowth, indeed, (*Introductio ad Eng. Grammar*, p. 56.) excepts some few pronominal adjectives, which have the possessive case, as,

Teach me to feel another's woe. Pope.

and the adjectives *former* and *latter*, which may be considered as pronominal, and representing the nouns, to which they refer. The only variation which it admits of, is that of the degrees of COMPARISON.

In the Greek and Latin, however, they have the same form with substantive nouns; and are declined, like them, by cases, and subjected to the like distinctions of number and gender. It is obvious, that neither number, nor gender, nor cases, nor relations, have any thing to do, in a proper sense, with mere qualities, such as *good* or *great*, *soft* or *hard*; and yet *bonus*, *magnum*, and *tener*, have their singular and plural, their masculine and feminine, their genitives and datives, like any of the names of substantives, or persons. To account for this circumstance, Dr. Blair (*Lectures*, vol. i.

p. 199) directs us to consider the genius of those tongues. They avoided, as much as possible, regarding qualities separately, or in the abstract. They made the adjective depend on its substantive, and resemble it in termination, number, and gender, in order that the two might coalesce the more intimately, and be joined in the form of expression, as they were in the nature of things. Thus also they favoured that liberty of transposition, which these languages allowed. In the English sentence, "Beautiful wife of a brave man," the juxtaposition of the words prevents all ambiguity. But in the Latin, "Formosa fortis viri uxor," it is only the agreement in gender, number and case, of the adjective "*formosa*," which is the first word of the sentence, with the substantive "*uxor*," which is the last word, that declares the meaning.

The learned Mafcelef observes, (Gram. Heb. v. i. p. 56.) that in the Hebrew language, all those words are adjectives which are changed from the masculine into the feminine by the addition of the letter ך, as טוב *bonus*, טובה *bona*, &c. and therefore the Hebrews refer to the class of *adjectives* many words which we should rank as substantives. There are many distinguishing idioms of the Hebrew language that result from the use and application of the adjective: e.g. the substantive precedes it, as יר חזקה *ir manus fortis*; and when the contrary is the case, the verb substantive is understood, as in Ps. xxxiii. 4. Ps. xxxii. 10. except when numeral adjectives occur.

Again, the Hebrews often express their adjectives by substantives, with the prepositions ב, ל, prefixed; as אשכנדרה כליה *Ps. xc. 4. custodia in nocte, i. e. nocturna*. Thus Hebrewisms occur in Matt. xxii. 16.; Luke iv. 32. 1 Tim. ii. 7.; 2 Pet. ii. 13.; Mark v. 2.; 1 John v. 19. With ל prefixed אשכנדרה *li. i. 14. Eueret mihi oneri, i. e. onerosi*. A similar instance occurs John viii. 52. *אשכנדרה לך, i. e. aeternam*. With כ prefixed, אשכנדרה *Ps. lxxx. 14. aper de felcia, i. e. sylvestris*. Similar modes of expression occur in 1 John iv. 5. Rom. iii. 26. Rom. iv. 14. Matt. v. 37. Moreover, the Hebrews sometimes express adjectives by substantives without any preposition, or in the language of grammarians, they use the abstract for the concrete: as, לחם שער *Jud. vii. 13. panis bordei, i. e. bardiacus*. Similar to which are Eph. v. 8.; Luke xvi. 15.; John xvii. 17.; 2 Cor. v. 21. When two substantives occur, one is sometimes taken for an adjective, and sometimes the other, as תכלית שנה *Ps. cxxxix. 22. perfectio me odii, i. e. perfectio odii*. Hebrewisms of this kind are found in 1 Cor. i. 21.; Gal. iii. 14.; 1 Cor. i. 25.; Phil. iv. 5.; 2 Pet. ii. 14. Adverbs are sometimes substituted for adjectives, as יום מחר *Gen. xxx. 33. dies cras, i. e. crastinus*. Similar expressions occur in Matt. vi. 34.; Luke x. 29.; 2 Pet. i. 9. and also in the Greek and Roman classics. See Mafcelef. ubi. sup. p. 256—265.

ADJECTIVES, in *Logic*, are divided into four kinds; the *nominal*, the *verbal*, the *numeral*, and the *pro-nominal*. The *nominal* are those which distinguish certain species by some inherent and permanent quality, which arises either from the nature of the thing, or from its form or situation; such as *good, black, round, external, &c.* The *verbal*, are those which denote some accidental or adventitious quality, which appears to be the effect of an action which passes, or has passed, in the thing under consideration, such as *rampart, domineering, caressing, embellishing, &c.* *Numeral* adjectives are those which rank any subject in numerical order, as, *first, second, last, &c.* *Pro-nominal* are those which do not concern either species, action, or arrangement, but are merely indications of individuality; these adjectives are either *per-*

sonal, as *mine, thine, &c.* or they have a vague and indeterminate meaning, such as *four, one, many, &c.*; or lastly, they serve the purpose of mere indication, such as, *this, that, such, &c.*

Verbal and *nominal* adjectives, are also called *concretes*. Some distinguish adjectives into *physical* and *metaphysical*; the former being used to denote physical effects, in consequence of the immediate impression they make upon us; the latter to denote those which are intellectual and abstracted, in consequence of their operation on our minds with regard to them.

ADIGENUS, or ADIGENUS, in *Antient Geography*, a river which emptied itself into the Euxine Sea, probably near Colchis, in the territory of the Heniochi.

ADJEROUTE, in *Geography*, the name now given to the ancient HIEROPOLIS.

ADIGE, anciently ATHESES, a river of Italy, which rises south of the lake Glare, in the Rhetian Alps, runs south by Trent, and east by Verona, and falls into the gulf of Venice, north of the mouth of the Po. This river serves by the treaty of peace between France and Austria, signed at Luneville, February 9th, 1801, for the limit between the states of his Imperial majesty, and those of the French republic; and the freedom of its navigation is established, so that neither party shall be allowed to fix any toll upon it, or to have upon it any armed ship of war.

ADJI, a river of Hindostan, which discharges itself into the Hoogly, six miles west of Kishenagur, in the province of Bengal.

ADILLA, in *Zoology*, a name given to the *CANIS AUSTRIS* of Linnaeus, and *ADIVE* of Buffon.

ADIMA, in *Botany*, a species of *SAUVAGETIA*, with ramose stalks.

ADIMAIN, a name given by Leo Africanus and Mar-mol, to a variety of sheep, called by Naturalists the *African* or *Senegal* SHEEP.

ADIMANTUS, in *Biography*, a disciple of Mani, who probably flourished about the close of the third century, and wrote a book against the law and the prophets, endeavouring to shew the disagreement between the Old and the New Testaments, and that consequently the former could not be of God. This book was confuted by Augustine, who supposed this Manichæan to be the same with Addas. Tillemont likewise, Lardner, and many others are of the same opinion; but Cave (*Hist. Lit. t. i. p. 145.*) supposes them to be different persons. The book of Adimantus was every where considered by the Manichæes as one of their best books. It was famous in Africa, and was also used by the Manichæes in Asia, who ascribed it to Addas; but it is now now extant. Lardner's Works, vol. iii. p. 275.

ADIMARI, ALEXANDER, a descendant of the ancient and noble family of Florence, was born in that city A. D. 1579. He devoted himself in early life to the study of the Greek language, and also to poetry, translated Pindar into Italian verse, and wrote original poems. He was honoured by Ferdinand II. duke of Tuscany, and much esteemed by learned men. The troubles that befell him were alleviated by his taste for poetry, which was his occupation and delight. He died in 1649, at the age of 70 years. Gen. Dict.

ADIMARI, RAPHAEL, a native of Rimini; who lived towards the latter end of the 16th century; wrote a history of his country, which is held in good estimation, though that of Clementine is preferred by the Italians. It was published in 4to. at Brescia in 1616, under the title of "Sito Rimenese."

AD INQUIRENDUM, in *Law*, a judicial writ, commanding inquiry to be made of any thing touching a cause depending

depending in the king's court, for the better execution of justice; as of boldardy, or the like. Reg. Judic.

ADINSEIK, in *Geography*, a town of Asiatic Turkey, three leagues south-east of Artaki.

ADJODIN, a town of Hindostan, in the Subah of Moul-tan, 95 miles east of Moul-tan, and 68 south of Lahore.

ADJOINING is particularly used for the associating of a person to another, or appointing him a colleague, or AD-JUNCT.

ADJOURNMENT, formed of *ad, to*, and *Fr. jour, day*, q. d. another day, in *Law*, the putting off a COURT or meeting; and appointing it to be kept at another time or place: in which sense we meet with the phrase *adjournment in eyre*, for an appointment of a day when the justices in eyre intend to sit again. *Adjournment* of parliament is a continuance of the session from one day to another, and is done by the authority of each house separately, every day, and sometimes for a fortnight or month together; and differs from PROROGATION and DISSOLUTION. The adjournment of one house is no adjournment of the other. After an adjournment, all things continue in the same state as at the time of the adjournment, and may be proceeded on without any fresh commencement; whereas, after a prorogation, such bills as are only begun and not perfected, must be resumed *d. novo* (if at all) in a subsequent session.

ADIPOCIRE, *Gras, matiere grasse, matiere adipo-cireuse*, is a term formed of *adeps, fat*, and *cera, wax*, and denotes a substance, the nature and origin of which are explained in the sequel of this article.

The changes which animal matter undergoes in its progress towards total decomposition, have been for many obvious reasons but little attended to: the disgusting circumstances by which they are accompanied, the real danger to health, and the decent reverence for the receptacles of the dead which prevails in all countries, have hitherto opposed almost insuperable obstacles to the investigations of science on this most interesting subject; it is therefore a peculiarly fortunate circumstance, when from motives of police or general convenience, the great progress of the resolution of organized into inorganic matter, with all its various modifications, is submitted to the inspection of chemical philosophy. An opportunity of this kind was offered at Paris in 1786, and 1787, when the old burial ground of the *Innocens* was laid out for building upon, in consequence of which, the surface soil, and the animal remains contained therein, were removed. This cemetery having been for ages appropriated to the reception of the dead, in one of the most populous districts of Paris, was eminently well calculated to exhibit the various processes of animal decomposition; another favourable circumstance was, that it contained several of those large pits (*fosses communes*) in which the bodies of the poor are deposited by hundreds. These pits are cavities 30 feet deep, with an area of 20 feet square, in which the shells containing the bodies are closely packed in rows over each other, without any intermediate earth, and with only a slight superficial covering of soil, not more than a foot thick: each pit contained from 1200 to 1500 bodies, and may be considered as a mass of animal matter of the dimensions above-mentioned. M. M. Fourcroy and Thouret were present at the opening of several of these receptacles, and it is from a memoir by the former of these, that the principal part of this article is composed.

The first pit that was examined, had been filled and closed up 15 years before: on opening some of the coffins (for the wood was still quite sound, only tinged of a yellow colour) the bodies were found within, shrunk so as to leave a considerable vacant space in the upper part of the coffin, and

flattened as if they had been subject to a strong compression; the linen which covered them adhered firmly, and upon being removed, presented to view only irregular masses of a soft ductile greyish-white matter, apparently intermediate between fat and wax: the bones were enveloped in this, and were found to be very brittle.

The bodies thus changed, being but little offensive to the smell, a great number were dug up and minutely examined: in some this alteration had, as yet, only partially taken place, the remains of muscular fibres being still visible, but where the conversion had been complete, the bones throughout the whole body were found covered with this grey substance, generally soft and ductile, sometimes dry, but always readily separating into porous cavernous fragments, without the slightest trace of muscles, membranes, vessels, tendons, or nerves: the ligaments of the articulations had been in like manner changed, the connexion between the bones was destroyed, and these last had become so yielding, that the grave-diggers, in order to remove the bodies more conveniently, rolled each upon itself from head to heels, without any difficulty. The whole contents of the abdominal cavity were wanting, and the muscles and integuments converted as above-mentioned, lay flat on the vertebral column; in like manner the heart and other viscera of the thorax were dissolved, nothing being left but a little white grumous matter. The glandular part of the breast in the female corpses frequently afforded this soapy matter of a homogeneous texture, and a pure white colour: the hair appeared to have undergone no alteration; the brain was not wanting in any, it was superficially of a blackish grey, and had experienced the same change as the integuments. According to the testimony of the grave-diggers, to whom the facts just mentioned had been long familiar, this conversion of animal matter is never observed in those bodies that are interred singly, but always takes place in the *fosses communes*; to effect this change nearly three years are required. The soapy matter of latest formation is soft, very ductile, light and spongy, and contains much water; in 30 or 40 years it becomes much dryer, more brittle, and assumes the appearance of dense laminæ, and where the surrounding earth has been dryer than usual, it is semitransparent, of a granulated texture, brittle, and bears a considerable resemblance to wax.

Animal matter having once passed into this stage of decomposition, appears to resist for a long time any further alteration: some of these pits that had been closed above 40 years, were upon examination, found to be little else than a solid mass of soapy matter, nor is it yet ascertained how long in common circumstances it would continue unchanged, the burial ground of the *Innocens* being so small in comparison to the population of the district, as to require each pit in 30 or 40 years to be emptied of its contents, in order to receive a new succession of bodies: it appears, however, that the ulterior changes depend in a great measure on the quantity of moisture draining through the mass.

From the history of this singular substance, we proceed to an examination of its chemical properties. It was first, however, purified by gently heating in an earthen vessel, till it became of a pasty consistence, and then rubbed through a fine hair sieve, by which means the hair, small bones, and remains of the muscular fibre were separated with tolerable exactness. In this state, being exposed in an earthen vessel to the naked fire, it readily became soft, but did not liquefy without considerable difficulty, rather frying as a piece of soap would do, and disengaging at the same time ammoniacal vapours. Four pounds being put into a glass retort, and submitted to slow distillation in a water bath, afforded in the space of three weeks, eight ounces of a clear watery fluid,

fluid, with a foetid odour, turning syrup of violets green, and manifestly containing ammonia in solution; the soapy matter remaining in the retort had acquired a greater consistence, was become less fusible, of a deeper brown colour, and upon cooling, was evidently drier than before, though not admitting of being broken.

Two pounds of purified soapy matter were distilled by a very gradual sand heat; after two hours, the matter was melted, and in ebullition; it soon became covered with a blackish froth, and swelled greatly; during 36 hours nothing came over but water with ammonia in solution; at length, after 48 hours, crystals of carbonated ammonia began to line the adapter; these were soon after dissolved by a reddish brown oil, which continued to come over till the experiment was stopped. Hence it appears that the component parts of this substance are water, ammonia, and a concrete oil. No elastic gas was disengaged during the whole process.

In order to ascertain the action of atmospheric air on this substance, several pieces being previously weighed, were exposed to a warm and dry air during a whole summer; they were found by this to have become dry and brittle without being lessened in their bulk, had acquired a whiter colour, and lost their peculiar odour; their upper surface was become friable, and almost fell into powder under the finger; on subjection to analysis, it was found not only that the water, but a considerable part of the ammonia, had been evaporated by this long exposure, and the remaining oily matter on melting became semitransparent, brittle, and considerably resembling wax.

Some purified soapy matter was rubbed in a glass mortar with a little water; an immediate mixture took place, and the result was a kind of magma, or soft uniform paste: by a further addition of water an opaque liquor was produced exactly similar to a solution of soap; like this, it formed a strong lather, and by the addition of pump-water, acids, lime-water, or metallic salts, it curdled and threw up to the surface a quantity of white insoluble clots. With nitrat of mercury it gave a greyish-yellow precipitate, and the supernatant liquor became of a permanent red-purple. The aqueous solution being thrown on the filter deposited there almost the whole of the oily matter, and the clear liquor by evaporation yielded a little animal mucilage and extract, and a small variable proportion of the phosphates of ammonia and soda. The combination with boiling water is not more permanent than that with cold, the whole of the oil and ammonia separating on the filter. When instead of fresh soapy matter, some which had been exposed during the summer to the action of the air was made use of, the liquor, though of a soapy appearance and feel, was much less so than what was made with the fresh substance, and upon boiling the mixture a number of brown oily drops rose to the surface, which, on cooling, concentered to a semitransparent matter like wax, perfectly analogous to that obtained from the same by simple melting; hence it appears, that the solubility of the fresh soapy matter depends on the ammonia which it contains, as is also evinced by the perfectly clear solution which the addition of a further quantity of ammonia occasions.

Eight ounces of soapy matter, white and purified, were mixed with an equal weight of powdered quicklime, on the addition of a little water, the mass heated, swelled, and disengaged a very strongly ammoniacal vapour, accompanied by a peculiar putrescent smell; a sufficiency of water being then added to bring the whole to the state of an emulsion, it was heated to ebullition, much ammoniacal vapour escaping at the same time; the liquor being thrown on a filter, passed perfectly clear and colourless, and appeared to be

only lime-water with a very small quantity of soap in solution: the matter remaining on the filter, being well washed, was beaten up with water, but showed no tendency to unite with it, subsiding after a time in the form of a white mass; this by drying for a few days in the open air, became grey and much reduced in volume: it was then mixed with diluted muriatic acid, which immediately decomposed it; and a number of white clots rose to the surface of the liquor. This last being obtained clear by filtration, yielded crystals of muriat of lime and a slight trace of phosphoric salt; the white clots being washed and dried, and afterwards melted in a water bath, cooled into a dry combustible oily matter, brittle, waxy, crystallizable, and perfectly insoluble in water, to which the name of *adipocire* has been appropriated. From this series of experiments with lime, it appears that the soapy matter is a true ammoniacal soap, with a base of adipocire to which lime has a stronger affinity than ammonia, but which last composition is again in its turn decomposed by all the acids, leaving the adipocire in a state of purity. Pot-ash and soda produce effects perfectly analogous to those of lime.

The action of acids on this soapy matter is to decompose it, by uniting with the ammonia; the concentrated mineral acids, as the nitric and sulphuric, also deepen the colour of the adipocire, by the evolution of part of its carbonaceous base.

Pure alcohol at the ordinary atmospheric temperature has no action on the soapy matter, but when boiling, it will with ease dissolve one fourth of its weight, of which all the ammoniacal soap will be deposited by cooling, and that portion of adipocire which is uncombined with ammonia, will be held in permanent solution. Hence alcohol is perhaps the best agent that can be used in the decomposition of the soapy matter: the phosphoric salts contained in it are not soluble in alcohol; the ammoniacal soap is wholly deposited by cooling, and the uncombined adipocire may be obtained afterwards by evaporating off the alcohol.

The most effectual way of procuring perfectly pure adipocire, is to mix well the soapy matter with twelve times its weight of warm water, and to decompose it by adding a slight excess of acetic or muriatic acid. This concrete animal oil thus prepared, as long as it holds much water between its particles, is of a pure white; by drying it acquires a brownish grey colour, which neither exposure to the air, nor the oxymuriatic acid will remove: while it retains water it is soft to the touch, and becomes ductile like wax by the warmth of the hand: when well dried and deprived of water, it assumes by slow congelation, a lamellar and crystalline texture, but when cooled quickly, has a compact granular appearance: in the first of these states, it greatly resembles spermaceti, yet differs from it in the following particulars. It requires a less heat for its fusion by seven degrees of Fahrenheit; it is soluble in boiling alcohol in the proportion of one ounce and a half, to one ounce of the fluid, whereas the same quantity of alcohol at the same temperature, will scarcely take up more than 36 grains of spermaceti; it separates also in cooling from this menstruum, in a much less decidedly crystalline form than spermaceti does; it unites eagerly with liquid ammonia in the cold, which spermaceti does not in the smallest degree.

To the foregoing experiments of Fourcroy, a few facts have since been added by Dr. Gibbs. The receptacle at Oxford for those bodies which have been used by the anatomical professor there for his demonstrations, is a hole dug in the ground to the depth of thirteen or fourteen feet, and a little stream is turned through it in order to remove all offensive smell: the flesh contained in this was found, on

examination, to be quite white, and for the most part changed into the soapy matter above mentioned. From this hint, pieces of lean beef were inclosed in a perforated box, and placed in running water, and at the end of a month were found converted into a mass of fatty matter; this change was observed to take place much sooner and more completely in running than in stagnant water: in order to get rid of the foetid smell, nitrous acid was had recourse to, which immediately had the desired effect; a waxy smell was perceived, and by melting the matter it was obtained nearly pure; the yellow colour which had been given to it by the nitrous acid, was wholly discharged by the oxymuriatic acid. A similar conversion of muscular fibre takes place by maceration in very diluted nitrous acid. Dr. Gibbs has not mentioned whether the fatty matter produced by running water is pure adipocire or ammoniacal soap; it appears probable, however, that it is in the former state; where nitrous acid is the menstruum employed, it is obviously impossible that the adipocire should be combined with an alkali. *Annales de Chimie*, vol. iii. 120. v. 154. vii. 146. viii. 17. *Philos. Transf.* for 1794. (vol. lxxiv. page 169.)

ADIPOSUS, *fat* or *fatty*, is a word chiefly used in *anatomy*, as an epithet of certain cells, ducts, membranes, and vessels; e. g. *MEMBRANA* and *VASA adiposa*, *CELLULÆ adiposæ*, *DUCTUS adiposi*, &c.

ADIPPE, in *Entomology*, a species of *PAPILIO*, with dentated yellow wings, spotted with black, and underneath marked with 23 silvery spots. This insect is found in Europe, and is called by some writers *Cynippe*.

ADIPSIA, formed of *a priv.* and *disia*, *thirst*, denoting a want of thirst, in *Nosology*, a genus of disease, which Dr. Cullen refers to the second order, called *Dysorexia*, and the fourth class denominated *locales*. This he reckons to be always symptomatic of some distemper affecting the sensorium commune.

ADIPSON, a name given by Hippocrates to Oxymeris; who says also, that the pissana, by its glutinousness, prevents or cures thirst. Medicines administered for allaying thirst are called by this name. This property led the Greeks to distinguish the *glycyrrhiza glabra* of Linnæus, or *LIQUORICE*, by this appellation.

ADIPSOS, signifies the Egyptian palm-tree, liquorice, and a pill or catapodium, composed by Asclepiades, and mentioned by Galen.

ADIRATUS, a price or value set upon things stolen or lost, as a recompence to the owner.

ADIRIS, or **DYRIS**, in *Ancient Geography*, a name given to the mountains of *ATLAS* by the Indigenæ, or first inhabitants. Bochart affirms (*Geog. Sac. l. ii. c. 13. Oper. tom. i. p. 89.*) that Atlas was called Duris and Dyris, by the Phœnicians; and this name might probably be derived from *דיריס*, *adir*, which signifies *great* or *mighty*.

ADISAGA, a town of India, placed by Ptolemy in long. 150° 30'. and lat. 23°.

ADISALEM, a town of Gojam in Abyssinia, between the Nile and the lake Dembea. E. long. 34° 50'. N. lat. 10° 30'.

ADISAMUM, a town of the island of Taprobana.

ADISATHRA, a town of India, on this side of the Ganges, which Ptolemy places in long. 128° 30'. and lat. 24° 30'.

The Adisathri, who inhabited the surrounding country, had for their metropolis Sagida.

ADISATHRUS Mons, a mountain of India, near the gulf of Bengal, which Ptolemy called the Gangetic gulf: long. 132°. lat. 23°.

ADIT, **ADITUS**, formed from *adire*, *to go to*, in a general sense, denotes the approach to, or entrance of any thing: in which sense we meet with adit of a house, adit of a theatre, of a circus, &c.

ADIT of a MINE, the hole or aperture, whereby it is entered and dug, and by which the water and ores are carried away.

Adit of a mine, is nearly the same with *cuniculus*, or *drift*, and is distinguished from *AIR-shaft*. *Phil. Transf.* N° 69.

The adit is usually made on the side of a hill, towards the bottom thereof, about 4, 5, or 6 feet high, and 8 wide, in form of an arch; sometimes cut in the rock, and sometimes supported with timber, so conducted, as that the sole or bottom of the adit may answer to the bottom of the shaft, only somewhat lower, that the water may have a sufficient current to pass away without the use of the pump.

Damps and the impurity of the air are the great impediments against driving adits above 20 or 30 fathoms, by reason of the necessity, in this case, of letting down of air-shafts from the day to meet the adit, which are very often expensive, both on account of the great depth of mines, and the hardness of the mineral strata to be cut through. The best remedy against this is that practised in the coal-mines near Liege, where they work their adits without air-shafts: the manner of which is described by Sir Robert Moray. Vide *Phil. Transf.* N° 5.

Adit of a mine, is sometimes used for the *AIR-shaft* itself, being a hole driven perpendicularly from the surface of the earth into some part of a mine, to give entrance to the air. In this sense we sometimes find it improperly written *addit*. *Phil. Transf.* N° 200.

To draw off the standing water in winter, in deep mines, they drive up an adit, or *AIR-shaft*, upon which the air disengages itself from the water, when it begins to run with such violence, as produces a noise equal to the bursting of a cannon, dashes every thing in the way against the sides of the mine, and loosens the very rocks at a distance. *Ibid.* N° 26. See *MINING*.

ADIT in ships, in *Antiquity*, was a space in the upper part, where the ship was widest, at which people entered, and anciently called *agea*.

ADITS of a theatre, *aditus theatri*, in *Antiquity*, were doors on the flairs, whereby persons entered from the outer porticoes, and descended into the seats.

ADITES, or the tribe of *AD*, in *Ancient History*, a very powerful tribe of the ancient Arabians, are said to have been the descendants of Ad, the son of Aws, or Uz (*Gen. x. 22, 23*), the son of Aram, the son of Shem, the son of Noah, and, after the confusion of tongues, to have settled in Al Ahkaf, or the winding sands, in the province of Hadramaut, where they greatly multiplied. In process of time, they abandoned the worship of the true God, and fell into idolatry; chiefly worshipping four deities, viz. Sakia, Hafedha, Razeka, and Salema; the first of whom, as they imagined, supplied them with rain, the second preserved them from all dangers abroad, the third provided food for their sustenance, and the fourth restored them to health when afflicted with sickness, as their several names import. God, it is said, commissioned the prophet Hud, or Heber, to attempt their reformation: but they were obstinate and irreclaimable, and were therefore destroyed, a few of them excepted, by a suffocating wind. Those who escaped retired with Hud to another place. Before they were thus severely punished, they were visited with a drought of four years, by which their cattle perished, and they themselves were reduced to great distress. They are often mentioned in

in the Koran, and some commentators on this work pretend, that they were of prodigious stature, the largest being 100 cubits high, and the least 60; for which they refer to the testimony of the Koran. Sale's Prelim. Disc. p. 6. Koran, chap. 7. p. 123.

ADITHA, or ADITHAM, in *Ancient Geography*, a city belonging to the tribe of Judah. Joshua, xv. 36. Eusebius mentions two cities named *Aditha*, one towards Gaza, and another towards Lyca, east of this city.

ADJUDGING, in *Law*, the act of passing a determinate sentence in behalf of a person.

ADJUDICATION, the act of adjudging the property of a thing to a person by a legal sentence, decree, or judgment.

ADJUDICATION is more particularly used for the addition, or consigning a thing sold by auction, or the like, to the highest bidder.

ADJUDICATION, in the *Scots Law*, the name of an action by which a creditor attaches the heritable estate of his debtor, or his debtor's heir, in order to appropriate it to himself, either in payment or in security of his debt; or that action by which the holder of an heritable right, labouring under any defect in point of form, may supply that defect. Adjudications were substituted by act 1672. c. 19. in the place of appraisings, and they are carried on by way of action before the Court of Session. By that statute, the debtor must deliver to the creditor a valid right of the lands to be adjudged, being such as are equivalent to the principal and interest of the debt, and a fifth part more in consideration of the creditor's taking land for his money; renounce the possession in his favour, and ratify the decree of adjudication. This is called a *special adjudication*: and the time within which the debtor may redeem is declared to be five years; but if the debtor does not produce a sufficient right to the land, or is not willing to renounce the possession and ratify the decree, it is lawful for the creditor to adjudge all right belonging to the debtor in the same manner as he could, by the former laws, have appraised it. In this *general adjudication*, as it is called, the creditor must limit his claim to the principal sum, interest and penalty, without demanding a fifth part more. Abbreviates are ordained to be made of all adjudications, which must be recorded within 60 days after the date of the decree. There are two kinds of adjudications, viz. those on a decree *cognitionis causæ*, otherwise called *contra hereditatem jacentem*, and adjudications in *implement*. A new sort of adjudications has been lately introduced into the law of Scotland, by 23 Geo. III. for rendering the payment of the creditors of insolvent debtors more equal and expeditious.

ADIVE, in *Zoology*, an animal of the JACKAL kind, the *Canis aureus* of Linnæus, mentioned by Buffon, somewhat resembling a small fox. It is less than the common jackal, and is sometimes tamed, and kept in a domestic state. In the Arabian language, the name Adiva signifies a wolf; and its figure, hair, and voracity are analogous to the name; but it is smaller than the fox, and very stupid. It yelps like this animal; and when one cries, the rest reply. It roams about in the night in search of food, and is naturally disposed to conceal itself in the day. The adives form large packs, enter houses and churches, where they devour every thing they can find, and when they have been once accustomed to eat human bodies, they never fail to frequent church-yards in search of putrid carcases, to dig into graves, to follow armies, and to attend the caravans in those eastern countries where they abound. The adives may be considered as the ravens among quadrupeds.

ADJUNCT, ADJUNCTUM, in *Philosophy*, something

joined or superadded to a being from without; or, an accession to a thing, not essentially belonging to it, but only accidental to it.

There are two kinds of *adjuncts*; the one a substance (e. g. spirit or body) accidentally superadded to another, as its subject.—Such is water in a sponge, or vessel, and such is the soul in the body. The second an attribute or mode, accidentally likewise superadded to a substance, whether body or spirit.—Such is figure in a body, knowledge in the mind, &c.

In ethics, they usually reckon seven *adjuncts*, popularly called *circumstances*; *quis, quid, ubi, quibus auxiliis, cur, quomodo, quando*.

ADJUNCT, in *Music*, a word that is used to express the connection or relation between the principal mode, and the modes of its two-fifths, which, from the intervals that constitute the relation between them and it, are called its adjuncts.

ADJUNCTS, in *Rhetoric* and *Grammar*, are certain words or things added to others; to amplify the discourse, or augment its force.

Such are adjectives, attributes, and epithets, which are added to substantives, subjects, &c. to express their nature, qualities, accidents, &c.

Arguments drawn from *adjuncts*, are supplements or reinforcements of the proof arising from the circumstances of the fact.

ADJUNCT is also used in civil concerns, for a COLLEAGUE, or fellow-officer, associated to another, to assist him in his ministry.

ADJUNCT gods, or ADJOINTS of the gods, in *Mythology*, among the Romans, were a kind of inferior deities, added as assistants to the principal ones, to ease them in their function. Thus, to Mars was adjoined Bellona and Nemesis; to Neptune, Salacia; to Vulcan, the Cabiri; to the Good Genius, the Larcs; to the Evil, the Lemures, &c.

ADJUNCTS, or ADJOINTS, in the *Royal Academy of Sciences at Paris*, denote a class of members attached to the pursuits of particular sciences. See ACADEMY.

ADJUNCTION, the act of joining, or adding, of one thing to another. There are various species of adjunction; viz. by adhesion, apposition, adjacency, accubation, inculcation, imposition, affection, &c.

AD JURA REGIS, is a writ that lies for the king's clerk, against him who endeavoured to eject him, to the prejudice of the king's title in right of his crown.

ADJURATION, a part of exorcism, wherein the devil is commanded, in the name of God, to depart out of the body of the possessed, or to declare something.

ADJUTAGE. See AJUTAGE.

ADJUTANT, formed of *adjutare*, to assist, in the *Military Art*, an officer in the army, whose business is to assist the major: otherwise called *aid-major*.

In the cavalry, each regiment has an adjutant, and in the infantry, each battalion, who receives the orders every night from the brigade-major, which, after he has carried to the colonel, he delivers out to the sergeants. When detachments are to be made, he gives the number each company must furnish, and assigns the hour and place of rendezvous. He also places the guards, receives and distributes ammunition to the companies, and by the major's orders regulates the price of bread, beer, &c. See ADJUTANT-GENERAL.

ADJUTANT is sometimes also used by the French for an *aid-de-camp*.

ADJUTANT-General, among the *Jesuits*, a select number of fathers residing with the general of the order, each of whom had a province, or country, under his care, as

France, England, &c. Their business was to inform the father-general of the occurrences of state in such counties; to which end, each of them had their correspondents, delegated emissaries, visitors, regents, provincials, &c. See **JESUITS**.

ADJUTOR, among the Romans, was an adjunct or assistant; and under this appellation they had many subordinate officers, who acted in the absence of their superiors, or by way of aiding them in the execution of their respective offices.

ADJUTORIUM, from *adjuvare*, to help, in Anatomy, the *humerus*, or shoulder-bone.

Some authors use this word for a medicine intended only as auxiliary, or subservient to another of great efficacy: in particular, after a due use of internals, for an external remedy applied to a part affected, to assist in, and complete the cure.

ADJUTRIX, *prima legio*, an appellation applied to a legion which often occurs in the Roman laws.

ADJUVANTIA, formed of *adjuvo*, I help, in *Medicine*. See **JUVANTIA**.

ADLE egg, that which is not fecundified by the cock's tread.

Adle egg is the same with that which is otherwise called a *subventaneous* one.

Adle eggs, after incubation, are found to contain a shapeless, globose, ash-coloured body, not unlike a *mola*. Phil. Trans. N^o 87.

ADLECTI, among the Romans, signified associates, or rather selected, and was applied to persons of various descriptions amongst the common soldiers, officers of state, and senators; there were gods of this denomination, who were deified men, and called by the Romans "*dii minorum gentium*."

ADLEGATION, in the *Public Law* of the German empire, a right claimed by the states of the empire of adjoining plenipotentiaries, in public treaties and negotiations, to those of the emperor, for the transacting of matters which relate to the empire in general.

In which sense adlegation differs from *legation*, which is the right of sending ambassadors on a person's own account.

Several princes and states of the empire enjoy the right of *legation*, who have not that of adlegation, and *vice versa*. The bishops, for instance, have the right of adlegation in the treaties which concern the common interest, but no right of *legation* for their own private affairs. The like had the duke of Mantua.

The emperor allows the princes of Germany the privilege of *legation*, but disputes that of *adlegation*. They challenge it as belonging to them *jure regni*, which they enjoy in common with the emperor himself. Ludwig has a discourse on the subject, wherein the controversy is treated at large.

ADLENTARE *barbam*, in *Antiquity*, a phrase which denoted the care that was taken every day to comb the beard, and to render it soft and flexible.

ADLERFELDT, **GUSTAVUS**, in *Biography*, a Swedish officer and historian, was born near Stockholm, studied at Upsal, where he was distinguished by his application and improvement, and then made the tour of Europe. On his return, Charles XII. appointed him a gentleman of his chamber. Having accompanied this monarch in his military course, and witnessed both his victories and defeats, he was qualified to compile his history, which terminates with the day of his death, at the battle of Pultawa, in 1709, and which was translated into French by his son, and printed in four volumes 12mo. at Amsterdam, in 1740.

ADLESBERG, in *Geography*, a well built market-town in the inner Carniola, in Austria, situate at the foot of a high rocky mountain, near the river Alben, on which stands a citadel, under which is a grotto of very considerable extent and capacity. Many curious figures of stones, natural stone theatres, stone bridges, &c. are to be seen in it; and near the entrance of the cavern the river *Poig*, which, at about a mile's distance from it, issues out of a mountain, runs into an aperture in the rock, and then glides off under the cavern.

Adlsberg, is called in Latin *Postena*. It is four leagues east-north-east from Trien.

ADLOCUTION, **ADLOCUTIO**, in *Antiquity*, is chiefly understood of speech made by Roman generals to their armies, to encourage them before a battle. We frequently find these adlocutions expressed on medals, by the abbreviation **ADLOCUT. CON.**

The general is sometimes represented as placed on a tribunal; often on a bank or mound of turf, with the cohorts ranged orderly round him, in *manipuli* and *turme*. The usual formula in adlocutions was, *fortis esset ac fidus*. Pitisc. Lex. Ant. tom. i. p. 27. Walk. on Coin. p. i. c. 10.

ADLWANG, in *Geography*, a town in the archduchy of Austria, three leagues south-west of Steyr.

ADLZREITER, **JOHN**, in *Biography*, chancellor of Bavaria, an historian and lawyer, flourished in the 17th century. His annals of Bavaria, written in Latin, comprehend the history of the country from its beginning, to the year 1652, compiled from authentic sources. This work first appeared in 1662, and was reprinted at Leipzig in 1710, by Leibnitz, in folio.

ADMAH or **ADAMA**, in *Scripture Geography*, one of the cities involved in the destruction of Sodom and Gomorrah. It was situated between Zeboim and Gomorrah. Gen. x. 19. xiv. 2—8. Deut. xxix. 23. Hosea. xi. 8.

ADMANUENSIS, compounded of the Latin *ad*, to, and *manus*, hand, in *Ancient Law Books*, denotes persons who swore by laying their hands on the book. Du-Cange.

In which sense, *admanuenses* amount to the same with laymen, and stand opposed to clerks, who were forbid to swear on the book, their word being to be reputed as their oath: whence they were also denominated *fide-digni*.

ADMEASUREMENT, **ADMENSURATIO**, in *Law*, a writ which lies for the bringing those to reason, or mediocrity, who usurp more of any thing than their share. This writ lies in two cases; termed,

ADMEASUREMENT of dower, *Admensuratio dotis*, where the widow of the deceased holds more from the heir, or his guardian, on account of her dower, than of right belongs to her. And,

ADMEASUREMENT of pasture, *Admensuratio pasturae*; this lies between those who have common of pastures appendant to their freehold, or common by vicinage, in case any of them surcharge the common with more cattle than they ought.

This is one of those writs that are called *vicintiel*, being directed to the sheriff (*vice-comiti*), and not to be returned to any superior court, till finally executed by him. It recites a complaint, that the defendant hath furcharged the common, and therefore commands the sheriff to admeasure and appertain it, that the defendant may not have more than belongs to him, and that the plaintiff may have his rightful share. Upon this suit, all the commoners shall be admeasured, those who have not, as well as those who have furcharged the common; the plaintiff as well as the defendant. The execution of this writ must be by a jury of 12 men, who were upon oath to ascertain, under the superintendence of

the sheriff, what and how many cattle each commoner is entitled to feed: and the rule for this admeasurement is generally understood to be, that the commoner shall not turn more cattle upon the common, than are sufficient to manure and stock the land to which his right of common is annexed. If, after the admeasurement has ascertained the right, the same defendant furcharges the common again, the plaintiff may have a writ of *second furcharge*. Blacklt. Com. vol. iii. p. 238. 8vo.

ADMETE, one of the nymphs called OCEANIDES.

ADMINICLE, or ADMINICULE, ADMINICULUM, a term used in some ancient statutes, for aid, help, or support. Stat. 1 Edw. IV. cap. i.

In Scots law, this term signifies any writing or deed referred to by a party, in an action of law, for proving his allegations.

ADMINICULATOR, in *Ecclesiastical Writers*, denotes an ancient officer of the church, whose business was to defend the cause of widows, orphans, or others destitute of help. The adminiculator is the same with what is otherwise called ADVOCATE of the poor. Du-Cange.

ADMINICULES, among *Antiquaries*, are applied to the attributes or ornaments wherewith Juno and some other figures are represented on medals.

ADMINICULUM, in the French *Jurisprudence*, signifies the beginning of a proof; an imperfect proof; or a circumstance or conjecture, tending to form or fortify a proof.

ADMINISTRATION imports the government or direction of affairs; and particularly the exercise of distributive justice.

The two criterions of a good *administration* in England, according to Trenchard, are, the keeping the nation out of foreign broils, and paying off the public debts; the latter of which depends on the former.

ADMINISTRATION, in the English *Law*, signifies the act or office of an administrator, in managing and disposing of a man's goods, or estate, that died intestate, or without any will; with an intent to give an account thereof. In this case, instruments, or powers, called letters of *administration*, are taken out in the prerogative court.

These letters must be granted by the ordinary in pursuance of the statutes 31 Edw. III. c. 11. and 21 Hen. VIII. c. 5. 1. to the husband, or his representatives, of the wife's goods and chattels; 2. to the wife, of the husband's goods and chattels; 3. if there be no husband or wife, to the children, sons or daughters; 4. if there be no children alive, to the father or mother; 5. then to a brother or sister of the whole blood, or of the half blood (who, for this purpose, are of equal degree with the whole blood); 6. and if there be none such, to the next of kin, as grandfather, uncle, nephew or cousin, and the females of each class respectively; but of persons in equal degree, the ordinary may take which he pleases, and the nearness of degree shall be thus reckoned according to the computation of the civilians, and not of the canonists; 7. then, if none of the kindred take out administration, to a creditor of the deceased; 8. if the executor refuses or dies intestate, to the residuary legatee, in exclusion of the next of kin; 9. and for want of all these, to any other person, at the discretion of the ordinary; or the ordinary may grant to a stranger letters *ad colligendum bona defuncti*, to gather up the goods of the deceased; or may take them into his own hands to pay the deceased's debts, in such order as an executor or administrator ought to pay them. But it is said he or the stranger, who hath letters *ad colligendum*, cannot sell them, without making themselves executors of their own wrong,

and action lies only against the ordinary, &c. Wood's Inst. 833.

By Stat. 21 Hen. VIII. widows, and next of kin, are to be appointed administrators, and a mother is to have administration of goods of a child, before a brother or sister, &c. But an administration may be granted to the father before the widow; and a residuary legatee ought to be preferred before the widow, in an administration *curia legatum annexo*. 3 Falk. 21.

On granting administration, bonds with sureties are to be taken for the administrator, to make and exhibit an inventory of the goods of the deceased, to render a just account thereof, and to make a distribution of the surplusage after the debts paid, according to law, &c. Stat. 22 and 23 Car. II. cap. 10. See ADMINISTRATOR, EXECUTOR, INTESTATE, KINDRED.

ADMINISTRATION is four times also used for the direction of the affairs of a minor, a pupil, a legatee, or the like.

ADMINISTRATION is also used in respect of ecclesiastical functions.—The parson has the administration of the sacraments in his parish.—Administration of the eucharist is prohibited to persons excommunicate.

In beneficiary matters they distinguish two kinds of administration; *temporal*, which relates to the temporalities of a benefice, diocese, &c. and *spiritual*, to which belong the power of excommunicating, &c.

ADMINISTRATION, in *Anatomy*, is used for the manner of dissecting the parts of the body, particularly the muscles. In which sense, administration is synonymous with *anabasis*, *ex. isis*, &c.

Anatomical administrations are not to be learned by oral precept, but require ocular inspection.—Galen, Harvey, and others, have discourses express under the title of the anatomical administrations.

ADMINISTRATION, in *Commerce*, is also used for a Spanish staple at Callao in Peru, a small town on the coast of the South Sea, which is the port of Lima; where all ships, allowed to trade on the coast, are obliged to unload their European goods, and pay certain duties: *i. e.* 13 per cent. of the piece for which they are sold, if the cargo be entire, and if otherwise 16 per cent. besides which, they pay three per 1000 duty, for consulsip, and some other small royal rights and claims.

ADMINISTRATOR, in *Law*, he to whom the ordinary commits the administration of the goods of a person deceased, in default of an executor.

An action lies for or against an administrator, as for or against an executor; and he shall be accountable to the value of the goods of the deceased, and no farther:—unless there be waste, or other abuse chargeable on him. If the administrator die, his executors are not administrators; but the court is to grant a new administration.—If a stranger, who is neither administrator, nor executor, take the goods of the deceased, and administer, he shall be charged, and sued as an executor, not as an administrator.

The origin of administrators is derived from the civil law. By the old law, the king was intitled to seize upon the goods of an intestate, as the *parens patrie* and general trustee of the kingdom. This prerogative the king continued to exercise for some time, by his own ministers of justice, probably in the county court; and it was granted as a franchise to many lords of manors, and others, who have to this day a prescriptive right to grant administration to their intestate tenants and suitors, in their own courts baron, and other courts, or to have their wills there proved, in case they made any disposition. Afterwards the crown, in favour of the church, invested the prelates with this branch of the prerogative:

prerogative: and the goods of the intestates were given to the ordinary by the crown, who might seize and keep them without waiting, and also give, alien, or sell them at his will, and dispose of the money *in fine alia*. The goods of the intestate being thus vested in the ordinary upon solemn and conscientious trust, the reverend prelates were not accountable to any, but to God and themselves, for their conduct. The ordinary, however, neglected to discharge his trust; and the abuse was carried to such a length of iniquity, that Innocent IV. in 1250, lays it down for established canon law, that "*in Britannia tertia pars bonorum decedentium ab intestato in opus ecclesie et pauperum disponenda est.*" The popish clergy therefore took to themselves, under the name of the church and poor, the whole residue of the estate of the deceased, after the *partes rationabiles*, or two-thirds, of the wife and children were deducted, without paying his lawful debts or other charges thereon. For this reason it was enacted, as the first check on the exorbitant power of ordinaries, by the stat. of Westm. 2. 13 Edw. I. c. 19. that the ordinary shall be bound to pay the debts of the intestate so far as his goods will extend. And in order to prevent the ordinaries from keeping any longer the administration in their own hands, the statute 31 Edw. III. c. 11. provides that, in case of intestacy, the ordinary shall depute the nearest and most lawful friends of the deceased to administer his goods; which administrators are put upon the same footing with regard to suits and to accounting, as executors appointed by will. This is the original of administrators, as they at present stand, who are only the officers of the ordinary, appointed by him in pursuance of this statute. The statute 21 Hen. VIII. c. 5. enlarges a little more the power of the ecclesiastical judge, and permits him to grant administration either to the widow, or the next of kin, or to both of them, at his own discretion; and where two or more persons are in the same degree of kindred, gives the ordinary his election to accept which ever he pleases. Blackst. Com. vol. ii. p. 434. 8vo.

There are divers sorts of *administrators*.

Administrator durante minore aetate, is where an infant is entitled to administration of the goods of an intestate; in which case administration is granted to another, until he is of the age of twenty-one years. Though where the infant is made executor, such administration, during his minority, ceases at his coming of the age of seventeen, 5 Rep. 29. 6 Rep. 27.

Administrator cum testamento annexo, is one to whom administration, with the will annexed, is granted upon an executor's refusal to prove the testament, or upon his dying before the probate. 1 Inst. 113.

Administrator de bonis non, &c. is one to whom administration is granted of the goods of a testator remaining unadministered, by reason of his executors dying intestate. This administrator is the only legal representative of the deceased in matters of personal property. But he may, as well as an original administrator, have only a limited or special administration committed to his care, viz. of certain specific effects, such as a term of years, or the like: the rest being committed to others. 1 Roll. Abr. 908. 2 Roll. Abr. 907. There is also

Administrator pendente lite; and *durante absentia extra regnum*.

If a woman have goods thus committed to her charge, or administration, she is called *administratrix*; and is accountable, &c. in like manner as an *administrator*.

ADMINISTRATOR, in *Scots Law*, a person legally empowered to act for another, whom the law presumes incapable of acting for himself. Thus tutors or curators are

sometimes styled *administrators in law*, to pupils, minors, or fatuous persons. But more generally the term is used to imply that power which is conferred by the law upon a father, over the persons and estates of his children during their minority.

ADMINISTRATOR is also used for the advocate of a church.

ADMINISTRATOR is also used for a person appointed to receive, manage, and distribute the revenues of an hospital, or religious house.

ADMINISTRATOR is also used for a prince who enjoys the revenue of a secularized bishoprick.

Yet this title does not hold universally: the king of England, as elector of Brunswick-Lunenburgh, for instance, is not called *administrator*, but duke of Bremen and Verden; and the king of Prussia is not *administrator*, but duke of Magdeburg, and prince of Halberstadt.

ADMINISTRATOR is also used for the regent or protector of a kingdom, during the minority of its proper prince, or even a vacancy of the throne.

The pope pretends to the *administration* of the empire, during the vacancy, by censure, or suspension.

ADMINISTRATOR is sometimes used for the president of a province.

ADMINISTRATRIX, see ADMINISTRATOR.

ADMIRAL, a great officer who commands the naval forces of a kingdom or state, and takes cognizance by himself, or officers appointed by him, of all maritime causes.

Authors are divided about the origin and denomination of this important officer, whom we find established, with some variation, in most kingdoms that border on the sea. Spelman conceives, that the name and dignity were introduced among us from the Saracens, by means of the Crusades; and it is alledged, that there are no instances of admirals in this part of Europe before the year 1284, or 1286, when Philip of France, who had attended St. Lewis in the wars against the Saracens, created an admiral. The name of this officer once occurs in the history of France, in the year 558. And. Com. vol. i. p. 29. Du-Cange assures us, that the Sicilians were the first, and the Genoese the next after them, who gave the denomination admiral to the commanders of their naval armaments; and that they took it from the Saracen, or Arabic *amir*, or *emir*, a general name for any commanding officer.—Some say, that the first admiral mentioned in English history was in the reign of Edward I. in 1297; and that the first title of admiral of England conferred upon a subject, was given by patent of Rich. II. to the earl of Arundel and Surry in 1387.

Spelman, however, is of opinion, that the title of admiral was first used in the reign of Henry III. because it does not occur in the laws of Oleron, enacted in 1266, nor is mentioned by Bracton, who wrote about that time; and in a charter, 8 Henry III. which granted the office to Richard de Lacy, the title is not used; but in the 56th year of the same reign, the historians used the appellation admiral, and it is found also in charters.

Three or four admirals were formerly appointed in the English seas; these held their office *durante bene placito*, and had particular limits from the mouth of the Thames, to the north, south, or west, subject to their jurisdiction. We had also admirals of the Cinque Ports as early as the reign of Edward III. when William Latimer was called *Admiralis quinque portuum*. But the title of *Admiralis Anglie* was not frequent till the reign of Henry IV. when the title was given to the king's brother; and after this period it was granted in all commissions to succeeding admirals.

The

The title of *locum-tenens regis super mare*, the king's lieutenant-general of the sea, mentioned in the reign of Richard II: was superior to that of *admiral* of England. Before the appellation of *admiral* was introduced, the title of *custos maris* was in use.

ADMIRAL of England, the lord high, in some ancient records called *capitanus maritimarum*, is judge, or president, of the COURT of a *lincolny*.

He takes cognizance, by himself, his lieutenant, or deputies, &c. in his court, of all crimes committed on the sea, or the coast thereof; and all the civil and marine transactions relating thereto; as also of what is done in all great ships, riding in any great river, beneath the bridges thereof next the sea.

Anciently, the admiral had also jurisdiction in all causes of merchants and mariners; not only on the sea, but in all foreign parts.—To this great officer also belongs the government of the navy: by him all vice-admirals, rear-admirals, and sea-captains are commissioned; as well as all deputies for particular coasts, and coroners for viewing dead bodies found on the sea-coasts, or at sea; and he appoints the judges for his court of admiralty, and courts martial for the trial of offences against the articles of war, and may imprison, release, &c.; every commander, officer, and soldier of ships of war shall observe the commands of the admiral, &c. on pain of death, or other punishment. Between high and low-water mark, the common law and admiral bear jurisdiction by turns; one upon the water, and the other upon the land. He hath also power not only over the seamen serving in his ships of war, but over other seamen, so that he may arrest them for the service of the state; and if any of them run away without leave, he may certify it to the sheriffs, mayors, bailiffs, &c. who shall cause them to be apprehended and imprisoned. The admiral, of right, had anciently a tenth part of all prize goods; but this is taken away by stat. 13 Geo. II. c. 4. See PRIZE. This statute also enables the admiralty to grant *Letters of MARQUE*.—We have had no *high admiral* for some years; the office being put in *commission*, or under the administration of the lords *commissioners of the admiralty*; who, by W. and M. stat. ii. c. 2. are declared to have the same authority, jurisdiction and power, as the *lord high admiral*.

ADMIRAL of Scotland, the lord high, one of the great officers of the crown, and supreme judge in all maritime cases within that part of Britain.

ADMIRAL is also used for the commander in chief of a single fleet, or SQUADRON; and is distinguished by a flag displayed at his main-top-mast-head.

Thus, we say, the *admiral of the red*; the *admiral of the white*; and *admiral of the blue*. See NAVY and SQUADRON.

The term *admiral* is also applied to all flag officers; in which sense it includes *vice-admirals* and *rear-admirals*.

ADMIRAL, Rear, is the *admiral of the third*, and last squadron of the royal fleet, and carries his flag at the mizen-top-mast-head.

ADMIRAL, Vice, is one of the three principal officers of the royal navy; who commands the second squadron, and has his flag set up at the fore-top-mast-head.

ADMIRAL, Vice, is also an officer appointed by the lord high admiral, in divers parts of the kingdom, with judges and marshals subordinate to him; for the exercising of jurisdiction in maritime affairs, within his respective limits. From their decisions and sentences, appeal lies to the court of *admiralty* in London.

There are also *admirals of the galleys*.

Montrelet makes mention of an *admiral of the archers*, or cross-bow-men. See ARBALET.

ADMIRAL is likewise the name of a principal vessel of a fleet of merchantmen, or of the vessels employed in the cod and whale fishery. That which arrives first, in any harbour or creek of Newfoundland, takes the title and quality of *admiral*, which it retains during the whole fishing-season.—Such ship may secure to herself, so much beach, or flakes, or both, as are necessary for the number of boats she shall use, with an overplus of one boat only more than she uses.—The master of the second ship is *vice-admiral*; and the master of the third, *rear-admiral*. See FISHERY.

ADMIRAL'S COURT, or the *High Court of Admiralty*. See COURT of ADMIRALTY.

ADMIRAL, in *Conchology*, the name given by authors to a very beautiful, and very precious shell which some refer to the *voluta*, and others to the *cosus*. See Test. f. *Shells*.

Of these the curious reckon several species, or rather varieties, of which the following have been particularly noticed.

1. The grand-admiral. 2. The vice-admiral. 3. The orange-admiral. And, 4. The extra-admiral.

The first of these is the most esteemed, and a single shell has been sold, in Holland, for five hundred florins. It is of a very elegant and bright white enamel, and is variegated with bands of yellow, representing in some degree the colours of the flags of a man of war at sea; hence it obtained its name. It is of a very curious shape, and formed with particular elegance about the head; the clavicle being exerted. There runs along the centre of the large yellow band in this shell a fine denticulated line, which is its distinguishing character.

The *vice-admiral* is an elegant shell, but its head is less beautifully wrought than in the *admiral*, and its broad band wants the dentated line, so remarkable in that.

The *orange-admiral* has more yellow than either of the others.

The *extra-admiral* has the same bands with these, but they run one into another, and form a more mixed clouding.

ADMIRAL'S Cove, in *Geography*, lies within the harbour of Formosa, on the east side of Newfoundland island, about seven or eight leagues from Cape Race. It is on the starboard side of the harbour, and more westerly than Clear's cove. It has from seven to eight fathoms water, with good anchorage, and well secured.

ADMIRAL'S, VICE, Cove, is within the same harbour of Formosa, on the larboard side; where a fleet may ride in good ground, and land-locked from all winds. There is another cove on the same side farther west, with an excellent harbour for large ships. Malham's Nav. Gaz.

ADMIRALTY, Court of. See COURT.

ADMIRALTY Bay, in *Geography*, is a bay that lies in the southern island of New Zealand, on the west coast of Cook's straits, and to the north-west of Queen Charlotte's sound, near the western entrance of those straits. Cape Stephens on the north-west, and Cape Jackson on the south-east, are its limits. It is very spacious, and has, in many parts, good anchorage. The *Admiralty islands*, which lie off in the strait, at some distance from the entrance, will point out the bay. It may also be distinguished by an island two miles north-east of Cape Stephens, in S. lat. 40° 37', and E. long. 174° 54'. Wood and water are easily obtained in many parts of the bay.

ADMIRALTY Bay, is a name given by Mr. Dixon to BEERING'S Bay.

Admiralty Bay, and Port Mulgrave, on the north-west coast of America, lie in N. lat. 59° 31', and W. long. 140° 18'.

ADMIRALTY Inlet, a name given by Mr. Vancouver to the supposed straits of Inan de Fuca, on the west coast of New Georgia; the entrance of which is about 48° 30' N. lat. and

and $124^{\circ} 15'$ W. long. On each point of the harbour, called by Mr. Vancouver *Penn's cove*, was a deserted village, in which were found several sepulchres in the form of centry-boxes, containing small skeletons, and small bones, which were supposed to be intended by the inhabitants for pointing their arrows, spears, and other weapons. The surrounding country for several miles presented a delightful prospect of spacious meadows, adorned with clumps of trees, of which the oak, in size from four to six feet in circumference, was the principal. The meadows were well stocked with deer. The soil consisted chiefly of a rich black vegetable mould, lying on a sandy or clayey substratum; the grass grew to the height of about three feet, and the ferns were nearly twice as high. The natural productions of the country were luxuriant; and it was not ill supplied with streams of water. The number of its inhabitants were estimated at about 600. Here, on June 4th, 1792, Mr. Vancouver took possession of the coast from that part of New Albion, which lies in N. lat. $39^{\circ} 20'$, and W. long. $123^{\circ} 34'$ to the entrance of this inlet of the sea, together with the coast, islands, &c. This interior sea was called the *Gulf of Georgia*; and the continent binding the said gulf, and extending S. to N. lat. 45° , was called *New Georgia*, in honour of his present Majesty. This branch of Admiralty inlet obtained the name of *Possession Sound*; its western arm was denominated *Port Gardner*, out of respect to Sir Alan Gardner, and its smaller or eastern one was called *Port Susan*. Vancouver's Voyage, vol. i. p. 287, &c.

ADMIRALTY Island, an island so called by Mr. Vancouver, situate within George the Third's archipelago, on the north-west coast of new Norfolk in America, and between N. lat. 57° and $58^{\circ} 30'$, and W. long. 134° and 135° . This island is about 60 leagues in circuit, affords many convenient bays, with fine streams of fresh water, and produces an uninterrupted forest of very fine timber-trees, chiefly of the pine tribe. Vanc. Voyage, vol. iii. p. 277.

ADMIRALTY's Island, an island that lies on the coast of Nova Zembla, in the northern ocean. N. lat. $75^{\circ} 5'$. E. long. $52^{\circ} 45'$.

ADMIRALTY Islands, a cluster of between 20 and 30 islands lying to the north of New Britain, in about $2^{\circ} 18'$ S. lat. and $146^{\circ} 41'$ E. long. The largest of these is 18 leagues in length from east to west. These islands were discovered by captain Carteret; and he describes them as clothed with a beautiful verdure of woods, lofty and luxuriant, interspersed with spots that have been cleared for plantations, groves of cocoa-nut trees, and habitations of the natives, who seem to be very numerous. He supposes that these islands produce several valuable articles of trade, particularly spices, as they lie in the same climate and latitude as the Moluccas; but he was not in a condition to examine them.

ADMIRATION, in *Ethics*, is that passion which is excited by the contemplation of excellence, that is rare or uncommon, either in kind or degree. The objective cause of this admiration is any thing that indicates a superior degree of wisdom, ingenuity, good sense, or benevolence. Such are the qualities to which it is properly confined. Power, abstractedly considered, is not the object of admiration; though the dignified or benevolent exertions of power for the production of good, may excite the highest degree of admiration, and render it a very strong emotion. It is obvious, says an ingenious writer, that the range of admiration is from the simple approbation of the mind up to the most lively sensation, according to our conceptions of the extent of excellence, and also the degrees of our interest in its effects. It is also blended with various other emotions

according to different circumstances attendant upon the passion. It is frequently introduced by *surprise*; when, for example, the discovery of these excellencies is sudden and unexpected; and then it becomes a vivid emotion. It is generally connected with some degree of *wonder*; as we are frequently ignorant of the causes which enabled any one greatly to excel ourselves or others; but as it is always excited by the real discovery of some qualities, it is not to be confounded with an emotion that proceeds from ignorance and embarrassment, previous to the discovery. When the evidences of wisdom or goodness exceed our utmost comprehension, or proceed far beyond the usual extent of excellence itself, they may excite *astonishment*. Cogan's Philosophical Treatise on the Passions.

ADMIRATION, in *Grammar*, a note or character, intimating something worthy to be admired or wondered at.—It is expressed thus (!). See **CHARACTER**.

ADMISSION, in the *Ecclesiastical Law*, an act whereby a bishop, upon examination, *admits* or allows a clerk to be able or competently qualified for the office; which is done by the formula, *admitto te habilem*. All persons are to have episcopal ordination before they are admitted to any parsonage or benefice; and if any shall presume to be admitted, not having such ordination, &c. he shall forfeit 100*l.* Stat. 14 Car. II.

No person is to be admitted into a benefice with cure of 30*l.* per ann. in the king's books, unless he is a bachelor in divinity at least, or a preacher lawfully allowed by some bishop, &c.

ADMISSIONALES, in *Antiquity*, officers, whose business it was to introduce persons to princes or to wealthy citizens. The office belonged to freed men, and was much desired. The principal, that presided over each of the four decuries into which they were distributed, was called *magister admissionum*, and deemed highly honourable. Historians say, that Vespasian, Antonine, and Alexander Severus, were so easy of access, that they needed no admissionales.

ADMITTENDO Clerico, is a writ granted to him who hath recovered his right of presentation against the bishop in the common pleas.

ADMITTENDO in Socium, is a writ for the association of certain persons to **JUSTICES** of **ASSISE** formerly appointed.

ADMONITION, in *Ecclesiastical Affairs*, a part of discipline much used in the ancient church. It was the first act, or step, towards the punishment or expulsion of delinquents. In case of private offences, it was performed according to the evangelical rule, privately: in case of public offence, openly before the church. If either of these took effect, for the recovery of the fallen person, all farther proceedings, in the way of censure, ceased: if they did not, recourse was had to **EXCOMMUNICATION**. Bingham Orig. Eccles. tom. ii. lib. 16. cap. 2. § 6. p. 31. Calvin Instit. lib. iv. cap. 12. § 2.

By the ancient canons, nine monitories, or *admonitions*, at due distance, are required before excommunication.

ADMONITION is also used, in writers of the barbarous age, for the **CITATION** or summoning a person to appear in a court of justice. See **SUMMONS**, &c.

ADMONITIO Fusium, a military punishment, among the Romans, resembling, in some respects, our whipping, or lashing, but performed with a vine-branch. Schiterman Diff. de Pœn. Mil. Rom. cap. 12.

ADMONT, in *Geography*, a town of Germany in Stiria, on the river Ens; two leagues north-east of Rottenmann. It depends upon the archbishoprick of Saltzburg, and has a rich abbey of Benedictines in the high mountains.

ADMORTIZATION, among *Feudal Writers*, the act of reducing lands to **MORTMAIN**.

ADNATA,

ADNATA, in *Anatomy*. See **CONJUNCTIVA**.

ADNATA, or **ADNASCENTIA**, among *Gardeners*, denote those off-sets, which, by a new germination under the earth, proceed from the lily, narcissus, hyacinth, and other flowers, and afterwards become true roots.

ADNATA is also a term used for such things as grow upon animal or vegetable bodies, whether inseparably, as hair, wool, horns, &c. or accidentally, as the several epistitial plants.

ADNATUM folium, in *Botany*, denotes the disk of the leaf pressing close to the stem of the plant; and *adnatus*, in a general sense, denotes *connected*.

ADNOTATIO, in *Antiquity*, denoted the rescript of a prince, signed by himself.

ADNOUN, **ADNOMEN**, or **ADNAME**, is used by some *Grammarians* to express what we most usually call an **ADJECTIVE**.

ADO, in *Biography*, archbishop of Vienne in Dauphiné, was born A. D. 860, and distinguished by his piety, industry, and learning. His "Universal Chronology," comprehends the whole extent of history to the year 879. It was printed in folio at Paris in 1512, in Gothic characters, and reprinted by Morel in 1567. A new edition of this valuable work was published in folio, at Rome, in 1745. Ado was also the author of a Martyrology, published by Rosweyde, a Jesuit, in 1613. *Gen. Biog.*

AD OCTO, q. d. to the eighth number; a term used by some ancient philosophers to denote the highest or superlative degree; because, in their way of distinguishing qualities, they reckoned no degree above the eighth.

ADOD, in *Mythology*, the name which the Phœnicians gave to the king of their gods.

ADOLESCENS signifies the iron bars that support the fire, in a grate or furnace.

ADOLESCENCE, formed of *adolescere*, to grow, the state of growing youth; or that period of a person's age commencing from his infancy, and terminating at his full stature or manhood. The state of adolescence lasts so long as the fibres continue to grow, either in magnitude or firmness. It is commonly computed to be between 15 and 25, or even 30 years of age; though, in different constitutions, its terms are very different.—The Romans usually reckoned it from 12 to 25 in boys, and to 21 in girls, &c. And yet, among their writers, *juvenis* and *adolescens* are frequently used indifferently, for any person under 45 years. The fibres, being arrived at a degree of firmness and tension sufficient to sustain the parts, no longer yield and give way to the efforts of the nutritious matter, to extend them: so that their farther accretion is stopped from the very law of their nutrition.

ADOLFSECK, in *Geography*, a town of Germany, in the circle of the Upper Rhine; eight miles west of Idstein.

ADOLIA, in *Botany*, a genus of plants described by Rheede among the trees of Malabar, which bear a near relation, says M. La Marck, (*Encycl.* vol. i. p. 44.) to the **RHAMNUS**. The characters are, that each flower is composed of a calyx, divided to its middle in five equal notches; the corolla and stamina are unknown; the pistillum is a small ovary situated at the center of the calyx, and which becomes, when-ripe, a roundish berry, containing five oblong, triangular, offeous seeds. There are two species, viz. *A. alba*, with white flowers, which grows to the height of seven feet, and bears fruit twice a year; the berries when ripe are of a purplish black colour; and *A. rubra*, with red flowers, which resembles the other; but the berries of this species, when ripe, are of an orange colour and of an acid taste.

ADOLPHUS, **FREDERICK II.** of Holstein-Gottorp, king of Sweden, was born in 1719, and succeeded his father Frederick in 1751. He married a sister of the king of Prussia in 1744. He faithfully pursued the good of his country, and his reign was upon the whole prosperous. He reformed the laws, cultivated science, promoted commerce, and for the most part preserved peace; though he could not prevent Sweden from joining the league against Prussia in 1757, a measure that contributed very little to its reputation. He instituted an academy of inscriptions and belles lettres in imitation of that of France, and erected a pond at Tornio in Lapland, to commemorate the liberators of the French academicians, who were sent thither to measure a degree of the meridian. He died much regretted in 1771; and was succeeded by his son Gustavus III. *Nouv. Dict. Hist.*

ADOLPHUS, **CHRISTIAN MICHAEL**, the son of Balthazar Adolphus, merchant of Hirschberg in Silesia, was born the 14th of August 1676. After studying the different branches of medicine under the most celebrated masters of his time, he graduated at Utrecht, then went to Leipzig, where he acquired considerable reputation as a teacher. In 1747 he published, *Dissertationes Physico-medice selectæ*, 4to. The titles of the Dissertations, which are very numerous, may be seen in the 4to. volume of Haller's *Biblioth. Med. Pract.*

ADOM, in *Ancient Geography*. See **ADAM**.

ADOM, in *Modern Geography*, one of the states or principalities, into which the maritime part of the **GOLD COAST** in Africa is divided. It is bounded on the east by Manpa, on the south by Guaffo, on the north by Vassabs, and east-north-east by Abramboe. This country extends along the river Schama, and has many fine islands belonging to it, which are covered with beautiful and populous villages; the government was formerly monarchical; but the supreme authority is now lodged in a council of six lords. Adom is populous, fertile and rich; abounding with corn, fruit, and animals, both wild and tame; but the peace and prosperity of the country are often interrupted by civil discord. The Adomese have it in their power to intercept the communication of the northern regions with the negroes of the coast, and oblige them to pay a duty which yields a large revenue. If these people were united and powerful within themselves, they would be the terror of surrounding nations. Adom adjoins to **ANTA**, which is often disturbed by the incursions of the Adomese. These people generally trade with Axim and Bourtry; and sometimes with Little Commendo. *Mod. Un. Hist.* vol. iii. p. 454.

ADOM, or **THETEN**, a town of Hungary, situate on the Danube; four leagues south-west of Offen.

ADOMER, one of the states of the **GOLD-COAST**, called also Saku and Avina, adjoining to Adom and Axim; and differing little from them in produce, trade, laws and customs.

ADON, a large populous village of Hungary, situate in the province of Stuhl-Weissenburg, or *Stuhl-regule*, in a rich country on the banks of the Danube. E. long. 19° 20'. N. lat. 47° 30'.

ADONAI, one of the names of God in scripture. This word properly signifies *my lords*, in the plural number, as *Adoni*, signifies *my lord*, in the singular number. The Jews, who, either out of respect or superstition, do not pronounce the name of *Jehovah*, read *Adnai* in the room of it, as often as they meet with *Jehovah* in the Hebrew text. But the ancient Jews were not so scrupulous; and there is no law which forbids them to pronounce the name of God. This superstition commenced among the latter Jews after the Babylonish captivity; at least before the time of Josephus,

phus, who expressly says, that it was not lawful for him to speak of the name by which God had revealed himself to Moses. See Geddes's Critical Remarks, vol. i. p. 167.

ADONEA, in *Mythology*, the name of a divinity which presided over voyages.

ADONI, in *Geography*, a district of Hindostan, in the country of Golconda. It is also the name of a town in this district, about 188 miles north of Seringapatam. E. long. 77° 18'. N. lat. 14° 50'.

ADONIA, in *Antiquity*, solemn feasts in honour of Venus, and in memory of her beloved Adonis, who is supposed to have been killed by a wild boar in the forest of mount Libanus, from which the river Adonis descends. Bishop Patrick (Com. in Exod. xii. 30.) ascribes the origin of these feasts among the Egyptians to the slaughter of the first-born in the time of Moses; and he, adopting the conjecture of Schaccus, an ancient writer, inclines to the opinion, that Pharaoh's eldest son, who was now slain, had the name of Osiris; and that his sudden death on this occasion was lamented by all posterity in one night of the year, at the time of full moon. Dr. Spencer, (De leg. Heb. l. ii. c. 37. § 1. vol. i. p. 575.) conjectures, that these feasts had their origin with the Egyptians; but, that the death of Osiris or Adonis, generally understood to be the sun, being the god that presided over the fruits of the earth, or used symbolically for the fruits themselves, denoted their being cut off or separated from the earth in the time of harvest; which event was celebrated with mourning and lamentation; and as the Egyptians gathered the first fruits of the earth with this kind of unreasonable and excessive sorrow, he thus accounts for the instruction recorded in Deut. xxvi. 14. To these feasts the prophet Ezekiel is supposed to refer, ch. viii. 14; and if Tammuz or Thamuz be the same with Osiris or Adonis, as learned men generally suppose, the circumstance above-mentioned accounts for this solemnity being kept in the month of Tammuz, answering to part of our June and July, because the harvest was finished in those hot countries by or before that time. See Lowth's Com. in loc.

This idolatry, derived from the Egyptians, was afterwards adopted by other nations, as the Phœnicians, Lycians, Syrians and Greeks, and improved by the addition of a new fable, viz. Venus's mourning for the death of Adonis. The scene of Adonis's history is said to be at Byblos in Phœnicia; and the signal for celebrating the Adonia was the change of the water of the river Adonis into blood, which happened once a year. Lucian (De Syria Dea, apud oper. tom. iii. p. 454. Ed. Reitzii) gives the following account of these feasts. The Syrians affirm, that what the boar is reported to have done against Adonis was transacted in their country; and, in remembrance of this calamity, they annually beat themselves and wail, and celebrate frantic rites, and great lamentations are instituted through the whole country. When they have had enough of lamentation and tears, they first perform funeral obsequies to Adonis, as to one that is dead; and afterwards, on a following day, they feign that he is alive, and ascended into the air or heaven, and shave their heads as the Egyptians do, on occasion of the death of their apis. If any women will not consent to be shaved, they are obliged to prostitute themselves once to strangers, and the money they thus earn is consecrated to Venus. Some of the Byblians, continues Lucian, are of opinion, that these orgies are performed in honour of Osiris, the Egyptian deity, and not of Adonis. The Egyptians, at the time of this feast, are said to convey a box made of rushes or papyrus, with an inclosed letter, informing the inhabitants of Byblos, about seven days journey from the coasts of Egypt, that their god Adonis, whom they apprehended

to be lost, is discovered. The vessel always arrives safe at Byblos at the end of seven days. Lucian says, he was a witness of this event. The women, who are the principal actors on this occasion, expect the arrival of the vessel with impatience, and are frantic with joy when it arrives. According to Meursius, the two offices of lamentation and rejoicing made two distinct feasts, which were held at different times of the year, the one six months after the other; Adonis being supposed to pass half the year with Proserpine, and the other half with Venus. The lamentation they called *anapsis*, or disappearance, and the rejoicing *epanapsis*, or return. These feasts were observed at Alexandria in the time of St. Cyril, and at Antioch in the time of Julian the apostate, who happened to enter the city during the solemnity, which was interpreted as an ill omen.

Ovid refers to the Adonia in his Metamorph. (l. iv. v. 725. tom. 2. p. 740. Ed. Burman).

“—luctus monumenta manebunt,

Semper, Adoni, mei; repetitaque mortis imago.

Annua plangoris peraget limulamina nostri.

At cruor in florem mutabitur.—”

Procopius, St. Cyril, and some other learned men are of opinion, that Isaiah (ch. xviii. 2.) refers to the circumstance above-mentioned of sending a letter by sea to communicate the news of Adonis's resurrection; whilst others, translating the Hebrew *tzirim*, *idols*, suppose that the passage refers to the images of Isis, which the Egyptians carried from place to place in a sort of paper-vessel, or ark of bulrushes. The rites practised in the Adonia resemble those of the Orphic ARGONAUTICA, and probably have the same origin and end. Bryant. Mythol. vol. i. p. 371.

The Adonia were otherwise called Salambo. The Abbé Banier has a memoir on the history of the Adonia. Mem. Acad. Inscript. tom. iv.

ADONIEUS, a name given by the Arabs to the sun, under which appellation they worshipped him, by daily offering to him incense and perfumes. This was also a name given to Bacchus.

ADONIC, in *Poetry*, denotes a short kind of verse, consisting of a dactyl and a spondee, or a trochee: as *rara juvenitur*. It takes its name from Adonis; as having been originally used in the Threnæ, or lamentations for that favourite. The chief use of the adonic verse is at the end of each strophe of sapphic verse; or among Aristophanic Anapaests in the ancient tragedy. But we meet with adonics by themselves without sapphics, as also sapphics without adonics. See an instance of adonic verses in Boethius, de Consol. Philos. lib. i. p. 24. Ed. Amstel. “Gaudia pelle,” &c.

ADONIDES, in *Botany*, are those writers, who have given histories, or catalogues of the plants cultivated in some particular place.

ADONION, a species of southernwood, according to Gorreus, which used to be set in pots, and served as an ornament for gardens.

ADONIS, in *Antiquity*, a dance of the ancient Greeks, which was a kind of ballet, in which a pantomime imitated Adonis, and bewailed his misfortune.

ADONIS, *flos Adonis*, or *Pheasant's Eye*, in *Botany*, a genus of the *polyandria polygynia* class and order, and of the natural order of *multiflora* and the *ranunculaceæ* of Juskieu. Its characters are, that the calyx is a five-leaved perianthium, and the leaflets are obtuse, concave, a little coloured and deciduous; the corolla has from five to fifteen, but most commonly eight, oblong, obtuse, shining petals: the stamina consist of very short, subulate filaments, and the antheræ are oblong and inflex; the pistillum has numerous germs

collected

collected in a head, no styles, and acute reflex stigmas: no pericarpium; an oblong, spiked receptacle: the seeds are numerous, irregular, angular, gibbous at the base, reflex at the top, a little prominent and naked. To this genus belong six species: viz. the *affinis*, or tall, the *autumnalis*, or common, the *vernalis*, or spring, the *apennina*, the *capensis*, and the *vesicatoria*, or blister *adonis*. The first is by some botanists united to the second, although Dr. Smith separates them; it is a native of the southern countries of Europe, where it grows among corn: and a variety of it is mentioned by some authors. The second grows in Kent, near the river Medway, between Rochester and Maidstone, in fields sown with wheat; and the flowers are brought in great quantities to London, where they are sold under the name of *red morocco*. It is also found in Norfolk, Gloucestershire, about London, and about Dublin. It is annual, and flowers from May to October. The spring *adonis*, which is near akin to the apennine, so that La Marek considers it as a variety of the other, is a native of Switzerland, Prussia, and various parts of Germany, where the root is often used for the true black hellebore. The fourth is found wild in the Apennines, and in Siberia. The fifth species is found wild near the Cape of Good Hope. The sixth is also a Cape plant, and used by the Africans for raising blisters. There is another species recorded in the Supplement of the younger Linnaeus, there named *Adonis filia*, and considered as the daughter of the *Adonis capensis*.

The two first species are annual, and thrive best in a light soil: the seeds should be sown in autumn, some in a warm, and others in a shady situation, that they may continue longer in flower: they will not bear being transplanted. The third and fourth are perennial, and the seeds should be sown in August, soon after they ripen: the ground should be kept clear from weeds, and in dry weather, watered; and in the autumn of the second year they should be transplanted into the situation where they are to remain. They may be increased by parting the roots, either in autumn or spring. They are hardy and showy, and therefore desirable plants for a garden. The Cape species must be managed as other plants from that country. Martyn's Miller. Gmelin reckons eight species, adding to those already enumerated the *miniata*, which he suggests not to be distinct from the *autumnalis*, and the *flammea*, with octopetalous flowers, hairy calyx, and cylindric fruit.

ADONIS, in *Entomology*, a species of *PAPILIO*, with entire cærulean wings, a black marginal ridge, underneath cinereous, with numerous ocelli; of which the latter have a white central spot. The larva is green, with dorsal lines of yellow spots. It is found in Austria.

ADONIS, in *Ancient Geography*, a river of Phœnicia, rising in Mount Libanus or Lebanon, and falling into the sea at Byblos, now GIBYLE. The Turks call this river *Obrakim Bassa*. Maundrell, in his Journey, p. 34, 35, confirms the opinion of Lucian (*Oper. tom. iii. p. 456. Ed. Reitzii*) concerning the red colour of this river. At certain seasons of the year, especially about the feast of Adonis, it is of a bloody colour, which the heathens attributed to a kind of sympathy in the river for the death of Adonis, who was killed by a wild boar in the mountain, out of which this stream rises. The water was stained, says Maundrell, to a surprising redness, and as we observed in travelling had discoloured the sea for a considerable distance into a reddish hue, occasioned, without doubt, by a sort of minium, or red earth, washed into the river by the violence of the rain, and not by any stain from the blood of Adonis. This reddish tinge of the streams of water is not a singular phenomenon. Pococke (*vol. i. p. 199*) informs us, that when the river

Nile is rising, its waters become red, and sometimes green. The same fact is confirmed by Mailler, and Volney (*Travels in Syria, vol. ii. p. 233*), and that at Tyre there is a well, which commonly affords excellent water, but becomes troubled in September, and continues for some days full of reddish clay. This season is observed as a festival by the inhabitants, who come in crowds to the well, and pour into it a bucket of sea-water, which they say, has the virtue of restoring the cleanness of the spring. Anonymous writers suggest, that the magicians of Egypt (*Gen. vii. 22*) might, by their enchantments, have repeated some of the prophecies to which they were accustomed at the solemnity of the bleeding Adonis; and if this was done at the feast of Adonis, they might persuade Pharaoh, that the miracle was wrought in favour of Adonis. Fragments in an Appendix to Colwell's Dict. vol. ii. pt. 1. p. 20.

The river Adonis, according to Mr. Bryant (*Myth. vol. i. p. 366*.) is the same with Eridanus; and the circumstance of the change of the colour of its waters, and the death of Adonis or Thammuz, which was supposed to be the occasion of it, are pathetically described by Milton in the following lines of his *Paradise lost*, B. i. v. 445.

" — Thammuz came next behind,

Whose annual wound in Lebanon allard

The Syrian damsels to lament his fate

In amorous ditties all a summer's day;

While smooth Adonis from his native rock

Ran purple to the sea; suppos'd with blood

Of Thammuz yearly wounded."

ADONIS is the name of a river of Africa, which rises in the mountains south-west of Tetuan, and falls into the sea between Arzilla and Tangier.

ADONIS, the name of a city in Thrace, called ENONIS.

ADONIS, in *Ichthyology*, the name of a small fish of the anguilliform kind, of a cylindric shape, and about six inches long; it is of a gold colour, mixed with a greenish hue in some parts, and in others with a reddish. It has on each side a white straight line running from the gills to the tail. Its gills are remarkably small, and many have hence supposed that it had none. It is remarkable for sleeping on the surface of the water, and near the shores; and Rondeletius affirms, that he has seen them sleeping upon dry rocks. Mr. Ray suspects this fish, which is also called *exocoetus*, to be the same with the *EXOCOERUS* of Bellonius, or the *GATTORUGINE*. The adonis of Bellonius is the *BLENNIUS gallerita* of the Linnæan system.

ADONIS, in *Mythology*, a beautiful youth, the son of Cinyras, an Assyrian, who founded the city of Paphos, in the island of Cyprus. Venus, it is said, was enamoured of him from his infancy, and committed the care of his education to Proserpine, who refused to deliver him when he was demanded by Venus. The dispute was decided by Jupiter, by decreeing that he should be one third of the year with Proserpine, another third with Venus, and the last third at his own disposal; but Adonis, captivated by the charms of Venus, spent two-thirds of his time with her. Diana, it is said, took offence, and sent a wild boar to destroy him. Others say, that Adonis was the son of Cinyras by his daughter Myrrha; that he was dismissed for concealment to the mountains, and nursed by the nymphs; that Venus fell in love with him, and admitted him to her embraces; that Mars, being jealous, transformed himself into a wild boar, and slew the beautiful youth: that Venus followed him to the shades, and obtained the consent of Proserpine, that he should be half the year with her, and half the year with Proserpine; and that Venus, triumphing in her success, appointed a festival to be celebrated in commemoration

of the event. This fable has been variously interpreted. Adonis, as some say, was the sun, Venus the upper hemisphere of the earth, and Proserpine the inferior; and therefore, when he was in the six inferior signs he was with Proserpine, and during the remaining time he resided with Venus. The boar which slew Adonis was the winter. Macrobi. Saturn. l. i. c. 21. Others suppose that Adonis denoted the fruits of the earth; and when the seed was sown in the ground, Adonis was gone to Proserpine: and that when it had vegetated and sprung up to view, he revisited Venus. Hence they sowed corn, and made gardens for Adonis, which were adapted more for pleasure than profit. Voss. de Idololat. l. ii. c. 5. Theocritus, Idyll. 111. According to Plutarch, (Symposiakon, l. iv. oper. tom. 2. p. 671. Ed. Nylandr.) Adonis was the same with Bacchus; and Osiris was both the sun and Adonis. Some are of opinion, that the Ammonites and Moabites called him *Baal-Peor*, and that he was the same with the Hebrew *THAMMUZ*. Bryant (Mythol. v. i. p. 371.) supposes, that the Canaanites worshipped their chief deity the sun, under this title; and he says, that at Byblus, Berytus, Sidon, and afterwards at Tyre, they used particularly mournful dirges for the loss of Adonis or Thamuz, who was the same as Thamas, and Osiris in Egypt. Hence the children of Israel were forbidden to weep and make lamentation upon a festival. Nehem. viii. 9. 14. See *ADONIA*.

The worship of Adonis was established by the emperor Adrian in the grottoes of Bethlehem, where it was supposed our Saviour was born.

ADONIS potio, an ancient beverage or drink made of wine mixed with flour of roasted *ador*; the same with what was otherwise called *CYCEON*.

ADONISTS, among *Divines* and *Critics*, a sect or party, who maintain, that the Hebrew points ordinarily annexed to the consonants of the word *Jehovah*, are not the natural points belonging to that word, nor express the true pronunciation of it; but that they are the vowel-points belonging to the words *Adonai* and *Elohim*, applied to the consonants of the ineffable name *Jehovah*; to warn the readers, that instead of the word *Jehovah*, which the Jews were forbidden to pronounce, and the true pronunciation of which had been long unknown to them, they are always to read *Adonai*. These were opposed to *Jehovists*; of whom the principal are Drusius, Capellus, Buxtorf, Alting, and Reland, who has published a collection of their writings on this subject. See *ADONAI* and *JEHOVAH*.

ADOPISSUS, in *Ancient Geography*, a town of Asia Minor, which Ptolemy places in Lycania.

ADOPTER, in *Chemistry*, a vessel with two necks placed between a retort and a receiver, and serving to increase the length of the neck of the former. They differ from *ALUDELS*, which were formerly used in the sublimation of several substances, both in their figure and in their situation. The adopters are tubes which become narrower at one end, from half a foot to three feet long, and are open at both ends. They are joined in a collateral oblique situation; whereas the aludels were set upright. Chemistry, plate 1. fig. 1. See *DISTILLATION* and *RECEIVER*.

ADOPTIANI, in *Church History*, a sect in the eighth century, which sprang up under Charlemagne, about the year 783, in consequence of the concurring opinion of Elipand, archbishop of Toledo, and Felix, bishop of Urgel; whose distinguishing tenet was, that Christ, as to his human nature, was not the proper or natural, but only the adoptive son of God. Their doctrine was condemned by a council at Frankfort in 794, and afterwards in a council at Rome under pope Leo III.

ADOPTION, an act by which any one takes another into his family, owns him for his son, and appoints him for his heir. The word is derived from *adoptare*; whence the Latin barbarous *adulare*, to make a knight.

The custom of adopting was very familiar among the ancient Romans, who had an express formula for it. They first learned it from the Greeks, among whom it was called *ioisn*, *filiation*; and it was transmitted to them from the ancient Hebrews, Egyptians, and Assyrians, among whom it prevailed.

As adoption was a sort of imitation of nature, intended for the comfort of those who had no children; eunuchs were therefore not allowed to adopt, as being under an actual impotency of begetting children. Neither was it lawful for a young man to adopt an elder, because that would have been contrary to the order of nature; but it was even required, that the person who adopted should be eighteen years older than his adoptive son, that there might appear at least a probability of his being the natural father.

The Romans had two forms of adoption; the one before the prætor; the other at an assembly of the people, in the times of the commonwealth, and afterwards by a rescript of the emperor. In the first, the natural father addressed himself to the prætor, declaring that he emancipated his son, resigned all his authority over him, and consented that he should be translated into the family of the adopter. The latter manner of adoption was practised, where the party to be adopted was already free; and this was called *adrogation*. The person adopted changed all his names; assuming the prename, name and surname of the person who adopted him. When Augustus adopted his grand-children, the two sons of Agrippa and Julia, he adhered closely to the most solemn formularies of the Roman law, and insisted on their fathers making over to him, by a kind of sale, his right to the children; and he gave them his name, so that they called them Caius Cæsar, and Lucius Cæsar. In the reign of Nero, the senate passed a decree, ordaining that fraudulent adoptions should not avail such as made them, either to qualify themselves for honours, or to receive the whole of any inheritance that might fall to them.

Besides the formalities prescribed by the Roman law, divers other methods have taken place; which have given denominations to various species of adoptions among the Gothic nations, in different ages.

ADOPTION by arms, was when a prince made a present of arms to a person, in consideration of his merit and valour.—Thus it was that the king of the Heruli was adopted by Theodoric; Athalaric, by the emperor Justinian; and Cosroe, nephew of the king of Persia, by the emperor Justin.

This method of adoption, practised in Germany, was called *barbarous*, by way of opposition to the Roman custom.

The obligation here laid on the adoptive son was, to protect and defend the father from injuries, affronts, &c.—and hence the ceremony of dubbing knights took its origin as well as name. Selden, Tit. of Hon. p. 865.

ADOPTION by baptism, is that spiritual affinity which is contracted by god-fathers and god-children in the ceremony of baptism.

This kind of adoption was introduced into the Greek church, and came afterwards into use among the ancient Franks, as appears by the Capitulars of Charlemagne.

In reality, the god-father was so far considered as adoptive father, that his god-children were supposed to be entitled

entitled to a share in the inheritance of his estate. Du-Cange.

ADOPTION *by hair, adoptio per capillum, or annu,* was performed by cutting off the hair of a person, and giving it to the adoptive father. It was thus that pope John VIII. adopted Boson king of Arles; which, perhaps, is the only instance in history, of adoption in the order of ecclesiasties; a law that professes to imitate nature, not daring to give children to those in whom it would be thought a crime to beget any.

ADOPTION *by matrimony*, is the taking the children of a wife or husband, by a former marriage, into the condition of proper or natural children; and admitting them to inherit on the same footing with those of the present marriage. This is a practice peculiar to the Germans; among whom it is more particularly known by the name of *einkindschafft*; among their writers in Latin, by that of *unio prolium*, or *unio of issues*. But the more accurate writers observe, that this is no adoption. See **ADFILIAION**.

ADOPTION *by Substitute*. See **LEVIRATE**.

ADOPTION *by testament*, that performed by adopting a person heir by will, on condition of his assuming the name, arms, &c. of the adopter.

Of which kind, we meet with divers instances in the Roman history.

Adoption was allowed among the Greeks to such as had no issue of their own; excepting those who were not *υιοι αυτων*, *their own masters*, e. gr. slaves, women, madmen, infants, or persons under twenty years of age; who being incapable of making wills, or managing their own estates, were not allowed to adopt heirs to them. Foreigners being incapable of inheriting at Athens, if any such were adopted, it was necessary first to make them free of the city. The ceremony of adoption being over, the adopted had his name enrolled in the tribe and ward of his new father; for which entry a peculiar time was allotted, viz. the festival *Θαπνησια*.

To prevent rash and inconsiderate adoptions the Lacedæmonians had a law, that adoptions should be transacted, or at least confirmed, in the presence of their kings. The children adopted were invested with all the privileges, and obliged to perform all the duties, of natural children; and being thus provided for in another family, ceased to have any claim of inheritance, or kindred, in the family which they had left, unless they first renounced their adoption; which, by the laws of Solon, they were not allowed to do, unless they had first begotten children; to bear the name of the person who had adopted them: thus providing against the ruin of families, which would otherwise have been extinguished by the desertion of those who had been adopted to preserve them. If the children adopted happen to die without children, the inheritance could not be alienated from the family into which they had been adopted, but returned to the relations of the adopter. It should seem that by the Athenian law, a person, after having adopted another, was not allowed to marry, without permission from the magistrate: in effect, there are instances of persons, who being ill used by their adoptive children, petitioned for such leave. However this be, it is certain some men married after they had adopted sons; in which case, if they begat legitimate children, their estates were equally shared between the begotten and adopted.

Among the Turks, by the law of Mahomet, adoption is no impediment of marriage. The ceremony of adoption is performed by obliging the person adopted to pass through

the fire of the adopter. Hence, among that people, to adopt is expressed by the phrase, *to drink under the same wine*.

Dacange supposes that the adoption of Godfrey of Bouillon by Augustus, who named him champion of the empire, and dignified him himself with the filial name and rites of adoption, was of this kind.

It is said that something like this has also been observed among the Hebrews; where the prophet Elijah adopted Eliha for his son and successor, and communicated to him the gift of prophecy, by letting fall his cloak, or mantle, on him. 1 Kings xix. 19. 2 Kings i. 15. But adoption, properly so called, does not appear to have been practised among the ancient Jews. Moses says nothing of it in his laws; and Jacob's adoption of his two grandsons, Ephraim and Manasseh (Gen. xlviii. 1.) is rather a kind of substitution, by which he intended that the two sons of Joseph should have each his lot in Israel, as if they had been his own sons. Calnet.

In the East, the practice of adoption is still continued. Pitts (Account of the Religion and Manners of the Mahometans, p. 217. 225) informs us, that his patron, who was an old bachelor, being taken ill and likely to die in his pilgrimage to Mecca, took off his own girdle and put it on him, and at the same time put on himself the girdle of Pitts. In speaking of him afterwards, his patron called him his son; and occasionally said to him, *though I never was married myself, yet you shall be married, in a little time, and then your children shall be mine*. Lady Montague (Letter xlii. vol. ii. p. 189.) says, that adoption is very common amongst the Turks, and yet more common amongst the Greeks and Armenians. With this view, and in order to prevent their estates from falling into the Grand Signior's treasury, they chuse a child of either sex, among the meanest people, and carry the child and its parents before the Cadi, and there declare they receive it for their heir. The parents, at the same time, renounce all future claim to it; a writing is drawn and witnessed, and a child, thus adopted, cannot be disinherited.

By the Gentoo laws (Halhed's, p. 263.) information must be given to the magistrate, by the person who is desirous of adopting a child, and a *jugg* or sacrifice performed; and he is also to give gold and rice to the father of the child. A woman is not allowed to adopt a child without her husband's order: and he who has no son, or grandson, or great grandson, has liberty to adopt a son; but while he has one adopted son, he is not permitted to adopt a second.

ADOPTION is also used, in *Theology*, for a federal act of God's free grace; whereby those that are regenerate by faith, are admitted into his household, and entitled to a share in the inheritance of the kingdom of heaven.

ADOPTION, in the more general scripture sense of the term, denotes that act of divine grace or favour, by which some of the human race are introduced into a peculiar relation to God, as his children and people. In this sense the privilege of adoption belonged only to the Israelites or Jews, before the coming of the Messiah. See Exod. iv. 22. Jer. xxxi. 9. Luke i. 54. Rom. ix. 4. But the Jews forfeited this honourable distinction, and were deprived of the national privilege they had long enjoyed: and God determined to admit the Gentiles into the state of sonship or adoption independently of any legal observances, and merely on the condition of faith in Jesus Christ. It has, however, been a subject of debate among divines whether adoption belongs to Christians in general, in consequence of their

their faith in Christ, and outward profession of his religion; or is appropriate to those Christians in particular who conform in their disposition and practice to the precepts of the gospel, and are the special objects of divine favour. According to the scheme of Dr. Taylor, in his Key to the Apolotheical Writings, prefixed to his Paraphrase, &c. on the Epistle to the Romans, (chap. xii. p. 91.) adoption, as well as election, vocation, justification, &c. belong to the class of antecedent blessings, which, in a sense, belong at present to all Christians, even those, who for their wickedness shall perish eternally; and that they do not import an absolute, final state of favour and happiness; but are to be considered as principles or motives to engage us to holiness and obedience. He allows that some of the expressions, whereby the antecedent blessings are signified, may be used in a double sense; either, as they are applied to all Christians in general in relation to their being translated into the kingdom of God, and made his peculiar people, enjoying the privileges of the gospel; or, as they signify the effects of those privileges, viz. either that excellent disposition and character which they are intended to produce, or that final state of happiness, which is the reward of it. See Locke's Works, vol. iii. p. 312. 570.

Adoption has a particular respect to that future resurrection and immortality to the hope of which Christians were begotten again by the doctrine and resurrection of Christ. See Whitby Comment. vol. ii. p. 44. 324. 339. 6th edition.

ADOPTION is sometimes also used, in speaking of the ancient clergy, who had a custom of taking a maid or widow into their houses, under the denomination of an adoptive or spiritual sister, or niece. Du-Cange.

ADOPTION is also used in speaking of the admission of persons into certain hospitals, particularly that of Lyons; the administrators whereof have all the power and rights of parents over the children admitted.

ADOPTION is also used for the reception of a new academy into the body of an old one.

In which sense, adoption amounts to much the same with incorporation.

The French academy of Marseilles was adopted by that of Paris; on which account, we find a volume of speeches extant, made by several members of the academy of Marseilles, deputed to return thanks to that of Paris, for the honour.

In a sense not unlike this, adoption is also applied by the Greeks, to the admitting a monk or brother, into a monastic community; sometimes called spiritual adoption.

ADOPTIVE, ADOPTIVUS, or ADOPTITIUS, denotes a person adopted by another.

Adopted children, among the Romans, were on the same footing with natural ones; for which reason, they were either to be instituted heirs, or expressly disinherited; otherwise the testament was null.

The emperor Adrian preferred adoptive children to natural ones; because we choose the former, but are obliged to take the latter at random.

M. Menage has published a book of eulogies, or verses addressed to him; which he calls *Liber Adoptivus*, an adoptive book; and adds it to his other works.—Heinsius, and Fursburg of Munster, have likewise published adoptive books. In *Ecclesiastical Writers* we find adoptive women or sisters, *adoptivæ faminae*, or *sorores*, used for those handmaids of the ancient clergy, otherwise called *subintroductæ*.

ADOPTIVE arms are those which a person enjoys by the

gift or concession of another, and to which he was not otherwise entitled. They stand contradicting distinguished from arms of alliance.

ADOPTIVE is also used to express a thing borrowed or taken from another. In which sense we sometimes meet with *ad optivæ hair*, by way of opposition to natural hair; and *ad optivæ gold*, by way of contradistinction to domestic ones. The Romans, notwithstanding the number of their domestic, had their adoptive gods, taken chiefly from the Egyptians: such were Isis, Osiris, Anubis, Apis, Harpocrates, and Canopus.

ADOPTIVI, in *Church History*. See ADOPTIANI.

ADOR signifies a species of corn called *SPelta* and *zila*.

ADORA, or ADORAIM, in *Ancient Geography*, a city belonging to the tribe of Judah, not far from Mareda in the southern part of Judah, on the confines of Idumæa. These two cities were taken by Hyrcanus in his expedition into Syria, when he destroyed the Samaritan temple on Mount Garizim. Joseph. Antiq. apud op. tom. i. p. 659. ed. Haverc.

ADORATION, the act of rendering divine honours; or of addressing God or a being, as supposing it a god. See WORSHIP. The word is compounded of *ad, to*; and *os, mouth*; and literally signifies to apply the hands to the mouth; *manum ad os admove*re, q. d. *to kiss the hand*; this being, in the eastern countries, one of the great marks of respect and submission; and seeming, from the first books of Herodotus, to be of Persian origin. To this mode of idolatrous worship Job refers, chap. xxxi. 26, 27.—See also 1 Kings xix. 18.

The ceremony of adoration among the ancient Romans was thus: the devotee having his head covered, applied his right hand to his lips, the fore-finger resting on the thumb, which was erect, and thus bowing his head, turned himself round from left to right. The kiss thus given was called *osculum labratum*; for ordinarily they were afraid to touch the images of their gods themselves with their profane lips. Sometimes, however, they would kiss their feet and even knees, it being held an incivility to touch their mouths; so that the affair passed at some distance. Others pretend, that they first stretched out the hand, and afterwards drew it back to their lips; but it rather appears that the contrary order was observed. Saturn, however, and Hercules, were adored with the head bare; whence the worship of the last was called *insultum peregrinum*, and *ritus Græcicus*, as departing from the Roman customary method, which was to sacrifice and adore, with the face veiled, and the clothes drawn up to the ears, to prevent any interruption in the ceremony, by the sight of unlucky objects.

Sometimes also prostration, or falling on the face, and sometimes kneeling, were practised; sometimes they turned towards the sun, and sometimes to the east.

Other circumstances of adoration were the putting crowns, garlands, and the like, on the statues or images adored; sitting down by them, praying to them in soft trembling murmurs, to be favourable, *faveas mihi*.

The Romans practised adoration at sacrifices, and other solemnities; in passing by temples, altars, groves, &c. at the sight of statues, images, or the like, whether of stone or wood, wherein any thing of divinity was supposed to reside. Usually there were images of the gods placed at the gates of cities, for those who went in, or out, to pay their respects to.

The Gauls, instead of turning about to the right hand,

after the Roman manner, thought it more religious to turn to the left.

In the symbols of Pythagoras, adoration is enjoined to be performed in a fitting posture, getu flexion being then unknown.

The Jewish manner of adoration was by prostration, bowing, and kneeling. Pinchon has a discourse expressly on the form of the Jewish adoration. The Christians adopted the Grecian rather than the Roman method, and adored always uncovered. The ordinary posture of the ancient Christians was kneeling, but on Sundays, standing. In this they conformed to the heathens, that a peculiar regard was had to the east, to which point they ordinarily directed their prayers; which occasioned a belief among the heathens that they adored the sun. Something of this usage is still retained, as appears by the position of our churches. A modern author has discovered an error of the builders in this respect; many of our ancient churches being found to vary several degrees from the true east and west. Plott's Hist. Staff. chap. ix. sect. 55. p. 362. In the east it is still considered as a mark of the highest respect, to pull off one's shoes, and approach bare-footed to pay adorations. See Exod. chap. iii. 5. The Egyptians were singularly attentive to this practice: and the Mahometans take off their shoes before they enter the mosques. A similar practice is observed by the Roman Catholics, at the adoration of the crofs on Good Friday, although not observed in this country. When Mr. Wilkins wished to enter the inner hall of the College of *Seeks*, at Patna, he was told it was a place of worship, open to him and to all men; but at the same time it was intimated, that he must take off his shoes. *Asiat. Researches*, vol. i. p. 289.

ADORATION is also used for certain extraordinary civil honours or respects, which resemble those paid to the Deity, yet are given to men.

We read of adorations paid to kings, princes, emperors, popes, bishops, abbots, &c. Adorations paid to the purple, to the person. Adoration by kneeling, by falling prostrate, kissing feet, hand, garment, &c.

The Persian manner of adoration, introduced by Cyrus, was by bending the knee, and falling on the face at the prince's feet, striking the earth with the forehead, and kissing the ground. This was an indispensable condition on the part of foreign ministers and ambassadors, as well as the king's own vassals, of being admitted to audience, and of obtaining any favour. This token of reverence was ordered to be paid to their favourites, as well as to themselves, as we learn from the history of Haman and Mordecai, in the Book of Esther; and even to their statues and images; for Philostratus informs us, that, in the time of Apollonius, a golden statue of the king was exposed to all who entered Babylon, and none but those who adored it were admitted within the gates. The ceremony, which the Greeks called *προσκύνησις*, Conon refused to perform to Artaxerxes, and Callisthenes to Alexander the Great, as repugnant to impiety and unlawful.

The adoration performed to the Roman and Grecian emperors, consisted in bowing or kneeling at the prince's feet, laying hold of his purple robe, and presently withdrawing the hand, and clapping it to the lips. Some attribute the origin of this practice to Constantius. They were only persons of some rank or dignity that were entitled to the honour. Bare kneeling before the emperor to deliver a petition, was also called adoration.

It is particularly said of Dioclesian, that he had gems fastened to his shoes, that divine honours might be more willingly paid him, by kissing his feet. And this mode of

adoration was continued and aggravated till the last age of the Greek monarchy. See Gibbon's Decline and Fall of the Roman Empire, vol. x. p. 124, 8vo. When any one pays his respects to the king of Achen in Sumatra, he first takes off his shoes and stockings, and leaves them at the door.

The practice of adoration may be said to be still subsisting in England, in the ceremony of kissing the king's or queen's hand, and in serving them at table, both being performed kneeling.

ADORATION is also used in the court of Rome, for the ceremony of kissing the pope's feet.

It is not certain at what period this ceremony was introduced into the church: but it was probably borrowed from the Byzantine court, and accompanied the temporal power. Dr. Maclaine, in the chronological table which he has subjoined to his translation of Mosheim's Ecclesiastical History, places its introduction in the eighth century immediately after the grant of Pepin and Charlemagne. Baronius traces it to a much higher antiquity, and pretends that examples of this homage to the vicar of Christ occur so early as the year 204.

These prelates finding a vehement disposition in the people to fall down before them, and kiss their feet, procured crucifixes to be fastened on their slippers; by which stratagem, the adoration intended for the pope's person, is supposed to be transferred to Christ. Divers acts of this adoration we find offered even by princes to the pope: and Gregory XIII. claims this act of homage as a duty. We are told, that in the ancient church the same ceremony was practised to all bishops; people kissed their feet, and saluted them with the phrase *προσκύνηστέ με, I adore thee*.

ADORATION is also particularly used for the ceremony of owning, or paying homage to a new elected pope. The first election at which the ceremony is expressly recorded to have taken place, is that of Valentine, A. D. 827. The second is that of Leo IV. A. D. 847. Anastasius in Valentin. cap. 653. in Leon. iv. cap. 697.

Stephen II. being chosen pope, A. D. 752, in the church of St. Mary *ad Præseppe*, was carried on men's shoulders from thence to the Lateran; and Polydore Virgil observes, that this is the first instance of this ceremony, which occurs in the history of the popes. See Bower, vol. iii. p. 313.

Adoration properly is paid only to the pope, when placed on the altar, in which posture the cardinals, conclavists alone, are admitted to kiss his feet. The people are afterwards admitted to do the like at St. Peter's church; the ceremony is described at large by Guicciardin.

ADORATION is also used for a method of electing a pope without scrutiny, or voting.—In the election by adoration, the cardinals rush hastily, as if agitated by some spirit, and fall immediately to the adoration of some one among them, and proclaim him pope.

In the election by scrutiny, adoration is the last thing, and follows the election; as in the other it is the election itself, or rather supercedes the election.

ADORATION is more particularly used for kissing one's hand in presence of another as a token of reverence.

The Jews adored by kissing their hands, and bowing down their heads; whence in their language kissing is properly used for adoration. Calmet.

ADORATION is also used, among Roman writers, for a high species of applause given to persons who had spoken or performed well in public. The method of expressing it was, by rising, putting both hands to their mouth, and then

returning

returning them towards the person intended to be honoured. See *ADULATION*.

ADORATION is of divers kinds and qualities: *supreme* and *relative*; *absolute* and *relative*; *internal* and *external*; *public* and *private*.

ADORATION, *external*, coincides with what is otherwise called *adoration*.

ADORATION, *internal*, coincides with spiritual *adoration*, called also *adoration* in spirit and in truth.

ADORATION, *public*, that performed in public, with stated ceremonies prescribed by authority: in opposition to private, or tacit, or implicit adoration.

ADORATION, *supreme*, the highest degree of religious honour or worship rendered to a being, as supplanting him the figure of God; in opposition to subordinate worship given to other beings.

ADORATION, *absolute*, that rendered immediately to a being, in consideration of his own essential perfections, and terminating in himself. This coincides with immediate adoration, and stands opposed to relative or mediate adoration. Olearius has an express dissertation on the adoration of the Father by the Son.

ADORATION, *relative*, is that worship paid to an object, as belonging to, or representative of another.

In which sense the Romanists profess to adore the cross, not simply or immediately, which they allow would be idolatry, but in respect of Jesus Christ, whom they suppose to be on it. The Jesuits in China carry an image of Christ under their clothes, and to this refer mentally the public adorations they offer to Chacimchoan. Vide Pascal. Lettr. Provinc. 5.

ADORATION, *perpetual*, is a kind of society or association of devout persons established in Romish countries, who take their turns to pray before the eucharists, regularly relieving each other, so that the service never ceases day nor night.

The members of the perpetual adoration answer to the *ACCEMITI* in the eastern church.

We find societies under this denomination in France, Germany, Italy, &c.

ADORATION, *barbarous*, is a term used in the laws of King Canute, for that performed after the manner of the heathens, who adored idols.

The Phœnicians adored the winds, on account of the terrible effects produced by them; the same practice was adopted by most of the other nations, Persians, Greeks, Romans, &c.

The Troglodytes adored tortoises, as something peculiarly sacred; several people adored weapons, and instruments of war. The Scythians, &c. adored swords, the Romans axes, and the Arabs stones; the Indians adored vipers, the Bengalese and Canadese the sun; the latter of which nations is also said to adore the cross. The Manta, a Peruvian people in the island of Puna, anciently adored a huge emerald, of the bigness of an ostrich's egg, by offering to it other emeralds of a lesser size. All which the priest kept for their own use; the doctrine, as Garcilasso observes, being founded on their avarice.

The Persians chiefly paid their adorations to the sun and fire, some say also to rivers, the wind, &c. The motive of adoring the sun was the benefits they received from that glorious luminary, which of all creatures has doubtless the best pretensions to such homage; the institution of the fire-worship is usually referred to Zoroaster. The retainers to it are called *IGNICOLÆ*; by the Persians, Ghebr, Arefsch, Perefsh.

Dr. Hyde reduces the Persian fire-worship to a subordi-

nate kind of honour, or service, which he calls *pyrodulia*, defending that people from any charge of *pyrolatria*, or idolatry of fire. A traveller into these parts, Gemelli Careri, does the same.

The Greeks and Romans also adored fire under the name of *VESTA*. Pliny mentions the method of adoring lightning, which was by poppings, or gentle clappings of the hands.

The Jews have been charged by heathens with adoring the vine, an ass's head, &c. By Christians, with adoring the book of the law; a charge which one of their rabbins, Manass. Ben Israel, has been at the pains to remove. The adoration of the *golden calf*, into which they fell in the wilderness, seems to have been borrowed, like many other of their ceremonies, from the Egyptians.

The Egyptians are said to have paid adoration to divers animals, plants, fishes, &c. the crocodile, the ibis, onions, &c. But those were only symbolical, or relative acts of homage; they adored the sun in a more peculiar manner, under the name of *OSIRIS*.

It is disputed whether the Chinese pay divine or only civil honours to the statues of Confucius, and their ancestors. That people, however, appear to adore heaven; whence the inscription in all their temples, and which even the Christians are said to have retained in their churches, *king tien*, i. e. adore heaven.

The Indians are said to adore the devil. Some charge the same on the Bramins.

ADOREA, in *Roman Antiquity*, a word used in different senses; sometimes for all manner of grain, sometimes for a kind of cakes made of fine flour, and offered in sacrifice; and finally, for a dole or distribution of corn, as a reward for some service; whence by metonymy it is put for praise or rewards in general.

ADOREUS Mons, in *Antient Geography*, a mountain of Asia Minor, mentioned by Livy (t. v. p. 190.) and placed by M. d'Anville in Galatia, south east of Amorium.

ADORIAN, in *Geography*, a small town of Upper Hungary, near the river Eer, north west of Varadin, in a fine country. N. lat. 47°. 18'. E. long. 26°. 55'.

ADORSI, a people of the North, mentioned by Tacitus, (l. xii. c. 15. t. i. p. 723.) whose situation is not ascertained. Cellarius supposes that they were the same with the Aorsi, whom Strabo ranks in the number of Scythian Nomades; and who probably inhabited the country which extended from Mount Hoemus southward to the Ister northward.

ADOSCUATION is used, by some *Naturalists*, for a species of copulation, or impregnation, by mere external contact between the genital part of the two sexes, without intromission.

Such is that of plants, by the falling of the *farina fecundans*, on the pistil, or uterus.

Divers kinds of birds and fishes are also impregnated by *adosculation*. Grew. Anat. of Plants, chap. v. § 9.

ADOSSE'E is used, in *Heraldry*, to denote two figures or bearings, placed back to back.

The arms of the duchy of Bar are two bars *adossée*.

ADOUR, in *Geography*, a river of France which rises in the mountains of Bigorre, in the department of the Upper Pyrenees, and running by Tarbes and Dax or Acqs, falls into the Bay of Biscay, through an outlet called Boacault, near the walls of Bayonne, where it forms a bay, sometimes called Bayonne Bay. The sands in this Bay are often shifted by the freshes, which come down from the mountains. The bar has not sometimes three feet at low water. It begins to be navigable about two leagues below Saint Sever.

ADOWA, the capital of Tigre in Abyssinia, is situated

on the declivity of a hill, on the west side of a small plain, surrounded every where by mountains. Its name signifying *pass* or *passage*, is derived from its situation, on the flat ground immediately below the river Ribieraini, by which every body must pass in their way from Gondar to the Red Sea. This plain is watered by three rivulets, which are never dry, viz. the Asfa, Mai Cogné, and Ribieraini, which joins the other two, and falls into the river Mareb, about twenty-two miles below Adowa. This town, which is now the capital and residence of the governor, consists of about 300 houses, each of which has an inclosure round it of hedges and trees. The mansion of the governor is situated upon the top of a hill, and is a kind of prison, inhabited by about 300 persons who are detained in irons, and in cages like wild beasts, some of whom have been confined for more than twenty years, with a view of extorting money from them, and who do not obtain liberation, even when the money is paid. There are two churches in the vicinity of this town, viz. Mariam and Kedus Michael, and also a monastery, called Bet Abba Garima, one of the most celebrated in Abyssinia, which was once a residence of one of their kings, whence some travellers have reported that the metropolis of Abyssinia was called Germé. Adowa is the seat of a very valuable manufactory of coarse cotton cloth, which circulates through Abyssinia instead of silver money: each web is 16 peck long, and $1\frac{1}{2}$ wide, and their value is a pataka, i. e. ten for the ounce of gold. The houses in this town are all built with rough stone, cemented with mud instead of mortar; their roofs are of a conical form and thatched with a reedy sort of grass. The business of thatching belongs exclusively to the Falasha or Jews. The vicinity of Adowa is the only part of Tigré which has soil sufficient to yield corn, the whole of the province besides being one entire rock. They have here three harvests annually, which costs no sowing, weeding, manure, or other expensive process; and yet the farmer in Abyssinia is always poor and miserable. N. lat. $14^{\circ} 7'$. $57''$. E. long. $38^{\circ} 50'$. Bruce's Travels, vol. iii. p. 118. &c.

ADOXA, formed of *a priv.* and *δοξα gloria*, q. d. *ignoble*, or of *no show*, in Botany, a genus of the *octandria tetragynia* class and order, and of the natural order of *succulenta*, and *saxifrage* of Jussieu; the characters of which are, that the calyx is an inferior, bilid or trisid, flat and permanent perianthium; the corolla is monopetalous, flat and divided into four or five segments, with clefts ovate, acute and longer than the calyx; the stamina are subulate filaments, of the length of the calyx, and the anthers roundish; the pistillum has a germ below the receptacle of the corolla; the styles are simple, erect, of the length of the stamina, and permanent, and equal in number to the clefts of the corolla; the stigmas are simple; the pericarpium is a globose berry, between the calyx and corolla, the calyx being united below with the berry, umbilicate and four or five celled; the seeds are solitary and compressed. There is one species, viz. the *A. moschatellina*, bulbous fumitory, hollow root or tuberous moschatell, which grows naturally in shady places and woods, as in Hampstead and Charlton woods; it is perennial, flowers in April and May, and the seeds ripen in May. The leaves which soon after decay and the flowers smell like musk, on which account it has been sometimes called *musk crocefoot*. The roots must be planted after the leaves are decayed, under shrubs, for if they are exposed to the sun, they will not thrive. Martyn's Miller's Dictionary. Smith's Flor. Brit. vol. i. p. 432.

ADPERCEPTION, in the Leibnitzian style, denotes

the act whereby the mind becomes conscious to itself of a perception.

AD PONDUS *Omnium*, to the weight of the whole; an abbreviation among *Physicians*, &c. signifying, that the last prescribed ingredient is to weigh as much as all the others put together.

ADPORINA, a surname of Cybele, under which she was acknowledged in one of her temples, erected on a mountain of difficult access, near Pergamus.

ADPRESSUS, in *Law*, denotes contiguous, pressed to, or laid to.

ADPREST LEAF. See LEAF.

ADQUISITUS, in some *Ancient Latin Writers of Music*, is used for the note, or chord, which the Greeks called *ποσειδωνος*. See DIAGRAM.

AD QUOD *Dammum*, in *Law*, a writ directed to the sheriff, commanding him to inquire what hurt may befall the king by granting a fair, or market, in any town or place.

The same writ also issues for an inquiry to be made of what the king, or other person, may suffer, by granting lands in fee simple to a convent, chapter, or other body politic; by reason such lands fall into MORTMAIN.

The writ *Ad quod damnum* is also had for the turning and changing of ancient highways; which may not be done without the king's licence obtained by this writ, or inquisition found that such change will not be detrimental to the public. Vaugh. Rep. 341. Ways turned without this authority are not esteemed highways, so as to oblige the inhabitants of the hundred to make amends for robberies; nor have the subjects an interest therein to justify going there. 3 Cro. 267. If any one change a highway without this authority, he may stop the way at his pleasure. But see the statute 8 and 9 W. III. cap. 16. for enlarging of highways by order of justices of peace, &c. Where any common way shall be enclosed after a writ of *Ad quod damnum* executed, any person aggrieved by such enclosure, may complain to the justices at the next quarter sessions; but if no such complaint or appeal be made, then the inquisition and return, recorded by the clerk of the peace, shall be for ever binding. 8 and 9 W. III.

ADRA, or ADRAA, in *Ancient Geography*, an episcopal see in the northern part of Arabia Petraea, over which Proclus presided at the council of Chalcedon. Adra, though referred by Ptolemy to Arabia, which was considerably extended northward, was really situated in a small province of Palestine, called Batanea, near the river Hieromax, south-east of Capitolias. When it became an episcopal see, it held the third rank under the metropolis Bafra. It was also called *Adraon* and *Adratum*.

ADRA, or HADRACH, was, according to Ptolemy, a town of Cælo-Syria.

ADRA is also the name of a town, placed by Ptolemy in Liburnia; and this was the Adra of Illyria.

ADRA, in *Geography*, a sea-port town of Granada, in Spain, forty-seven miles south-east of Granada. W. long. $2^{\circ} 37'$. N. lat. $36^{\circ} 42'$.

ADRABÆ *Campi*, in *Ancient Geography*, a canton of Germany, mentioned by Ptolemy, and now called, according to Martiniere, *Marchfeld*, and situated in Upper Austria, north-east of Vienna.

ADRABON, a small district of Gaul belonging to the Veneti, over against Belleisle, on the coast of Brittany.

ADRACHNE, in Botany, the strawberry-tree. See ARBRES. It is also called *Adra la*.

ADRAGA, in *Ancient Geography*, by some called

Draga, a place of Arabia, situate, according to Ptolemy, in long. 29° 10' and lat. 15° 15'.

ADRAGANTH, the same as gum **DRAGANT**. See **TRAGACANTH**.

ADRAGNO, in *Geography*, a town of Sicily, twenty miles east-north-east of Mazaro.

ADRAISTÆ, in *Ancient Geography*, the inhabitants of a district of India, which lay to the east of the rivers Acesines and Hydraotes.

ADRAMITÆ, a people placed by Ptolemy in Arabia Felix.

ADRAMMELECH, in *Mythology*, one of the gods adored by the inhabitants of Sepharvaim, who were settled in Samaria in the room of those Israelites that removed beyond the Euphrates. The people of Sepharvaim made their children pass through the fire in honour of this false deity, and another called *Anamelech*. *Adrammelech*, i. e. the magnificent king, is supposed to have represented the sun, and *Anamelech*, i. e. the gentle king, the moon. Calmet.

ADRAMYTTIS, in *Ancient Geography*, an island of Asia Minor, on the coast of Lycia.

ADRAMYTTIUM, a famous city of Myfia Major, called also *Pedafus*, which, according to Strabo, (lib. xiii. tom. 2. p. 904.) was an Athenian colony, with a harbour and dock, situate at the foot of mount Ida, near the Caicus. It was so called, says Stephanus (de Urb. tom. i. p. 22.) from Adramytus, the brother of Cræsus, by whom it was built. Others say, that it was founded by the Lydians, and derived its name from Hermon, one of their kings, who, in the Phrygian language, was called *Atiramys*. This is the Adramyttium mentioned Acts xxvii. 2. and not as St. Jerome and others suppose, a city of Egypt built by Alexander the Great, at the Canobic mouth of the Nile, and which has been supposed to be the same with Thebes. Whitby Com. vol. ii. p. 751. Imperial Greek medals have been struck in this city in honour of several of the Roman emperors. The medals are bronze, gold and silver. This city was formerly famous for trade and shipping; but is now called *La Adramitti*, and inhabited only by a few Greek fishermen. The *Adramyttian-bay* was a part of the *Ægean sea*, on the coast of Myfia: the towns on the north-east of this bay are now in ruins. The *Conventus Adramytenus* was the eighth in order of the conventus juridici of Asia.

ADRANA, a river of Germany, now the *Eder*, rises in Upper Hesse, waters the county of Waldeck and Lower Hesse, and falls into the Fulda about two miles from Cassel. When Germanicus, at the head of the Roman legions, ravaged the country of the *Catti*, most of their youth escaped by swimming over this river; and attempted, though without success, to prevent the Romans from laying a bridge over it. Tacitus Annal. i. c. 55. vol. i. p. 105. Ed. Gronov.

ADRANA, or **ADRENA**, (Polybius, lib. xiii. p. 983. Ed. Casaub.) a city of Thrace, situate a little above Berenice.

ADRANA was also a town of Asia Minor, in the Lower Myfia.

ADRAND, in *Geography*, a town of Persia, in the province of Irak; ten leagues east of Amadan.

ADRANIS, **ADRANTIS**, or **ADRANS**, in *Ancient Geography*, a town of Pannonia, in the more extended application of the term, situate in Noricum, north-east of *Æmona*, in the limits of Carnia and Noricum.

ADRANUM, now **ADERNO**, a town of Sicily at the foot of Mount *Ætna*, towards the north-east, near a river formerly bearing the name, which some now ascribe to it, *Fiume d'Aderno*. This city was built, says Diodorus Sicu-

lus (lib. xiv. c. 37. tom. i. p. 671. Ed. Wesscl.) by Dionysius the elder, and so called from the Temple of *Adranus*, the tutelary god of the Sicilians, and said by Hesychius to be the father of the *Dii patricii*. This temple was a place of great resort at stated seasons of the year by the worshippers of this deity; and *Ælian* (de Nat. Anim. lib. xi. c. 3. tom. ii. p. 632. Ed. Gronov.) says, that a thousand dogs were kept here, who fawned on those who brought presents to the temple, and conducted drunken persons to their own houses, whilst they fell furiously on thieves, and tore them in pieces. The medals of this city are bronze, gold and silver.

ADRAPSA, a town of Bactria, mentioned by Strabo, (lib. xv. tom. 2. p. 1055.) but placed by Ptolemy in Hyrcania, beyond the river Maxera. It is also called *Darapsa*, and seems to be that mentioned by Arrian (lib. iii. c. 29.) under the name of *Drapsace*.

ADRASDII, an episcopal see in the patriarchate of Antioch, and the eighteenth under the metropolis of Seleucia.

ADRASTE, in *Mythology*, the daughter of Jupiter and Necessity, who, according to Plutarch, was the only fury that exercised the vengeance of the gods. The name is supposed to be derived either from *αἰς δρασ*, *always active*, or from *α priv.* and *δραω*, *I fly*. The Egyptian priests placed *Adraite* above the moon, where she observed the whole world, so that no guilty person escaped. See **NEMESIS**. *Adraite*, or *Andraite*, was the goddess of war and victory, among the ancient Britons; and as such invoked and acknowledged. This deity was probably the same with the **ASTARTE** of the Phœnicians. Dion. Cass. tom. ii. p. 1007. Ed. Reimari.

ADRASTE was also one of the nymphs who nursed Jupiter in the cave of Dictæ.

ADRASTIA, or **ADRASTEIA**, an epithet given to the goddess Nemesis, or Revenge. It is said to be taken from king **ADRASTUS**, who first erected a temple to that deity.

ADRASTIA, in *Ancient Geography*, the name of a town of Asia, in the Troade, situate between Priapus and Parium, in a district of the same name, in which was an oracle of Apollo *Ætæus*, and of Diana. It was built by king *Adrastus*. Strabo Geog. lib. xiii. tom. 2. p. 848.

ADRASTIA Certamina, in *Antiquity*, a kind of Pythian games, instituted by *Adrastus*, king of Argos, A. M. 2700, in honour of Apollo at Sicyon. These are to be distinguished from the Pythian games celebrated at Delphi.

ADRASTUS, in *Ancient History*, a king of Argos, who distinguished himself in the famous war of Thebes, was the son of Talaus and Lysianassa, daughter of Polybus king of Sicyon. He reigned first in Sicyon, as successor to his father-in-law, and afterwards at Argos. Here he married his two daughters to Polynices and Tydeus, who took refuge in his court; the former of whom had been deprived by his brother Eteocles of his share of the sovereignty at Thebes. For the purpose of restoring him, this king, with six others, chiefly of his kinsmen, marched against Thebes; and this was called the expedition of the seven worthies, which is placed about 1225 years before Christ, and has been celebrated by the poets. *Adrastus* alone escaped, being preserved by his horse *Arion*. See Statius Theb. lib. iv. v. 40, &c. p. 412. Ed. Varior. This war was revived within ten years by the sons of the deceased worthies, and called the war of the Epigones. It terminated with the taking of THEBES. *Adrastus* on this occasion lost his son *Ægialeus*, and was so distressed by the event, that he died of grief at Megara, as he was conducting home his victorious army. His memory was much honoured at Megara and at

Sicyon, at which place he had instituted the Pythian games. Pausanias, lib. ix. p. 286. Pindar. Pyth. Od. viii.

There was another *Adraflus*, in Phrygia, at the time of the siege of Troy, who is said to have built a temple on the river *Æsepus*, in Phrygia, in honour of Nemesis, the goddess of Revenge, hence called *Adraflæa*.

Herodotus (lib. i. c. 35.) mentions an *Adraflus*, who fled for refuge to the court of Cræsus, king of Lydia, and inadvertently killed his son.

ADRASUS, or ADRASSON, in *Ancient Geography*, belonged to Isauria, and the metropolis of Seleucia.

ADRAZZO. See AJACCIO.

ADRESTES, a people of India, subdued by Alexander. See Quintus Curtius, lib. viii. n. 9.

ADRIA, or HADRIA, in *Ancient Geography*, the name of two towns in Italy; one of them was situated in the country of the Veneti, on the river Tartarus, or *Adria*, between the Padus and the Athetis, and was called *Atrias* by Ptolemy, and also by Pliny, (lib. iii. c. 16. tom. i. p. 173. Ed. Hard.) but denominated *Adria* by Strabo (lib. i. p. 82. —lib. ii. p. 168. —lib. v. p. 328.): the other was in the country of the Piceni, on the river Vomanus, to which Antonine's Itinerary from Rome is directed, and which was the country of the ancestors of the emperor Adrian. This is now the dukedom of Atri, in Abruzzo. It has been a subject of dispute which of these two places gives its name to the Adriatic sea. The etymology is generally deduced from the Venetian *Adria*; and it is alleged, that the name is retained in the small town, that was destroyed by inundations and other calamities, now called *Adria*, which is a bishop's see, twenty-five miles south south-west of Venice. N. lat. 45° 8'. E. long. 12° 5'. Aurelius Victor deduces the name from the *Hadria* of the Piceni. If this be the true derivation, the appellation should be *Hadriaticæ*, because the name of the emperor is inscribed on coins and stones *Hadrianus*. But if the origin of the name is traced to the Venetian *Adria*, which is the most ancient, and of which the other is merely a colony, the usual appellation is the most correct. Eusebius in Dionys. v. 92. traces it to *Atrias*, the son of Jaon.

ADRIA, an archi-episcopal city, in the patriarchate of Jerusalem. St. Jerome mentions a small island of this name.

ADRIA, JEAN JACQUES, of Mazara, in Sicily, graduated at Salernum, in 1510, and acquired such reputation for his skill in medicine, that he was made physician to the emperor Charles the Fifth, and appointed proto-medicus of Sicily. He left in manuscript the following: "De preferentialibus pestilentie." "De medicinis ad varios morbos." "De phlebotomia, dedicated to the emperor." "De Balneis Siculis."

ADRIAN, or HADRIAN, PUBLIUS ÆLIUS, the Roman emperor, was born, according to Spartian, (in *Adr. p. 1—3.*) in Rome, on the 24th of January, in the 76th year of the Christian æra, A. U. C. 829. His ancestors lived at Italica, in Spain, which was the native city of Trajan, whom he succeeded in the empire, and whose name on that occasion he assumed in addition to his own. At the death of his father, when he was ten years of age, he was left under the guardianship of Trajan and Cælius Tatianus, or Attinus, a Roman knight. His proficiency in the Greek language was so considerable, that, at the age of fifteen, he was commonly called the young Grecian. When Trajan was adopted by Nerva, Adrian served as a tribune in the army in Lower Mœsia, and was deputed to congratulate his guardian on the event; and when Nerva died, he was the first that communicated the news to Trajan, who was then in Lower Germany, and that saluted him a emperor.

Trajan, however, conceived prejudices against him, on account of the levity of his mind, the suspicion and jealousy of his temper, and the extravagance to which he was addicted: and though he manifested a studious disposition, and made great acquisitions in Greek and Latin, in philosophy and the law, Trajan had not been accustomed to estimate these endowments very highly, nor did he form any flattering expectation of the advantages that were likely to accrue from them in the military profession, and in the extension of empire, to which he was devoted. Adrian perceived that he was no favourite; and therefore endeavoured to conciliate the favour of the emperor Plotina, by an assiduity of attention, which, as Dion Cassius intimates, by the expression *εὐσπίου φιλίας*, (tom. ii. p. 1149. Ed. Reimari) seems to have transgressed the bounds of virtue. However, Adrian succeeded in securing the interest of the empress, and by her means, in obtaining the emperor's grand-niece, and next heiress, Sabina, for his wife. This was the first step to his future advancement, and facilitated his ascent to the throne, much more than the assurance of the Mœsian astrologer, that the sovereign power was destined to him by the fates, or the prediction to the same purpose of his great uncle Ælius Adrianus. Soon after his marriage he was appointed quaestor; and at the expiration of this office, he was employed in digesting the deliberations of the senate; but he soon surrendered this occupation, and followed Trajan to the war against the Dacians. Trajan having left his army in Syria, and proposing to return to Rome, after a variety of extensive and rapid conquests, gave the command of it to Adrian; but he had neither capacity nor zeal for retaining, much less for enlarging, the emperor's conquests. The conqueror's absence was the loss of all the advantages he had gained. His death at the same time was gradually approaching, and opened prospects of ambition to Adrian, of which he was desirous of availing himself. He had already been quaestor, in the year of Rome 852, tribune of the people in 856, prætor in 858, substituted consul in 860, and consul in ordinary and commander in chief in the last year of Trajan's reign. He had also accompanied Trajan in most of his expeditions, had the command of a legion in the second Dacian war, and obtained for his valiant conduct a present from the emperor of the diamond which Nerva had given him, which he considered as a pledge of his future adoption. In the interval between his prætorship and consulship, he had been governor of Lower Pannonia, and discharged the duties of his various offices with universal satisfaction. Trajan, however, never loved Adrian, nor did he intend to adopt him. Accordingly, Dion Cassius affirms, (tom. ii. p. 1149.) that he never was adopted. Nevertheless he succeeds him in virtue of a feigned adoption. Upon the emperor's death at Selinontum, in Cilicia, in his way to Rome, Plotina, assisted by Tatian, who had been preceptor to Adrian in his youth, contrived to find notice to the Senate, that Trajan, whom she had attended at the time of his death, had adopted Adrian: and, it is said, that she concealed a man, who personated the dying emperor, and who with a feeble voice, declared that he adopted Adrian. This is certain, that Adrian, who was then at Antioch, received the news of his adoption on the 9th of August, and that of Trajan's death on the 11th. On this day, in the year 117, (A. U. C. 870, or according to Crevier, who follows Tillemont, 868.) he was proclaimed emperor by the legions of Syria, and immediately wrote to the Senate to request a confirmation of the act of the soldiers; apologizing, at the same time, for the impatience of the legions, forbidding them to bestow upon him any titles of honour without his previous consent, promising that he would direct his govern-

ment to the public good, and binding himself by an oath, never to put a senator to death. The Senate very readily acceded to his request, and confirmed him in the empire to which he was elected. Adrian had now an opportunity of indulging that love of peace to which he was naturally inclined. Accordingly he abandoned the conquests of his predecessor in the east, and having withdrawn his troops from Armenia, Assyria, and Mesopotamia, he agreed that the Euphrates should again be the boundary and barrier of the Roman empire. He determined also to surrender Dacia, but his friends prevailed with him to retain it for the sake of those Roman citizens who had settled in it. However, he demolished the bridges which Trajan had erected over the Danube, under the pretence of guarding the Roman territories from the incursions of the barbarians. In order to reduce the Jews to absolute subjection, he removed Lulius Quietus, whom Trajan had commissioned for this purpose, and whom he had made governor of Palestine, from his government, and appointed his friend Martius Turbo to succeed him; and he was also employed to quell the disturbances in Mauritania, which the removal of Lulius had probably occasioned. After having secured the tranquillity of Dacia, by making peace with the Sarmatians and Roxolani, which he endeavoured to render permanent in the following year by pecuniary donations, granted also as the purchase of peace to other barbarous nations, he hastened to return to Rome; but did not arrive there till the year 118. During his voyage from Illyria, a conspiracy was formed against his life by four persons of consular dignity, viz. Domitius Nigrinus, Lulius Quietus, Palma, and Celsus, who were put to death by order of the Senate. This act, however, excited the public hatred against Adrian. It was different from the conduct of his predecessor; and it was considered as a violation of the oath which he had made on his accession to the empire. To remove these ill impressions from the public mind, he was liberal in his donatives to the people. He remitted the debt due from cities and individuals to the imperial revenue, and to the public treasury, which is said to have amounted to seven millions of our money, and burnt all the records which might afterwards serve to revive these claims. With a reference to this act of generosity, Adrian is represented on one of the medals, which has reached our times, with a torch in his hand setting fire to the bonds, with a legend, signifying, "He enriches the whole world." He discharged Italy from the tax paid to victorious emperors for decorating their triumphs, and reduced the amount of it in the provinces: and besides making many presents of money, and various articles of subsistence and luxury to the Roman citizens, he increased the funds, appointed by Trajan, for the subsistence and education of children of both sexes. The sum appropriated by Adrian to these several purposes was immense; and his liberality was honoured with a monument, consecrated to his memory, and with an inscription which celebrated him, as having thus exhibited a singular example of goodness to the people. He was likewise assiduous in his attention to the Senate, and treated this body with a degree of deference and respect, which tended to remove the prejudices that had been conceived against him, and to engage their affectionate attachment. He assisted those senators who were poor; he enabled others to defray the charge of their offices; and he granted the honour of a third consulate to those who desired it. Upon his return to Rome, he was received by all ranks of people with extraordinary demonstrations of joy; but he declined accepting the triumph which had been prepared for Trajan, and which was now decreed by the Senate to the new emperor. He had already on his

accession refused the offer that had been made to him of the title of *father of his country*, and deferred the acceptance of it, after the example of Augustus, who had not taken it till he had governed a certain number of years.

In the following year Adrian was consul a third time, but he resigned the *fasces* after four months, and never afterwards resumed them. Having taken measures for establishing his power at home, he was under a necessity of leaving Rome, in order to check the incursions of the barbarians, who invaded Illyricum. The war was soon terminated; and Martius Turbo, who was recalled from Mauritania, was appointed governor of Pannonia and Dacia. Towards the close of this year the emperor went into Campania, where he generously relieved the poor inhabitants of all the cities through which he passed. About this time he conceived a design of visiting all the provinces of the empire, and examining for himself the state of each country subject to Rome, that he might not be obliged to depend entirely on the reports of his ministers and governors; alleging, that an emperor ought to resemble the sun, which extends illumination to all the regions of the earth. Accordingly he began his travels in the third or fourth year of his reign; that is, in the 120th or 121st year of the Christian æra, A. U. C. 871, according to Tillemont. He first visited Gaul, where he displayed great liberality; and from thence he went into Germany, where the chief army of the empire was stationed, and the discipline of which he revived and established. In the following year he passed over into Britain, where he reformed many abuses. Although the greatest part of the island was subject to Rome, the northern nations, after the departure of Agricola, had revolted, and recovered their ancient liberty. Adrian, without entering into any new contest, proposed merely to secure the southern part, which belonged to the Romans, against the incursions of the warlike Caledonians, and, with this view, he caused a rampart, or wall, to be raised, extending from the Solway Firth on the west, to the mouth of the river Tyne, near Newcastle, on the east, about eighty miles in length. In other places he supplied the defect of natural barriers by mounds of earth strengthened by stakes driven into the ground. Here he also disgraced and discharged his secretary, Suetonius Tranquillus, the historian, and Septicius Clarus, captain of the prætorian guards, for their disrespectful behaviour to the empress Subina. Upon his return to Gaul, he built at Nîmes a magnificent palace in honour of Plotina, the widow of Trajan. From Gaul he proceeded to Spain, and wintered at Tarragona, where he rebuilt the temple of Augustus, founded by Tiberius, and held a general assembly of the states, in order to compose the differences occasioned by raising levies for the Roman armies. Here a slave, in a fit of insanity, attempted to kill him; but he happily escaped, and committing the unhappy maniac to medical care, took no farther notice of the assault. From Spain the emperor returned to Rome in April; and towards the end of this year, or the beginning of the next, he went, as some say, to Mauritania, and afterwards to Athens, where he built a bridge over the Cephissus; from Athens he proceeded to the extremities of the Roman empire in the east; and after having quieted the commotions of the Parthians, he returned through Asia, visiting the several provinces, and erecting edifices in several of their chief cities; and having passed through the islands of the Archipelago, he settled at Athens during the winter, and was there initiated into the Eleusinian mysteries. From Athens he went into Sicily to visit the top of Mount Ætna, that he might observe the rising sun, which was said there to exhibit all the colours of the rainbow; and returned to Rome in the beginning

beginning of the following year, or the seventh year after his departure. The 11th and 12th years of Adrian's reign are quite barren of events. In the year 129 or 130, the cities of Nicomedia, Cæsarea, and Nicæa, in Bithynia, were almost demolished by an earthquake, and they were rebuilt at the expence of the emperor, who was on this account denominated the restorer of Bithynia. In the course of this year he again departed for Africa; where, after a drought of five years, it rained upon his arrival, and the inhabitants, who received many favours from the emperor, ascribed the blessing to his presence. From Africa, he returned in the same year to Rome, where he caused the obsequies of Plotina to be performed with extraordinary magnificence. He lamented her death with great sorrow, composed verses in her praise, and caused her to be ranked among the gods. In the year 131, he left Rome with a design to revisit the provinces of the east, and passing through Athens, pursued his journey into Asia, where he consecrated several temples. From Asia he passed into Syria, from thence into Palestine and Arabia, and afterwards into Egypt, in the fourteenth year of his reign, when the famous colossus of Rhodes shook, according to the Alexandrian chronicle. During this, and the following year, he continued in Egypt. At Pelusium he visited the tomb of Pompey the Great, which he repaired; he also repaired the city of Alexandria, and restored their ancient privileges to the Alexandrians, whose disposition and character he disliked, and who recompensed his kindness with violent lampoons after his departure. From Egypt he passed into Libya Cyrenaica, where he killed a lion of enormous size, that had committed many depredations in the country. During his stay in Egypt, the youth Antinous, to whom Adrian was criminally attached, fell into the Nile, and was drowned. Dion Cassius says, (tom. ii. p. 1160. Ed. Reim.) that he was sacrificed by Adrian, who being addicted to magic, conceived that he should prolong his life by sacrificing a human victim to the infernal gods. In the following year Adrian returned to Syria, and having passed through Thrace and Macedon, he continued for some time at Athens. During his residence at Athens, the Jews revolted on occasion of the emperor's sending a Roman colony to Jerusalem, calling the city *Ælia Capitolina*, after the name of his family, and erecting a temple to Jupiter Capitolinus in the place where the ancient temple stood. The war with the Jews was attended by the invasion of the provinces of the empire by the Alani, or Massagetæ, a people of Sarmatia. At Athens Adrian was much pleased with the customs and learning of the people. Here he assumed the habit peculiar to the dignity of Archon, celebrated the grand festival of Bacchus, and embellished it with many stately buildings, and particularly with a library of astonishing structure; inasmuch, that he was revered as the second founder of the city, and one quarter of it was from him called *Adrianopolis*. In the year 135, the emperor left Athens and returned to Rome. Here he fell into a lingering disease, attended with a bleeding at the nose, which terminated in a dropsy. Adrian, contrary to the universal expectation, and the remonstrance of his friends, adopted Commodus Verus, who was created prætor, appointed governor of Pannonia, and in the following year advanced to the consulship. The emperor retired to Tibur, now Tivoli, where he erected a magnificent villa; but his disorder increasing, and being aggravated by his licentious mode of living, he indulged his natural cruelty, and caused many illustrious persons to be arraigned and executed, and others to be privately murdered. In the beginning of the year 138, Verus died, and was ranked by Adrian among the gods, and

temples were built and statues erected to his memory by the orders of the emperor. Upon his death, Titus Antoninus was adopted; and after his adoption the empress Sabina died, supposed to be poisoned by Adrian, or so ill used, that she laid violent hands on herself. Adrian, however, caused her to be ranked among the gods. The emperor's impatience increased with his disorder, and having put several senators to death, and ordered others for execution, whom Antoninus preserved, he attempted to destroy himself, but was prevented by Antoninus from executing his purpose. At length he removed from Rome to Baia, in Campania, where he hastened his death by his intemperance; and here he died, on the 10th of July, in the year 139, after having lived 62 years, 5 months, and 17 days, and having reigned 21 years and 11 months. His body was burnt at Puteoli, and his ashes were conveyed to Rome, where they were deposited in the magnificent mausoleum, which he had contracted for himself near the Tiber. The Senate intended to annul all his acts, but Antoninus opposed this measure; caused him to be deified, built a temple at Puteoli, and instituted annual sports to his honour, with priests, fraternities, and victims. No prince ever erected so many public and private edifices as Adrian. The regulations which he established for the maintenance of discipline among the troops were afterwards regarded as the military laws of the Romans, and many of the laws which he enacted were observed till the end of the fourth century. He prohibited all those private work-houses, which were habitations of slavery and wretchedness; and he was not only a man of learning himself, but he encouraged literature and science. Many of his works, both in prose and verse, were published under his own name, and the names of other distinguished persons. His Greek poem, called the *Alexandriad*, has been quoted by some of the ancients. In his Catacrani, mentioned by Spartian, he pretended to imitate Antimachus, whom he preferred to Homer. He was so ambitious of fame, that he wrote his own life in several books, some fragments of which are still extant. His reign was distinguished in the history of literature, by a very considerable number of learned men, among whom we may reckon Phlegon, Favorinus, Epictetus, Arrian, Plutarch, Dionysius of Halicarnassus, Philo of Byblos, Suetonius, and Florus.

Adrian's reputation for talents and learning has been universally allowed. His memory was so retentive, that he could repeat a whole book, after having once perused it; and he knew the name of every soldier in his army. He excelled in every branch of learning, and was, without doubt, the best orator, poet, grammarian, philosopher, and mathematician of his time. He was eminent for drawing and painting, and for his skill in the theory and practice of music. He used at the same time to write, dictate to several secretaries, give audience to his ministers, and discourse with them about affairs of the greatest importance: and his court was crowded with men distinguished in every branch of literature and science. In his natural disposition he was suspicious, envious, lascivious, and cruel; and his general character exhibited a strange composition of virtues and vices. To his friends he was courteous and affable, and his liberality was unbounded. But he was ever ready to give ear to slanderers, and to believe every tale that was whispered against him, so that those who were once most distinguished by his favour were disgraced, banished, and put to death. Capricious and unsteady in his attachment, and violent in his resentment, he was distrusted by his friends, and dreaded by his enemies. Nevertheless, the great and the rich did not suffer under his government from unjust condemnations and forfeitures. He knew how to pardon offences;

offences; and those who had been his enemies when he was in a private station, had no occasion to fear him when he was an emperor. When he arrived at the sovereign power, he fell to one of those from whom he had received the most convincing proofs of his hatred, "Behold yourself in perfect safety." His vanity, however, was always predominant; and he was often induced, by the fear of infamy, or the desire of applause, to preserve at least the appearances of virtue. In his plans of public improvement, he was comprehensive and liberal, even to the extreme of needless magnificence and culpable profusion. There was scarce a province, or a city, in which he did not leave substantial proofs of his attention to the benefit and convenience of its inhabitants. He repaired old edifices, and built new ones, baths, aqueducts, and harbours: and he expended large sums in embellishing the monuments of those who had distinguished themselves in former times, as in the case of Epaminondas's tomb at Mantinea, and in the honour he paid to Pompey's remains. To Greece he was particularly favourable; and from the Greeks he received many expressions of gratitude. And yet dissipated and extravagant as he was in his private expences, and in his public disbursements, he is said never to have unjustly seized any man's property, nor did he ever receive legacies from persons who were not known to him, or from any of his friends who had children.

In his voyages, when he was at any city, he administered justice to all who applied to him, or sought the assistance of the ablest lawyers. Adrian, indeed, deserves to be particularly recognized for the administration of justice, and the wisdom of his laws, for establishing and maintaining peace among the citizens. He considered the termination of disputes, by equitable decisions, as one of the principal duties of a sovereign, and he was assiduous in discharging it. His zeal for justice and good order led him to keep a strict eye over those who governed provinces under his authority; and he knew how to discover truth through all the acts of dissimulation. At Rome he made a very important reformation in the administration of justice. See *perpetual* ENIG.

He softened the rigour of servitude, and deprived masters of the arbitrary power of life and death over their slaves: he prohibited the sale of them, and their being rendered, according to their sex, victims of prostitution, or gladiators, without the authority of the judge; and he forbade the use of private prisons. From an attention to decency, he likewise prohibited the promiscuous use of baths for both sexes. He is also said to have renewed the ancient sumptuary laws enacted by Augustus; and he forbade the abominable custom of human sacrifices, though in the case of Antinous he seems to have violated his own law. He punished fraudulent bankrupts with severity, and ordered them to be whipped. He reformed the police in many instances with judgment; and the alterations he introduced in the general conduct of the empire, in the service of the palace, in the military discipline, and in the government of the empire, was confirmed by practice, and continued even to the reign of Constantine. To his soldiers he set an example of simplicity and self-denial; and by his attention to them in various respects, he gained their love and confidence. He preferred none but men of courage, strength, and good character, saying, "such as the officers are, such will the soldiers soon be." Thus he revived the ancient military discipline, which, by the negligence of many princes, had been decaying since the time of Augustus. It may be observed in general, that the Roman empire was happy under his government. The maxim which he inculcated in the assembly of the people, and in the senate, de-

serves to be recorded. "I propose to myself (says he) to govern the commonwealth, as to shew I never forget it is not my own property, and that I am no more than administrator for the public." Adrian's government would have been praised, if he had succeeded Domitian, but it was his misfortune to have Nerva and Trajan for his predecessors, and for his successors Antoninus and Marcus Aurelius.

Adrian appears to have been too much addicted to every kind of superstition. He was fond of the Greek worship, and paid little attention to the religion of those nations whom the Romans and Greeks considered as barbarians; and therefore the temples, which he had erected in honour of Jesus Christ, were intended either for himself, and for his own proper worship, or in conformity to the doctrine of Numa and Pythagoras, as places where the gods might be worshipped without images. The Christians he considered as enemies to the idolatrous worship of his gods; yet it is thought, that upon the whole he was moderate to them, more especially when it is considered how much the populace, instigated by the priests, wished and endeavoured to destroy them. Eusebius has preserved a rescript, which orders that they should be regularly prosecuted, and condemned if convicted of a breach of the law; but, on the other hand, if the charge brought against them should not be proved, their accusers should be punished. The moderation of this edict has been ascribed by some to the admirable apologies of Quadratus and Aristides in favour of the Christians. Adrian's conduct to the Jews was very rigorous, though their repeated insurrections and rebellion might furnish some apology for his severity. He forbade them even the sight of Jerusalem, into which they were not permitted to enter, except in one day of the year, which was the anniversary of the destruction of the city. He sent a Roman colony into the holy city, and called it *ÆLIA Capitolina*, that it might bear his family name, and that of Jupiter, to whom he had erected a temple in the place where that of the true God stood. He studiously profaned all the places which had been most revered by the Jews, with buildings set apart for the worship of idols: he placed a hog of marble upon the gate of the city which led towards Bethlehem; he erected in the place where Jesus was crucified, a statue of Venus; and in that where he arose from the dead, a statue of Jupiter; and in the grotto at Bethlehem, where our Saviour was born, he established the worship of Adonis.

In this prince, says Crevier, there centered very opposite qualities: he was gay and grave, haughty and affable, impetuous and circumspect, frugal even to avarice and liberal, cruel and merciful. It is difficult to make an entire piece of such discordant parts; but we shall not be mistaken, if we consider his vices as real, his virtues as fictitious. Political interest and vanity were the principles of all the good he did; and these motives, assisted with an uncommon genius, improved with the most useful parts of knowledge, were sufficient to render him a prince whose government was for the good of the people in general, whilst his personal conduct made him a scourge to those who were near him.

The following verses addressed to his soul, which he composed, and uttered not long before he expired, express, amidst great doubts and uncertainty, some general apprehensions concerning a future state.

Animula, vagula, blandula,
Hospes, comesque corporis,
Quæ nunc abibis in loca
Pallidula, rigida, nudula?
Nec, ut soles, dabis jocos.

Poor little, pretty fluttering thing,
Must we no longer live together?
And dost thou prone thy trembling wing,
To take thy flight thou know'st not whither?
Thy humorous vein, thy pleasing folly,
Lies all neglected, all forgot:
And pensive, wav'ring, melancholy,
Thou dread'st and hop'st, thou know'st not what.

PRIOR.

Ah! fleeting spirit! wand'ring fire,
That long hast warm'd my tender breast,
Must thou no more this frame inspire?
No more a pleasing cheerful guest!
Whither, ah, whither art thou flying?
To what dark undiscover'd shore?
Thou seem'st all trembling, shiv'ring, dying,
And wit and humour are no more!

Pope's Works, vol. vii. p. 186.

*See Spartian in Adrian. Dion. Cass. Hist. Rom. tom. ii. p. 1149—1170. Ed. Reimari. Anc. Un. Hist. vol. xiii. p. 269—293. Crevier's Rom. Emp. vol. vii. b. 19. p. 129—222.

ADRIAN I. Pope, succeeded Stephen III. in the papal chair, A. D. 772. He was the son of Theodore, a Roman nobleman, and possessed considerable talents for business. He maintained a steady attachment to Charlemagne, which provoked Desiderius, king of the Lombards, to invade the state of Ravenna, and to threaten Rome itself. Charlemagne recompensed his attachment, by marching with a large army to his succour; and having gained many considerable advantages over Desiderius, and recovered the cities which he had taken, he visited the pope at Rome, confirming the grants made by his father Pepin, to which he added new donations, and formed a perpetual league of friendship between the growing power of France and the established supremacy of the Western Church. On this occasion he expressed his piety, by the humiliating ceremony of kissing each of the steps, as he ascended to the church of St. Peter. Pavia, during this visit, had been left in a state of siege; on his return it surrendered, and the dynasty of the Lombard princes, which had lasted 206 years, was terminated in the year 776. When fresh disturbances occurred by the interference of the bishop of Ravenna, who claimed and seized the exarchate and the dukedom of Ferrara, which Charlemagne had restored to the pope; this prince renewed his visit, and settled the affairs of Italy. In return for these services, he obtained the title of king of the Lombards, and the rights of temporal sovereignty in the territory of the Roman see. Adrian now directed his attention to the affairs of the church: and as Irene, who, in 780, assumed the regency at Constantinople, during the minority of her son Constantine, wished to restore and establish the worship of images, she applied to Adrian for his concurrence. The pontiff readily acquiesced in her proposal for calling a council, and commissioned two legates to attend it. The council, however, which held its first meeting in 786, was dispersed by an insurrection of the citizens. At the next meeting in the city of Nice, in 787, which was protected by a military force, a decree was passed for restoring the worship of images. Adrian approved the decree, but in the western church it was deemed heretical and dangerous. Charlemagne condemned the innovation, and the French and English clergy concurred in opposing it. A treatise, containing 120 heads of refutation, was circulated, as the work of Charlemagne, under the title of "The Caroline Books," in opposition to the decree of the council. This work was presented to the pope by the king's ambassador,

and the pope wrote a letter to Charlemagne by way of reply. The king, and also the Gallican and English churches, retained their sentiments; and, in 794, a council was held at Frankfort on the Maine, consisting of about 300 western bishops, by which every kind of image-worship was condemned. Adrian did not live to see a termination of this contest; for after a pontificate of nearly twenty-four years, he died in 795. This pope does not appear to have possessed any considerable erudition, and few examples occur, during his pontificate, of ecclesiastical reformation. He seems to have directed his chief attention to the embellishment of the churches, and the improvement of the city of Rome; and he was probably furnished by Charlemagne, out of the plunder of his conquests, with ample means for this purpose. The king was much attached to him, and is said to have shed tears on occasion of his death. He wrote his epitaph, which is still seen in St. Peter's at Rome, in thirty-eight Latin verses. Dupin. vol. v. p. 113. Bower. Gen. Biog.

ADRIAN II. Pope, succeeded Nicholas I. A. D. 867. Having twice refused the dignity, he accepted it in the 76th year of his age, at the united request of the clergy, nobility, and people. The contest for power between the Greek and Latin churches had been very violent some years before his accession to the papal chair. Photius, who, in 858, had been appointed patriarch of Constantinople by the emperor Michael, had been excommunicated by pope Nicholas I. in a council assembled at Rome in 862: and the pope himself had been, in 866, excommunicated by Photius. The pope, in order to avenge the injuries which Ignatius, who had been deprived of the patriarchate and exiled, demanded the restitution of several Greek provinces, which the patriarch of Constantinople had separated from the jurisdiction of the Roman pontiff. Basil, the new emperor, recalled Ignatius to the dignity of patriarch, and confined Photius in a monastery. The restoration of Ignatius was approved by a council held at Constantinople, in 869; and by the decrees of this council, the disputes between the Greek and Latin churches were suspended. But circumstances occurred which served to revive them. The Bulgarians had applied to this council for information, whether they should be subject to the church of Rome, or that of Constantinople. The contest which this question produced, terminated in favour of the patriarchate; and Ignatius expelled the Latin missionaries from Bulgaria, and appointed Greeks in their room.

Adrian, during this contest for power with the eastern patriarch, was extending his authority over the kings and princes of the west. He employed his whole interest to induce Charles the Bald, who had taken possession of the kingdom of Lorraine, and who had been crowned at Rheims by the archbishop Hincmar, to relinquish it in favour of the emperor; and he even sent legates to the king, after having attempted to engage Hincmar, the clergy, and the nobility to desert him, ordering him to surrender to the emperor's right. The king was invincible; and the pope was obliged to give up the contest. He also farther interfered in the concerns of princes, by taking Charles's rebellious son Carloman, and the younger Hincmar, bishop of Laon, under the protection of the Roman see. He proceeded in this business so far, that he was under a necessity of submitting without gaining his point. Bulgaria again claimed his attention, and he wished to restore the jurisdiction of it to the see of Rome. But death terminated his ambitious projects and his life of inquietude, A. D. 872. after a pontificate of five years. Dupin's Ninth Century, vol. vii. p. 179. Mosheim's Eccl. Hist. vol. ii. p. 351, &c. 8vo.

ADRIAN

ADRIAN III. Pope, succeeded Marinus, A. D. 884. This pope, desirous of emancipating Italy and the papal see from their dependence upon the emperor of Germany, passed a decree, that, if Charles should die without male issue, the title of emperor should be bestowed only on natives of Italy, and that the authority of the emperor should be disregarded in the creation of a pope. Basil attempted to persuade Adrian to annul the excommunication of his predecessor against Photius, but did not succeed. The pope died in his way to the diet at Worms, in 885. Bower.

ADRIAN IV. Pope, the only Englishman who ever had the honour to sit in St. Peter's chair. His name was *Nicolaus Breakspere* or *Breakpear*; and he was born towards the close of the eleventh century, at Langley, near St. Alban's, in Hertfordshire. His father, being poor, and having assumed the habit of the monastery of St. Alban's, was unable to provide for him. Being refused the habit for which he applied, he went to Paris, where he was distinguished both by his application and proficiency. From Paris he removed to the monastery of St. Rufus, in Provence; here he became a regular clerk; and upon the death of the abbot in 1137, he was chosen superior of that house, which he rebuilt. Of this dignity he was deprived in consequence of the complaints and accusations of the monks, who were dissatisfied with the government of a foreigner; but pope Eugenius III. having heard their charges, and his defence, declared him innocent, and advanced him, in 1146, to the higher station of cardinal bishop of Alba. In 1148 he was sent as apostolical legate, to Denmark and Norway, where, by his diligent instruction, he converted those barbarous nations to the Christian faith; and it is said that he erected the church at Upsal into an archiepiscopal see. Upon his return to Rome, he was much honoured by the pope and cardinals; and on the death of pope Anastasius, who had succeeded Eugenius, he was unanimously chosen to the papal chair in November 1154, and assumed the name of Adrian. As soon as the news of his promotion reached England, Henry II. sent a deputation of an abbot and three bishops to congratulate him on his election; and upon this occasion he granted considerable privileges to the monastery of St. Albans. But he refused the valuable presents which they offered him, saying jocosely, "I will not accept your gifts, because, when I wished to take the habit of your monastery, you refused me." To which the abbot pertinently and smartly replied; "It was not for us to oppose the will of Providence, which had destined you for greater things." In the next year he gave Henry leave to undertake the conquest of Ireland, and sent him a bull for that purpose, in which he testifies his approbation of the object of the expedition, and the enlargement of the boundaries of the Christian church, and commands the people of that country to acknowledge him as their sovereign lord. He reminds the king, at the same time, of the rights of the Christian church; claiming all the islands which embraced Christianity, as St. Peter's right, and belonging to the holy Roman church; and exhorting to the regular payment of the Peter pence which he had promised. He admonishes him also to use his endeavours for reforming the manners of the people, and to commit the government of the churches to able and virtuous persons, so that he might thus deserve an everlasting reward in heaven, and transmit a glorious name to posterity. Adrian's indulgence to this prince was so great, that he consented to absolve him from the oath he had taken, not to set aside any part of his father's will.

In the beginning of his pontificate he constrained the magistrates of Rome to abdicate the authority they had as-

sumed in their efforts to recover the ancient liberty of the people under the consuls, and to leave the government of the city to the pope. In 1155 he drove the heretic Arnold of Brescia, and his followers, from Rome. He also excommunicated William king of Sicily, who ravaged the territories of the church, and absolved his subjects from their allegiance. In his interview with Frederick king of the Romans, with whom he concluded a peace when he invaded Italy, this prince condescended to hold his stirrup whilst he mounted his horse; in consequence of which Adrian conducted him to Rome, and placed the imperial crown on his head in St. Peter's church, to the great mortification of the Roman people, who assembled tumultuously and killed several of the imperialists. The Sicilian king, having taken an oath not to prejudice the church, was honoured by Adrian, in 1156, with the title of the *King of the Two Sicilies*. The pope built and fortified several castles, and left the papal dominions in a more powerful and flourishing condition than he found them. However, he complained of the inquietudes attendant on his high station; and in a letter to his old friend John of Salisbury, he says, that St. Peter's chair was the most uneasy seat in the world, and that his crown seemed to be clapped burning on his head. He died, September 1, 1159, in the fourth year and tenth month of his pontificate, and was buried in St. Peter's church, near the tomb of his predecessor Eugenius. Dr. Cave informs us, that he allowed his mother to be maintained by the abbey of the church of Canterbury. There are extant several letters written by pope Adrian, and some homilies. Biog. Brit.

ADRIAN V. Pope, a Genoese, whose name was *Ottoboni Fiesci*, succeeded Innocent V. A. D. 1276. He was created by his uncle Innocent IV. cardinal deacon of St. Adrian, and in 1254 sent by him to England, to settle the disputes between Henry III. and his barons; and he was employed again for the same purpose, by Clement III. when he issued a sentence of excommunication against the king's enemies. To those who congratulated him on his accession to the papal chair, he replied, "I wish you had found me a healthy cardinal, rather than a dying pope." Immediately after his election he went to Viterbo to meet the emperor Rodolphus, for the purpose of opposing the usurpation of Charles, king of the Two Sicilies; but died soon after his arrival, having enjoyed his dignity only thirty-eight days. He zealously encouraged the crusade to the Holy Land, and upon his election sent a large sum to Constantinople, towards building galleys; and he also furnished further supplies. Bower.

ADRIAN VI. Pope, was a native of Utrecht, the son of a tapestry weaver, or, as some say, of a brewer's servant. He succeeded Leo X. A. D. 1522. He was educated gratuitously at Louvain, and distinguished himself by his application and proficiency. Through the interest of Margaret, widow of the duke of Burgundy, and sister of Edward IV. of England, he obtained the professorship of divinity in Louvain, the deanery of the cathedral, and the vice-chancellorship of the university. Having been appointed tutor to Charles, the grandson of Maximilian, and the young prince preferring arms to letters, Adrian was employed by the emperor on an embassy to Ferdinand king of Spain, in consequence of which he obtained the bishopric of Tortosa. When Charles was left sole heir to the dominions of Ferdinand, he appointed Adrian regent during his minority: but as Cardinal Ximenes had been named for this office by Ferdinand, they both united in the government of the country. Ximenes, however, was the real, and Adrian merely nominal regent. In 1517 the emperor Maximilian

Maximilian recommended Adrian to Leo X. and he was preferred by that pontiff to the dignity of cardinal. In a contest with the Caecilians, when he sustained the office of regent during the emperor's absence in 1520, he attempted to enforce subordination, by military power, but failed in the attempt; and he was under a necessity of withdrawing his forces, and to content himself with the mere shadow of authority. He was in a little time, and in a manner very unexpected, removed from this unpleasant situation, and advanced to the highest dignity of the church. Upon the death of Leo X. in 1521, the conclave was divided about the choice of a successor. The younger members were attached to Julio, Cardinal de Medici, the nephew of Leo; but the old cardinals were averse from choosing a pontiff out of the powerful family of the Medici, and yet they were not agreed in their views with respect to any other person. By a manoeuvre, which was merely designed to gain time, the party of Julio voted for Cardinal Adrian in the preparatory scrutiny. The other party closed with them; and thus a stranger to Italy, and a man unqualified for the office, was elected, no less to their own surprise than to the astonishment of Europe. The election was probably the effect of intrigue, and of the secret interference of the imperial ambassador, John Manuel, who wished to obtain a pope devoted to his master's interest. See Robertson's Hist. Charles V. vol. ii. p. 210, &c. 8vo.

Adrian's disposition and views, as well as his principles and manners, were ill adapted to the office, that had been thus devolved upon him. At the time of his election Rome was afflicted with a pestilence, its finances were exhausted, and literature and the arts required liberal and judicious patronage. In these disadvantageous circumstances did Adrian ascend the papal chair. However he entered on his office with the best intentions. He began by avoiding every kind of expensive parade, and by exhibiting an example of moderation and temperance, which tended to correct and reform the dissolute manners of the court and city. He discouraged the ambitious and selfish expectations of his own relations, he annulled many ordinances which the cardinals had enacted for their own benefit, and he abolished many offices which Leo had created for the gratification of his favourites. With this pope it was a ruling maxim, that men were made for places, and not places for men. He restored the duchy of Urbino to its lawful proprietor, and surrendered to the Duke of Ferrara several places of which he had been unjustly deprived. He also issued a bull, requiring Christian princes to consent to a truce for three years, so that the Imperial, French, and English ambassadors at Rome might deliberate on terms of pacification. Whilst he demanded a zealous execution of the imperial edict against Luther and his followers; he declared a disposition to exercise his spiritual authority for the reformation of the church. Notwithstanding the just claims on respect which resulted from the pontiff's general conduct, his best actions were misinterpreted; his œconomy was called parsimony, his plans of reform were imputed to unnecessary austerity, and his disinterested conduct to weakness and inexperience. His unpopularity was partly owing to his being a stranger in Italy, and to the attention which he paid to some of his former friends, whilst he declined reposing confidence in his brethren of the conclave. He was also too much under the influence of Charles, and suffered his attachment to his former master to mislead his judgment. This led him to relinquish his plan of a general pacification, and to form an alliance with the emperor and the king of England against France. On the day when this confederacy was signed, Adrian was seized with a flow

fever, which terminated his life and the elevation of his elevated station in December 1522, after he had possessed the papal dignity one year and ten months. He was buried in the church of St. Peter, and on his tomb was inscribed the following epitaph, which informs posterity of the untimely and misfortune which he had experienced in life, was, that he had been called to govern.

"Adrianus Papa VI. hic situs est.

Qui nihil sibi infelicius

In vita,

Quam quod imperaret,

dauit."

Notwithstanding many excellencies that distinguished the character of Adrian, he was destitute of that firmness and energy of mind, which the duties of his high and arduous station required. Few men that have been so free from faults, incurred such unpopularity, and became obnoxious to so many calumnies. The door of his physician, in the night after his decease, was adorned with garlands, and marked with this inscription; "To the deliverer of his country." However such kind of reproach, on the part of the dissolute and licentious, redounds to his honour. The piety of Adrian, it has been observed, was more distinguished than his taste for the fine arts. From the statue of Laocœon, he turned away his head in token of his dislike of pagan images, and he expressed his contempt of poets, by calling them *Terentians*. With theology and scholastic philosophy he was well acquainted. Whilst he was professor of divinity at Louvain he wrote "a Commentary upon the Book of Sentences, by Peter Lombard," "Epistles," and "Quæstiones Quodlibeticæ," printed at Louvain in 1515, and at Paris in 1516 and 1531. Dupin's Hist. of the 16th century. Bower's Popes. Robertson's Charles V. vol. ii. b. i. p. 2. Gen. Biog.

ADRIAN, (De Castello) bishop of Bath and Wells; in the reigns of Henry VII. and VIII. and cardinal priest of the Roman church, was descended of an obscure family, and born at Cornetto, a small town in Tuscany. Having distinguished himself by his parts and learning, he obtained several employments at the court of Rome. In 1488, he was sent by pope Innocent VIII. as his Nuncio extraordinary, to appease the troubles in Scotland, and to exercise the office of quæstor or treasurer to his holiness, in collecting his tribute or Peter pence. He was also agent for the English affairs at the court of Rome, and in recompence of his services, was promoted first to the see of Hereford in 1504, and afterwards to that of Bath and Wells. He farmed out his bishopric and resided at Rome, in a magnificent palace which he erected, and which he bequeathed to Henry VII. whose name was inscribed upon the front of it, and to his successors. He was secretary and vicar-general to pope Alexander VI. and created by him in 1503, a cardinal priest, under the title of St. Chrysogonus; soon after which event he narrowly escaped being poisoned at a feast, to which he was invited by the pope and his son Cæsar Borgia. In the pontificate of Julius II. he banished himself from Rome; nor did he return till a conclave was held for the election of a new pope. Soon after the elevation of Leo X. he concurred in a conspiracy against his life; and being unable to pay the fine of 12,500 ducats, which was the penalty inflicted upon him, he withdrew from Rome, and was excommunicated, and deprived of his benefices and ecclesiastical orders, July 6th, 1518. Four years before this period, he had been removed from his office of the pope's collector in England by Henry VIII. at the instigation of cardinal Wolsey, who employed him as his sister at Rome, and was betrayed by him in his attempts to obtain the appointment of cardinal.

cardinal. After his condemnation, it is said that he took refuge among the Turks in Asia. Polydore Virgil extols his talents and learning, and says that he was the first since the age of Cicero, who restored the purity of the Latin language, and taught men to draw their knowledge from the sources of the best and most learned authors. Biog. Brit.

ADRIAN, a learned Carthufian, who wrote a treatise intitled *De Remediis utriusque fortunæ*, the first edition of which was published at Cologne in 1471, 4to. The book is scarce and much esteemed.

ADRIANA, in *Ancient Geography*, an episcopal city of the Hellespont, under the metropolis of Cyzicus.

ADRIANEUM, *Mdes Hadriani*, the magnificent Mausoleum erected by Adrian in the lesser field of Mars at Rome, over against that of Augustus, and connected with it by a bridge. It is of a square form, and in the midst of it there is a lofty round tower. It served as a citadel when Rome was besieged by Vindex, king of the Goths, and the Romans defended themselves by casting fragments of the statues upon their enemies. Here Adrian was buried and all the Antonines.

ADRIANI, JOANNI BALLISTA, in *Biography*, was born of a Patrician family, at Florence, in 1511. He wrote a history of his own times in Italian, beginning in 1536, and terminating in 1574, and designed as a continuation of Guicciardini, to which Thuanus (Hist. l. 68.) acknowledges himself much indebted. He also composed six funeral orations, and is thought to have been the author of a long letter on ancient painters and sculptors, prefixed to the third volume of Vafari. He died at Florence, in 1579. Biog. Dict.

ADRIANI, in *Ancient Geography*, surnamed *Ad olympium*, a city of Asia Minor, in Bithynia.

ADRIANIDÆ, in *Ancient History*, a new tribe established by the Athenians in honour of Adrian, after the example of that which was formed in honour of Attalus, king of Pergamos, and comprehending the villages of Eleonæa, Oa, and Phlugaia.

ADRIANISTS, in *Ecclesiastical History*, a branch of Anabaptists, the disciples of Adrian Hamstedius, in the 16th century, who taught first in Zealand, and afterwards in England. The Adrianists, besides the common dogma of anabaptism, are said to have had some peculiar notions relating to the person of Christ.

Theodoret mentions a more ancient sect of this name, who were followers of Simon Magus.

ADRIANO-A-SIERRA, in *Geography*, a mountain of Guipuscoa, in Biscay, one of the highest of the Pyrennees. It is crossed in the way from Biscay to Old Castile.

ADRIANOPLE, or ANDRINOPLE, in *Geography*, a city of Turkey in Europe, in the province of Romania, called anciently *Orestia*, and now *Edrene* by the Turks, but deriving its name from the emperor Adrian, who founded or restored it. It is situated on the Hebrus or Maris, at the confluence of the Tunfa and the Harda, and rises gently on the side of a small hill. It is about five miles in circumference, says Chishull in his travels, p. 63. The form of it is circular, and it is surrounded with decayed walls and towers. The houses are generally built of mud and clay, and some of them of brick; and the streets are dirty and narrow. The bazar or market place, called *Ali Bassa*, is an arched building about half a mile long, with six gates, and a great number of shops that are occupied by Turks, Armenians and Jews. There is also another bazar of meaner structure, about a mile long, containing many shops, and well stored with various commodities. And in another part of the town, there is a third market place, called *bizeflein*,

covered like the former, and provided with a number of shops, in which are sold the manufactures of gold and silver, jewels, pistols, &c. There are four mosques, the principal of which is that of Sultan Selim, built by him of materials brought from the ruins of Famagusta, in the island of Cyprus. It is constructed like a theatre with one stately room, terminating upwards in a cupola, and it is beautifully situated on the side of a hill, in the midst of the city. The emperor's seraglio stands in a plain near the river Tunfa or Tungia. The grand vizier's palace is only a common house, after the Turkish manner of building, which is two miles in compass, and has seven gates besides those of the gardens, which are several miles in circumference. The objects most worthy of attention are, the mosques, the roof of which are covered with copper, having also lofty steeples and colonnades, with pedestals and chapters of cast brass, beautiful marble gates of exquisite sculpture, delightful fountains, stately porticos with gilded balls on the top, and curious tapestry; all which exhibit a very grand appearance. The city, which is said to contain about 100,000 inhabitants, is under the government of a Mullah Cadi, who has an absolute authority in all civil and criminal matters. The commerce of this place, favoured by the river that waters it, has drawn hither people from all nations. It is now the residence of a Greek bishop, and the grand signior sometimes visits this city, either for pleasure or safety, when the plague or war makes it necessary for him to leave Constantinople. In 1350 Sultan Amurath first took it from the Christians, from which time it became the seat of the Turkish emperor, till Constantinople was reduced in 1458. In 1754, it suffered greatly by fire. The adjacent country is very fertile, and supplies the town with all kinds of necessities; and the wine in particular, is reckoned the best in Turkey. Chishull takes it to be that mentioned by Hesiod, in his Oper. and Dies. l. 2. v. 107. where he says,

Περὶ αἰν τὴ σκία, καὶ Βιζαντινὸς οἶκος.

This is a see of a Greek archbishop under the patriarch of Constantinople. N. lat. 41° 41'. E. long. 26° 27'.

ADRIANOPOLIS, in *Ancient Geography*, i. e. the city of Adrian, a name given to various cities in different countries, that were either built or repaired by the emperor Adrian. The number of these cities is not less than nine. The city of Thrace still retains its name.

ADRIANOPOLIS, was a city of Epirus, south of Apollonia. This assumed the appellation Justinianopolis, after the emperor Justinian.

ADRIANOPOLIS of Bithynia, in Asia Minor, called *Boli*, was situated upon the Bilsæus, west of Cratia.

ADRIANOTHERA, *Αδριανου θηρας*, *Adrian's chace, or hunt*, a city of Mysia, which retained its name in the fifth century, and which was founded by Adrian in a district of Mysia, whither he resorted for the pleasures of the chace. His fondness for these sports was so great, that he erected monuments for his dogs and horses; and he composed an epitaph for his horse Borsithenes, which he had often used in hunting. Dion. Cass. tom. ii. p. 1159. Ed. Reim. This is probably the same city with *Adriani*, which was the birth-place of Aristides the Sophist. There was another *Ariadne* or *Adrianopolis*, in Lybia Cyrenaica.

ADRIANSEN, ALEXANDER, in *Biography*, a painter who excelled in painting fruit, flowers, fish, and still-life, was born at Antwerp, about the year 1625. All his objects are well coloured, with an agreeable effect, from the judicious management of the chiaro scuro, and with a remarkable transparency. Pilkington's Dict.

ADRIANUM or ADRIATICUM Mare, now the gulf of
af

of Venice, in *Ancient Geography*, is a large bay in the Mediterranean, between Dalmatia, Slavonia, Greece, and Italy, and extending from south-east to north-west, between 40° and $45^{\circ} 55'$ N. lat. about 200 leagues long, and 50 broad. Its entrance between Cinina and Otrante, is about 14 leagues wide. It is called by the Greeks $\delta\ \text{Αδριας}\ \kappa\alpha\iota\ \text{Πόντος}$, *Adria finus*; by the Latins variously, as *Adria*, by Horace, (lib. i. od. 3.) "Arbiter Adriæ notus;" by Silius, (lib. i. v. 54. p. 6. Ed. Drakenb.) "Hadriacum pontum;" by Cicero, (in Pison. c. xxxviii. and lib. 10. Attic. Ep. 7.) "Hadrianum mare;" by Virgil, (*Æn.* xi. v. 485.) "Hadriacas undas." The Adriatic sea, says Helychius, is the same with the Ionian sea; and in order to solve a difficulty in the interpretation of Acts xxvii. 7. and to answer the question, how St. Paul's ship, which was near Malta, and, therefore, in the Lybian or Sicilian sea, could be in the Adriatic; it is alleged, that not only the Ionian, but even the Sicilian sea, was called the Adriatic. Strabo (lib. vii. tom. 2. p. 488.) informs us, that the Ionian gulf is a part of that which in his time was called the Adriatic sea. Whitby Com. vol. ii. p. 751. The principal rivers that ran into the Adriatic were the PANYASUS, APSUS, the LAOUS, or ÆAS, and the CELYDNIUS. The State of Venice claims exclusive dominion over the Adriatic sea, in consequence of a circumstance mentioned under DOGE; and the ceremony of wedding it is annually practised in evidence of this claim, on Ascension-day. Mr. Kirwan, in his estimate of the temperature of different latitudes, p. 53. observes, that the Adriatic, though warmer in the summer than the Mediterranean, is so cold in winter, as to have been frequently frozen over in the neighbourhood of Venice.

ADRICHOMIUS, CHRISTIAN, in *Biography*, was born at Delft, in Holland, in 1553; and having assiduously applied to study, he became director of the nuns of St. Barbara: but when the civil war broke out on account of religion, he withdrew first to Brabant, and then to Cologne, where he began his work, intitled, "Theatrum Terræ Sanctæ," which was printed with maps at Cologne, in 1593. This work, besides a description of the Holy Land and of Jerusalem, contains a chronicle of the Old and New Testament, under the name of Christianus Crucius; and under this title, he published at Antwerp the Life of Christ, and an oration, "De Christiana Beatitudine." Adrichomius died at Cologne, in 1585, and was buried in the convent of the canonesse of Nazareth, where he had been for some years director. Biog. Dict.

ADRIEN, in *Geography*, a small town of the Low Country, in Flanders, on the river Dendre, two leagues from Aloft, and four from Gand.

ADRIFT, in *Sea-language*, denotes the state of a vessel broken from her moorings, and driven by the wind or waves.

ADRIN, in *Geography*, a small town of Upper Hungary, upon the river Sebekeres, at the foot of the mountains of Vedra, and north-west of the great Waradin. E. long. $37^{\circ} 39'$. N. lat. $47^{\circ} 9'$.

ADRI, in *Ancient Geography*, the name of a river in India, according to Ptolemy.

ADRIUS Mons, a chain of mountains which, according to Strabo, extended along Dalmatia, and divided it into the Mediterranean and Maritime.

ADROBICUM, a small place in Spain, on the bay called Magnus Portus.

ADROGATION, in *Antiquity*, a species of ADOPTION, whereby a person, who was capable of choosing for himself, was admitted by another into the relation of a son. The word is compounded of *ad*, to, and *rogare*, to ask; on ac-

court of a question put in the ceremony of it, whether the adopter would take such a person for his son; and another to the adoptive, whether he consented to become such a person's son.

ADRON, in *Ancient Geography*, a city of Arabia Petrea.

ADROTTA, a maritime town of Lycia, in Asia Minor.

ADRU, or ADRU, in *Ancient Geography*, a town of Arabia Petrea, which Ptolemy places in long. 67° , and lat. $29^{\circ} 55'$.

ADRUMETUM, or HADRUMETUM, the capital of Byzacium, in Africa, was a very ancient and famous city. It had a variety of names, being called by Strabo and Stephanus, *Adrume*; by Plutarch and Ptolemy, *Adrumetus* or *Adrumettus*; by Appian, *Adrymettus*; by Cæsar, *Hirtius*; by Pliny, *Adrumetum*; by Mela, *Hadruntum*; and in Peutinger's table, *Hadrito*. It was the *Justiniana* of the middle empire, and the *Heraclea* of the lower. This city was large and populous, and built upon an hemispherical promontory, at the distance of two leagues to the south-east of the morafs, which was the boundary, as Dr. Shaw supposes, betwixt the Zeugitana and Byzacium. It had at a small distance a cothen, *i. e.* a port, or little island, resembling that of Carthage. From its present situation and ruins, it seems to have been somewhat more than a mile in circuit, and a place of importance rather than of extent. That it was founded by the Phœnicians is asserted by Sallust (in Bell. Jugurth. oper. tom. i. p. 88. Ed. Haverc.) and others; and Bochart (Geog. sac. lib. i. c. 24. Oper. tom. i. col. 478. Ed. Villem.) deduced its name from two Syriac, or Phœnician words, importing the land or country yielding an hundred-fold, *i. e.* of corn or grain. Diodorus Siculus (Bibl. Hist. tom. iii. p. 418. Ed. Weffeling.) represents it as a fortified city, when it was besieged by Agathocles, in the third year of the 117th olympiad. At present it is a barren and uncultivated tract, of a sandy soil, and incommoded with morasses. Dr. Shaw has taken pains to prove, that its situation is that of the present *Herakla*. Travels, p. 106, 4to.

ADSCENDENS *Caulis*, in *Botany*, denotes a stalk or branch inclining upwards. The term is synonymous with *incurvus*.

ADSCRIPTS, a term used by some *Mathematicians* for the natural tangents, called also by Vieta *profines*.

ADSENTIRI, in *Antiquity*, a term used to express the assent of the Roman soldiers to any propositions that were made to them by their commanders, which they did by lifting up their hands with acclamation, and striking their bucklers upon their knees. Lucan, in his *Pharsalia*, (lib. i. 386.) refers to this practice.

ADSERERE, ADSERTIO, ADSERTOR *manu in libertatem*, are terms that relate to one of the modes by which a slave was emancipated: he was taken by the hand, and this formula was pronounced: "Hunc liberali causa manu adfero."

ADSIDEIA, a table at which the flamins sat, when they offered sacrifice.

ADSIGNIFICATION, among *Schoolmen*, the act of noting or signifying a thing, with the addition of the time when it happened.

ADSON's Town, in *Geography*, lies near the north-east line of New Jersey, and south-east of the Drowned Lands; twenty-seven miles north-west of Morristown, and twenty-four north-west of Patterson.

ADSTRICTION, among *Physicians*, is used to denote the too great rigidity and closeness of the enunctories of

the body, particularly the pores of the skin; and also to signify the styptic quality of medicines. See *ASTRINGENTS*.

AD TERMINUM *ad mortem*, is a writ of entry, which lies for a man's inherited lands or tenement, for term of life, or years, or for the time expressed, held from the lord by the tenant, or other stranger, who enjoys the land, and is not his heir. The same writ also lies for the lessor's heir.

ADUACA *Tungorum*, in *Ancient Geography*, *Tungri*, a people of the north of the Rhine. It was called by *Cæsar*, *Aduacæ*, and by *Proculus*, *Adumacæ*. It became an episcopal see, but lost its denomination by Attila, in 451, the city was transferred to *Trigodon Alibi*, i. e. *Moguntia*, and is now called *Mayence*.

ADVANCE, in *Commerce*, denotes money paid before a debt is due, or a service is performed. To *advance* a man's debt, or to *advance* a man, is to pay the value of his debt, or to advance him credit. It is usual to allow a discount for the time before *advancement*.

ADVANCE BAY, in *Geography*, lies on the east side of Hudson's Bay, in that part called "the new discovered land," which is also a passage to the South-west from Hudson's lands, at the south-east end of Hudson's straits.

ADVANCE-FILL, or *DITCH*, in *Fortification*, denotes a ditch of water round the esplanade, or glacis of a place, to prevent its being surprised by the besiegers. The name is also given to that part of the lines or retrenchment nearest the enemy, to prevent him from attacking them. The advance-fosse should be always full of water, or else it will serve to cover the enemy from the fire of the place, if he should become master of the fosse. Beyond this fosse, it is usual to construct lunettes, redouts, &c. See *FOSSE*.

ADVANCE-GUARD, or *VAN-GUARD*, in the *Military art*, is the first line, or division of an army, ranged or marching in battle array, or that part of it which is next the enemy, or which marches first towards them. The whole body of an army is divided into *advance-guard*, *rear-guard*, and *main-body*.

The word is also sometimes applied to a small party of horse, viz. fifteen or twenty, commanded by a lieutenant, beyond, and in sight of the main-guard.

ADVANCER, among *Sportsmen*, is one of the starts, or branches on a buck's attire, between the back-antler and the palm.

ADUAR, a kind of ambulatory village, which Arab families inhabit, in a sort of tents, moveable on occasion as forage and provisions suit. Some also write the word *adour* or *adourad*. There are reckoned 30,000 aduars in the kingdom of Algiers.

ADVATICI, in *Ancient History*, were the remains of those Cimbri and Teutones whom Marius had defeated in Italy. They had been left to the number of about 600, on the banks of the Rhine, to guard the baggage and booty of their countrymen; and had settled there after the defeat of the Cimbri. In less than fifty years they were in a condition to furnish 9000 fighting men for their contingent to the league of the Belgæ, when they were attacked by *Cæsar*, in the year before Christ 57. When *Cæsar* advanced against the Advatici, they pretended to give up their arms, and submit; but treacherously concealed a third part of them, and made an attack on the Romans in the night. This so provoked the general, that he broke down the gates of their city, supposed to have been *Namur*, put a great number to the sword, and sold the rest, to the number of about 53,000 for slaves. *Cæsar de Bell. Gall. lib. ii. c. 29*—32. *Ibid. l. p. 92. Deu. Grav.*

ADVENT, *Adventus*, in the *Calendar*, the time immediately preceding Christmas; anciently employed in pious preparation for the *adventus*, or coming on, of the feast of the Nativity.

Advent includes four Sundays, or weeks; commencing either from the Sunday which falls on St. Andrew's day, or that next before or after it, i. e. from the Sunday which falls between the 27th of November, and the third of December inclusive.—But it is to be noted, this rule has not always obtained.—In the Ambrosian office, there are six weeks marked for Advent; and St. Gregory in his Sacramentary allows five.

The first week of Advent, in our way of reckoning, is that wherein it begins; but it was anciently otherwise; the week next Christmas being reputed the first; and the numeration carried backwards.

Great austerity was practised in the ancient church during this season.—At first they fasted three days a week; but they were afterwards obliged to fast every day, whence the season is frequently called in ancient writers, *Lent*, and *Quadragesima S. Martini*.

The courts of justice were at one time all shut.

ADVENT is also one of the times, from the beginning whereof, to the end of the octaves of the Epiphany, the solemnizing of MARRIAGE is forbid, without express licence.

ADVENTITIA *cena*, in *Antiquis*, an entertainment made by the friends of a person who had been travelling, by way of welcome at his return. This was otherwise called *cena adventoria*. *Pitiscus*.

ADVENTITIOUS, something accruing or befalling a person, or thing, from without.

Thus, *adventitious* matter is such matter as doth not properly belong to any body, but is casually joined to it.

ADVENTITIOUS, in the *Civil Law*, is applied to such goods as fall to a man, either by mere fortune, or by the liberality of a stranger, or by collateral, not direct, succession.

In this sense the word stands opposed to *profectitious*; by which are signified such goods as descend in a direct line, from father to son.

ADVENTITIOUS *sessile*, are foreign or extraneous ones, freely incorporated with others, to which they do not properly belong. Such are sea-shells, &c.

AD VENTREM *inspicendum*, in *Law*. See *VENTRE inspicendo*.

ADVENTURE, an extraordinary and surprising enterprise or accident, either real or fictitious.

The word is French, and literally denotes an event, or accident.

Novels, romances, &c. are chiefly taken up in relating the adventures of cavaliers, lovers, &c.

ADVENTURE, *Bill of*, in *Commerce*, is a writing signed by a merchant, attesting that the property of goods shipped, or sent away in his name, belongs to another, the adventure or chance whereof the said person is to stand with a covenant to account to him for the produce of it.

ADVENTURE Bay, in *Geography*, a name given by captain Cook to a bay in which he anchored, in the southern part of New Holland, called Van Diemen's land, and on the shores of which they were supplied with wood and water in great abundance. The bottom of this bay was found to lie in S. lat. 43° 23'. and E. long. 147° 30'. It is an excellent harbour, having through the bay from 18 to 5 fathoms water, which gradually decreases towards the shore. The road also is safe, and sheltered from the north-east by Maria's islands. The variation of the compass, in 1778, was 5° 15' E.

ADVENTURE Island, an island in the Pacific Ocean, discovered by captain Cook in the run from New Zealand to Otaheite, and so called from the ship *Adventure*, in which captain Pitmeaux sailed in this voyage. He supposed it to be one of the cluster of islands described by M. Bougainville, under the appellation of the *Dangerous Archipelago*. S. lat. $17^{\circ} 5' 15''$. W. long. $147^{\circ} 17' 45''$.

ADVENTURER, in a general sense, a person who engages in any undertaking with some risk or hazard.

ADVENTURERS more particularly denote an ancient company of merchants and traders, established for the discovery of lands, territories, trades, &c. unknown. See *Rossia COMPANY*.

The society of merchant-adventurers, so called, because they adventured their merchandize into foreign parts, which was instituted for the improvement of the woollen manufacture, and the vending of the cloth abroad, particularly at Antwerp, is said to have sprung out of the guild of mercers of the city of London; and their origin in this country is traced to the close of the reign of king Edward I. when they attempted the commencement of a woollen manufacture in England. In the year 1296, they obtained privileges of John duke of Brabant, and stapled themselves at Antwerp, joining in society with themselves all other English merchants resorting thither. But this society had not the name of *Merchant-Adventurers* as a company, till the reign of king Henry VII. Some writers trace the rise of this society to an association of merchants, which was formed in 1358, under the appellation of the *Brotherhood of St. Thomas à Becket*; though a society of this name is known to have existed in the year 1248, and to have given rise to the merchants of the *STAPLE* of England. The privileges of the society of merchant-adventurers were successively confirmed by Edward III. and IV. Richard III. Henry IV. V. VI. who, in 1430, gave them a charter; and Henry VII. who, in 1505, gave them the appellation of *Merchant-Adventurers*; by Henry VIII. Edward VI. and queen Elizabeth, who, in 1564, formed the company into an English corporation; and, in 1586, confirmed all former charters; by James I. in 1604 and 1617, who gave it new charters; by Charles I. in 1639, and their successors.

In the reign of Henry VII. there was a contest between two companies of *Merchant-Adventurers*, viz. those who called themselves the company of *Merchant-Adventurers of London*, and the merchants who resided in other cities and towns, and who were distinguished by the title of the *Merchant-Adventurers of England*. The London company had been long accustomed to impose a kind of tax on the English merchants residing in other places, for liberty to buy and sell in the great fairs of Flanders, Brabant, and other countries on the continent. This tax was at first only an old noble, (6s. 8d.) and was demanded by the London merchants, who called themselves the fraternity of St. Thomas Becket on a religious pretence, to enable them to do honour to their favourite saint, and thus gain his protection. But this imposition had gradually increased, and it amounted at the period to which we refer to 40l. to the great discouragement of trade. The Merchant-Adventurers, resident in the out-ports, applied to parliament for a redress of this grievance, and an act was made A. D. 1497, reducing that fine to ten marks, or 6l. 13s. 4d. sterling. Stat. 12 Hen. VII. c. 6. The company of Merchant-Adventurers of England were much injured in their commerce by the German merchants of Steelyard, who formed a rich and powerful society, composed almost wholly of foreigners. Their complaints, however, during the whole reign of Henry VIII. were unavailing; but in the succeeding reign they obtained

redress, when the privileges enjoyed by the merchants of the *STEELYARD* were revoked, and their corporation abolished by the privy council.

Such was the influence of the English Merchant-Adventurers, that they prevented the emperor Charles V. from introducing the inquisition into Antwerp in the year 1550, when it was established in other parts of the Netherlands. See *HAMBURGH COMPANY*.

By our statutes, adventurer making settlements in any part of America, belonging to the crown, may obtain a charter from the king. 13 Geo. II. c. 4. § 13.

ADVENTURER, *Alim.* See *MINT-Adventurer*.

ADVERB, *Adverbium*, in *Grammar*, a particle joined to a verb, adjective, or participle, to explain their manner of acting or suffering; or to mark some circumstance or quality signified by them.

The word is formed from the preposition *ad*, *to*, and *verbum*, *a verb*; and signifies literally a word joined to a verb, to show how, when, or where, one is, does, or suffers; as, the boy paints *neatly*, writes *ill*; the house stands *there*, &c.

Not that the *adverb* is confined purely to the verbs; but because that is its most ordinary use; whence it becomes to be denominated *αὐτὸ ἄχρον*. We frequently find it joined to adjectives, and sometimes even to substantives, particularly where those substantives signify an attribute, or quality of the thing spoken of; v. gr. he is *very* sick; he is *truly* king.

An adverb is likewise joined sometimes to another adverb, to modify its meaning; v. gr. *very devoutly*, &c. Whence some grammarians chuse rather to call adverbs modificatives: comprising under this one general term, adverbs, conjunctions, prepositions, and even adjectives.

Adverbs are very numerous; but they may be reduced under the general classes of adverbs of time, place, order, distance, motion, relation, quantity, both continuous and discrete, quality, manner, affirmation, negation, demonstration, interrogation, diminution, doubting, exception and comparison.

In English, says Dr. Lowth (Gram. p. 112.), they admit of no variation, except some few of them, which have the degrees of comparison, as *soon*, *sooner*, *soonest*; and those irregulars, derived from adjectives in this respect likewise irregular, as *very much*, *not very prudently*. He observes, however, that the formation of adverbs in general with the comparative and superlative terminations seems to be improper; at least that it is now become almost obsolete, as *expedienter*, *frontrier*, *harder*, *happier*, *righter*, though used by Hooker, Raleigh, Hobbes and Shaftesbury. In poetry, comparative adverbs are sometimes allowable.

Adverbs are denominated by Mr. Harris attributes of attributes, or attributives of the second order: and he defines an adverb, a part of speech, the natural appendage of verbs, extending the signification of the word *verb* properly so called, to participles and adjectives. After explaining the general nature of adverbs as attributes of attributes, and enumerating their principal forms, amongst which he reckons intension and remission, he shews that adverbs may be derived from almost every part of speech, from prepositions as *afterwards*, from participles, as *knowingly*, from adjectives, as *virtuously*, from substantives, as *apishly*, and from proper names, as *Socratically*. Adverbs, according to Gaza in his grammar, may be found in every one of the predicaments, and he thinks that the readiest way to reduce their infinitude, is to refer them by classes to those ten universal genera. The Stoics called the adverb by the name of *ἁπλοῦς*, with a view to its uniform nature. Harris, p. 122.

p. 192. 210. Mr. Horne Tooke, after noticing the confusion that has perplexed grammarians with regard to the classification of adverbs, and excluding them, as well as PARTICLES, from the rank of separate parts of speech, has with great ingenuity investigated the origin of many of the English adverbs in the ancient Saxon and other northern tongues, and convinced them to be either corruptions of other words, or abridgments of phrases. The termination "ly" is easily discovered in the corruption of "like"; thus *boldly* is *bold-like*. He also resolves *ad libitum* into the past participle *ad libitum*, of *ad libitum*; *agile* into the participle *agile*; *age* into *age* or *age*; *quicker* into *quicker* or *quicker*. *For* is derived from *for* to know; as *withstand* and *fight* in Latin are abbreviations of *viden-stand* and *fire-fight*. *Needs* is resolved by this very sagacious writer into *need* is; *even* into *even*: i. e. instant; *alone* and *only* into *all-one* and *one like*; *alive* into *on-live* or *in life*; *arabile* into the noun *arabile* and the article *a* i. e. *a sabbath* or *a time*; *robust* i. e. *robust*, into the Saxon *Hwile-es*, *time that*; *aloft* or *on loft* into *on-lyft*, *lyft* in the Anglo-Saxon signifying the air, so that *aloft* denotes *up in the air*. *Lo!* is the imperative of *look*, and *dear* is the adjective *loaf*, *dear*. With respect to the adverbs of affirmation and negation, he observes, that *aye* or *yea* is the imperative of a verb of northern extraction, viz. of the Danish *ger*, signifying *have*, *ger*, or *enjoy*; *yes* is a contraction of *yes* q. d. *have* or *possess* that; in Danish, *ger* is to possess, and *ja* denotes *aye* or *yea*. In Swedish the same verb is *ger* and the imperative *ja*, *aye* or *yea*. In German, *ja* signifies *aye* or *yea*. In Dutch, *ja* is to *possess*, and *ja* is *yea*. As to the negative *not*, and its abbreviation *no*, they are derived, by Greenwood, from the Latin, by Minshew from the Hebrew, and by Junius from the Greek. But Mr. Tooke discovers them in the Danish or Swedish *nodig*, and in the Dutch *noode*, *nood* and *no*, which signify *averse* or *unwilling*. The adverbs *once*, *twice*, *thrice*, says Mr. Tooke, are merely the genitives of *one*, *two*, *three*, the substantive *time* or *turn* being omitted; and were formerly written *ones*, *twices*.

An ingenious writer suggests that adverbs seem to be principally produced from three sources; first, from a species of interjection, denoting an impulse of the mind, as *now*, *then*, *not*, &c.; secondly, from a composition of two or three words into one, as *always*, *altogether*, &c.; and thirdly, from adjectives, by adding a syllable void of signification itself, but which seems to denote that the word has changed its state into that of an adverb, as *greatly*, &c. This argumentive syllable was originally a contraction of some word that denoted similitude or participation. Gregory's Essays, Historical and Moral. EPIEIA HTLOPONTA. or, Diversions of Purley, p. 494, &c.

In the Hebrew language, most adverbs, and particularly those of quality, are expressed by nouns, both substantives and adjectives, either simply or connected with a preposition: as טוב *bonè*, לשקר *salso*, באמת *verè*. Thus, also in the Chaldee language, בכפלא denotes *dupliciter*, and לרווחין *confidentèr*. In the Syriac, adverbs of quality are formed of adjectives, and terminate in אית, as עבראית *Hebraicè*; and frequently of nouns with a preposition adjoined, as למנכ *perfectè*, and sometimes adjectives are substituted for adverbs, as יתיר *magis*. In Hebrew the repetition of one adverb, or another of the same meaning, denotes the superlative, as מעלה מעלה *supra supra*, i. e. *valde supra*, Deut. xxviii. 43; and קל מהרה *cito velociter*. If. v. 26. This form of expression is used distributively, as בבקר בבקר *mane, mane*, Exod. xvi. 21. Adverbs of place repeated, signify diversity of place, כה נוכח *huc & illuc*, Exod. xii. 2. The adverbs אז *tunc* and טרם *ante-*

quam often change the future into the preterite, both perfect and imperfect: as Deut. iv. 41. Exod. xii. 34. Adverbs of time, that are definite, are used indefinitely: as היום *heri, yesterday*, for past time in general. 2 Sam. xv. 2. If. xxx. 33.—היום *hodie, this day*, for the present time: as Pf. xcv. 7. מחר *cras, to-morrow*, for future time, indeterminately: as Gen. xxx. 33. Hence Matt. vi. 34. The adverb תמיד *semper* is used for *quodlibet, quoties and saepe*. Exod. vii. 20. xxviii. 30. Hence תמיד, *always*, Luke xviii. 1. denotes *very often*. See John xviii. 20. The adverb עת, signifying *donec*, does not always exclude the time that follows the action which is spoken of. Pf. cx. 1. cxxiii. 2. If. xlv. 4. &c. Hence, are derived the Hebraisms that occur Matt. i. 25. xxviii. 20. Acts. iii. 21. Rom. v. 13. 1 Tim. iv. 13. Adverbs of negation prefixed to verbs are used in the same sense with the privative alpha of the Greeks: as לא ישמח *non letabitur*, i. e. *dolebit*. Prov. x. 1. Hence, John xiv. 18. Rom. iv. 19. Heb. xi. 16. Rev. xi. 12. Adverbs of this kind prefixed to nouns have the same meaning, as לא חכם *non sapiens*, i. e. *insipiens*; לא עז *non fortis*, i. e. *infirmus*. Prov. xxx. 25. Hence Matt. ii. 6. Rev. xi. 7. Absolute adverbs are used comparatively, as Joel. ii. 13. Prov. viii. 10. Hof. vi. 6. 1 Sam. viii. 7. Gen. xxxii. 28. Hence are derived the Hebraisms that occur in Matt. x. 20. Mark ix. 36. Luke xiv. 12. John vi. 27. Acts v. 4. 1 Cor. i. 17. Ephes. vi. 12. On the other hand, comparatives are used for negative adverbs. Hof. vi. 6.—Luke xviii. 14. 1 Pet. iii. 17. The adverbs of negation לא and אין joined to the nouns כל *omnis*, איש *vir*, אהר *mons* are universal negatives, so that *non omnis* is synonymous with *nullus*, &c. Pf. cxliii. 2. xlix. 18. Prov. xiii. 7. Eccl. i. 9. Num. xxxi. 49. Gen. xlv. 1. 2 Sam. xiii. 30. Dan. xi. 37. Hence Matt. xxv. 22. Luke i. 37. Rom. iii. 20. Rev. ix. 4. The adverb of interrogation הן *an*, answers the purpose of a negative in affirmative interrogations, and of an affirmative in those that are negative. 2 Sam. vii. 5. 1 Chron. xxi. 17. This interrogation הן is sometimes omitted: as Gen. xxvii. 24. Job. ii. 10. The adverb of similitude כן prefixed to a word is sometimes doubled, and the one is supplied by the conjunction ו. Prov. x. 25. xvii. 3. If. liii. 7, compared with Acts viii. 32. 1 Sam. xii. 15. Hence Matt. vi. 10. Mark iii. 26. John xx. 21. Acts vii. 51. This adverb is very frequently omitted, as Nah. iii. 12. Gen. xlix. 9. Pf. xii. 7. See also Exod. xix. 4. 1 Sam. xiii. 1. Pf. cxxv. 2. Jer. xvii. 11. Job xxiv. 19. Hence John v. 17. xiv. 1. James i. 11. It is also sometimes redundant, as Pf. xlix. 13. Job xxx. 19. Num. xi. 1. Hof. iv. 4. Hence Matt. xiv. 5. John i. 14. Rom. ix. 29. Adverbs are sometimes used for adjectives. The biblical critic may find much more on this subject in the learned Masclef's Heb. Gram. vol. 1. p. 352—365.

ADVERBIAL, something relating to adverbs. We say an adverbial phrase, adverbial expression, &c.

ADVERBIAL numbers are sometimes used to denote once, twice, thrice, &c.

ADVERSARIA, among the *Ancients*, was used for a book of accounts, like our journal or day-book.

Hence, adversaria is sometimes also used among us for a common place book.

Adversaria amounts to the same with *ophistographia*, *ὑπομνηματα*, or *memoriale*, and stands opposed to *codex*: the former being for occasional matters which were taken down hastily, from which they were afterwards transcribed into the latter, in a fair regular manner, for standing use. Morhof, Polyhist. lib. iii. cap. 1.

ADVERSARIA is also a title given to divers books, containing collections of miscellaneous observations, remarks, &c.

In which sense, *adversaria* amounts to much the same with *varie lectiones, varie observationes, commentarii, lectiones antiquæ, loci communes, geniales diæ, vespere, selecta, miscellanea, &c.*

ADVERSARIA is also used for a commentary on some text or writing.

This was so called, because the notes were written on the *adverse* or opposite page.

ADVERSARY, formed of the Latin preposition *adversus*, against, and *eris*, thou art. See *ANTAGONIST*.

ADVERSATIVE, in Grammar, a word or particle that expresses not only some difference, but some opposition, between what goes before and what follows.

Adversative disjunctives are distinguished from those that are denominated simple in this respect; as the latter merely disjoin or express a diversity, whereas the former disjoin with a concomitant opposition, e.g. The proposition, "*either it is day, or it is night,*" is a simple disjunctive: and an adversative is when we say, "*it is not day, BUT it is night.*" Besides, the adversatives are definite; and the simple, indefinite. Thus, when we say, "*the number of three is not an even number, BUT an odd,*" we not only disjoin two opposite attributes, but we definitely affirm one, and deny the other. But when we say, "*the number of the stars is either even or odd,*" though we assert one attribute to be, and the other not to be, yet the alternative is left indefinite. With respect to *adversative* disjunctives, it may be observed, that, though they imply opposition, there can be no opposition of the same attribute in the same subject; but the opposition must be either of the same attribute in different subjects, as "*Brutus was a patriot, BUT Cæsar was not;*" or of different attributes in the same subject, as, "*Gorgias was a sophist, BUT not a philosopher;*" or of different attributes in different subjects, as, "*Plato was a philosopher, BUT Hippias was a sophist.*" The conjunctions used for all these purposes may be called *absolute adversatives*: but besides these, there are several others, recited by Mr. Harris, such as *adversatives of comparison*, expressed by the words *than* and *as*, which mark not only opposition, but that equality or excess, which arises among subjects from their being compared. Such also are *adversatives adequate and inadequate*, of which the principal are *UNLESS* and *ALTHOUGH*, e.g. "*Troy will be taken, UNLESS the Palladium be preserved.*" "*Troy will be taken, ALTHOUGH Hector defend it.*" Every cause, (says Mr. Harris) is either adequate, or inadequate, when it endeavours without being effectual, and so in like manner is every preventive. Adequate preventives are expressed by such *adversatives* as *UNLESS*: the inadequate are expressed by *ALTHOUGH*. *Hermes*, p. 251—257.

On this subject, Mr. Horne Tooke, in his *Diversions of Purley*, has enabled us to form more clear, determinate and satisfactory ideas than those which were furnished by former grammarians. The opposition in adversative disjunctives, that has been usually referred to the conjunction *BUT*, is supposed to be marked by the words or sentences which are thus connected, and which have opposite meanings. Accordingly the ingenious writer abovementioned affixes two different acceptations to the word *but* in the beginning and in the middle of a sentence. In the former case it is a corruption of *bot*, the imperative of the Saxon verb *botan*, to *boot*, *superadd*, or *supply*; and in the latter it is a contraction of *be-utan*, the imperative of *benoutan*, to be out. This distinction is evinced by examples from ancient writers, one of which it will be sufficient to mention, taken from Gawin Douglas.

"But thy work shall endure in laude and glorie,
But spot or faulte condigne eterne memorie."

The meaning of this couplet is "superadd (to something said, or supposed to be said before) thy work shall endure in laude and glorie, be out, (i.e. without) spot or fault." Thus, in the definite adversative, "*the number three is not an even number but an odd*, the opposition is not marked, at least directly, by the word *but*, but by the adjectives *even* and *odd*, which denote attributes in their own nature opposite; and the preposition, according to the first sense of the word *but*, will be synonymous with this, viz. "*the number three is not an even number, superadd (it is) an odd number.*" In the indefinite adversative, "*the number of the stars is either even or odd*, the word *either* is a distributive pronoun, and *or* is a contraction of the Saxon *oder* q.d. *other*, i.e. something different, and often contrary. As to the adversatives denominated by Mr. Harris *ad equum* and *ad inequum*, and marked by the conjunctions *and* and *but*, he leads us to conceive that the whole difference between them consists in this, that the expression of the one is more forcible than that of the other. Whereas, the meaning of *UNLESS* is directly opposite to that of *ALTHOUGH*. They are both verbs in the imperative mood: the former signifying *take away* or *dismiss*; and the latter *allow*, *permit*, *consent*, *assent*. Accordingly the sentence, "*Troy will be taken UNLESS the palladium be preserved,*" is equivalent to "*Remove the palladium be preserved*, i.e. taking the *palladium* be preserved as an abstract noun, the preservation of the *palladium* *Troy will be taken*. Again, "*Troy will be taken ALTHOUGH Hector defend it,*" is the same as "*Troy will be taken ALLOW Hector (to) defend it.*" The idea, therefore, expressed by *UNLESS* is that of the removal of one thing to make way for another; and the idea expressed by *ALTHOUGH* is that of allowing one thing to co-exist with another, with which it is apparently incompatible. The conjunction *UNLESS* (says Mr. Tooke) even in the reign of queen Elizabeth was written *onless* or *onelesse*, and more anciently *onles* and *onelesse*: and *onles* is the imperative of the Anglo-Saxon verb *onlesan*, to *dismiss* or *remove*, *les* the imperative of *lesan*, which is synonymous with *onlesan*, is also used by some old writers, instead of *unless*. And this imperative *les* has given to our language the adjectives *hopeless*, *restless*, &c. i.e. *dismiss* hope, rest, &c. The conjunction *ALTHOUGH* (says the same writer) is compounded of *al* or *all*, and *tho*, *though*, *thab*, or, in the vulgar pronunciation, *thaf*, *thaus*, and *thof*. This is evidently the imperative *thaf* or *thafg* of the verb *thafian* or *thafgan*, to *allow*, *permit*, &c. and *thafg* becomes *thab*, *though*, *thoug* in a transition of the same kind, and as easy as that by which *hafuc* becomes *havok*. This etymology is confirmed by considering, that anciently they often used *all be*, *all bad*, *all were*, and *all give*, instead of *ALTHOUGH*.

ADVERSATOR, in *Antiquity*, a servant sent to wait his master's returning from supper, and attend him home. The rich had servants of this quality, to apprise them of any danger. *Plautus*, (*Mort.* iv. 424.), and *Terence*, (*Adelph.* i. 12.) refer to such persons.

ADVERSE Leaf. See *LEAF*.

ADVERTISEMENT, formed from *advertere*, to consider, in a general sense, an intelligence or information given to persons interested in an affair.

ADVERTISEMENT is more particularly used for the brief account of articles of private or public concern, inserted in the daily, or other public papers.

By the statute of 25 Geo. II. cap. 36. and 28 Geo. II. cap. 19. the penalty of 50*l.* is inflicted on persons advertising a reward with no questions to be asked, for the return of things lost or stolen; and likewise on the printer.

By 21 Geo. III. c. 49. any person advertising any public

The meeting for debate on the Lord's day, to which persons are to be admitted by money or tickets sold, the printer shall pay 5 s. for each offence. See LOTTERY.

ADVICE-BEAT, a small vessel employed to carry expresses or orders with dispatch.

AD VITAM *in edicto*, denotes an office to be held for a fixed term only by the death or delinquency of the incumbent; or in other words, to be held *quoad vitam seu officium*. Stat. 28 Geo. II. c. 7.

ADUGAK, in *Geography*, one of the Fox Islands in the northern Archipelago.

ADULA, *in Antiqua Geographia*, a mountain of Rhetia, or the country of the Græci, being a part of the Alps, in which are the fountains of the Rhine, Rhone, Nantz, Tiber, and Arno, and from which flows the Arda or Adura. It is now called St. Gothard, and it is said to be the highest point of Europe. Strabo, *Geog.* tom. i. p. 293.

Adula gives name to a country of the Alps between the Græci, Swiss, Vallaisans, and Milnese. It is the highest part of the Alps, and comprehends the Crispalt, Vogellberg, Gothard, Tonche and Grindel.

ADURIA, in *Modern Geography*, a mountain of Navarre in Spain, betwixt Pomplona and St. Jean de Piz de port.

ADULARIA. See *FLEISAR*.

ADULE or **ADULIS**, in *Antient Geography*, a town of Ethiopia, built according to Pliny (l. vi. c. 34. tom. 4. p. 347.) by fugitive slaves of Egypt, and distant from its port on the Red Sea 20 stadia; and from the royal city of Axum about 50 leagues. Pliny calls it *Cupidum Aduliton*, and the inhabitants *Adulite*. He represents it as the principal emporium of the Ethiopians, whence they exported ivory, the horns of the rhinoceros, the skins of the hippopotamus, and other articles of commerce. The monumentum *adulitanum*, or the pompous inscription of the statue of Ptolemy Euergetes belonged to the city. The bay adjacent to it in the Red Sea was called *Sinus Adulicus*. It is now *Erocca* on the coast of Abex. The port of Aduli, according to Dr. Vincent, in his Periplus of the Erythrean Sea, can be no other than the celebrated harbour and city of Massuah, so well known by the accounts of the Jesuits and of Bruce, as the only proper entrance into Abyssinia. Two islands are also mentioned in the bay of Aduli, which are those now called Sheikh Sidda and Toalhout, abounding in fish.

ADULI, a village of the island of Orine in the Red Sea.

ADULLAM, in *Scripture Geography*, a city belonging to the tribe of Judah, in the southern part of this tribe, towards the Dead Sea. Eusebius says it was a large town 10 miles from Eleutheropolis, eastward. Josh. xv. 35. 2 Chron. xi. 7, 8. Josh. xii. 15. 1 Sam. xxii. 1, 2.

ADULT, **ADULTUS**, formed from the verb *adolescere*, to grow up, an appellation distinguishing any thing that is arrived at maturity; and applied to plants as well as to persons. An adult person is one who is arrived at years of discretion, and entered upon manhood, or the age of adolescence; and is old enough to have understanding and discernment.

Among *Civilians*, the appellation *adult* is applied to a youth between fourteen and twenty-five years of age.

In which sense *adultus* is synonymous with *juvenis adolescenter*.

ADULT, in *Mythology*, was an epithet applied both to Jupiter and Juno: the former being called *Jupiter adultus*, and the latter *Juno adultæ*.

ADULTERATION, in a general sense, the act of corrupting, or debasing a thing that was pure, by some improper admixture.

The word is Latin, formed of the verb *adulterare*, to corrupt, by mingling something foreign to any substance. We have laws against the adulteration of coffee, tea, tobacco, snuff, wine, beer, bread, wax, hair-powder, &c. See Stat. 13 W. III. cap. 5.—11 Geo. I. cap. 30.—1 Geo. I. cap. 46.—1 W. & M. cap. 34.—23 Eliz. cap. 8.—10 Anne cap. 26.—3 Geo. III. cap. 11.

For the method of detecting adulteration of liquors, see *ESSAY, PROOF, &c.*

ADULTERATION of coin properly imports the making or casting of a wrong metal, or with too base or too much alloy.

Adulterations of coins are effected divers ways, as by forging another stamp, or inscription; by mixing impurer metals with the gold or silver: most properly, by making use of a wrong metal, or an undue alloy, or too great an admixture of the baser metals, with gold or silver. Counterfeiting the stamp, or clipping and lessening the weight, do not so properly come under the denomination of adulterating.

Evelyn gives rules and methods, both of adulterating and detecting adulterating metals, &c.

Adulterating is somewhat less extensive than *debasings*, which includes diminishing, clipping, &c.

To *adulterate* or debase the current coin, is a capital crime in all nations.—The ancients punished it with great severity: among the Egyptians both hands were cut off; and by the civil law, the offender was thrown to wild beasts. The emperor Tacitus enacted that counterfeiting the coin should be capital; and under Constantine it was made treason, as it is also among us. The adulterations of gems is a curious art, and the methods of detecting it no less useful. Nichols, *Lapid.* p. 18.

ADULTERATION, in *Pharmacy*, denotes a fraudulent corruption of drugs, or medicines, by substituting ingredients of less value, for the sake of greater gain.

This practice the dealers in all the parts of medicine are but too well acquainted with. Pharmaceutical authors give numerous instances of *adulterations*, both in simple and compound medicaments.

ADULTERATION of wine. See *WINE*.

ADULTERESS, a woman who commits **ADULTERY**.

ADULTERINE, in a general sense, denotes any thing which has been adulterated, or that is spurious, or counterfeited; and it is thus applied to a fraudulent balance, to debased and counterfeit coins, to a false key, and to supposititious writings.

ADULTERINE, in the *Civil Law*, is particularly applied to a child issued from an adulterous amour, or commerce.

Adulterine children are more odious than the illegitimate offspring of single persons. The Roman law even refuses them the title of natural children; as if nature disowned them. Adulterine children are not easily dispensed with for admission to orders. Those are not deemed adulterine, who are begotten of a woman openly married, through ignorance of a former wife being alive. By a decree of the parliament of Paris, adulterine children are declared not legitimated by the subsequent marriage of the parties, even though a papal dispensation be had for such marriage, wherein is a clause of legitimation.

ADULTERINE guilds, in *British History*, denoted those guilds or corporations that were set up without warrant from the king, in opposition to warranted or lawful guilds, and under this denomination they were amerced to the king in 1180. 26 Henry II. See *GILD*.

ADULTERINE marriages, in St. Augustine's sense, denote second marriages, contracted after a divorce.

ADULTERY, **ADULTERIUM**, (in *Ancient Law Books* called

called **ADVOWTRY**) a crime committed by married persons, against the faith pledged to each other in marriage, by having carnal commerce with some other; or even by a person not married, who has the same intercourse with another that is.

Moralists, and canonists, and divines, have distinguished several species of adultery; as,

ADULTERY, manifest, that wherein the parties are caught *in flag*, in the fact, or, as some express it, *res in re*.

On such occasions, strangers, or people not interested in the family, have been allowed to accuse, and prosecute women for adultery, either if committed during a husband's long absence, or through his connivance.

ADULTERY, occult or secret, that kept concealed from the knowledge of the world, and only divulged to a confessor, or the like.—In the canon law this is most favourably dealt with; persons were admitted to penance for this, and absolved, who were refused it for the open kind. *Ducange*.

ADULTERY, presumptive, that which is only discovered or inferred from certain signs, or indications. Such are the parties being found in bed together, *nudus cum nuda*.

ADULTERY, interpretative, or reputed, denotes an act which though not properly included under the denomination, yet is reputed as equivalent to it, and punished as such. Thus mixed marriages between Christians and Jews, e. g. between a Christian man and a Jewish woman, are put by the laws of Arcadius and Honorius, on the footing of adultery.

So also second marriages are called by some, as Athenagoras, and St. Ambrose, an honourable or better sort of adulteries.

ADULTERY, improper, includes other extraordinary cases and species; such are the commerce with a woman only espoused, not actually married; with a married woman, who lives as a common whore; with a married woman, taking her for single; with a putative wife, or concubine, taking her for a real wife; and with a nun, who by her vows is deemed espoused.

ADULTERY, figurative, that intended only to represent, or prefigure another fact, or convey some other instruction. This coincides with typical, or allegorical adultery, and stands opposed to actual. So the adultery of Mars and Venus is turned into an allegory by naturalists, moralists, alchemists, &c.

ADULTERY, single, is that where only one of the parties is married, in contradistinction from double adultery, which is, where both parties are married. This distinction is familiar and important in the canon law; but was unknown to the jurisprudence of the Code and Pandects.

ADULTERY, incestuous, that wherein the parties are related within the third degree of consanguinity.

ADULTERY, licit, that not prohibited by any express or known law.

It has been disputed whether adultery be *malum in se*, or only *malum prohibitum*, i. e. evil in itself, or only rendered evil, by virtue of positive laws and prohibitions. St. Ambrose and some others have maintained, that adultery was not criminal before the Mosaic law. *Hobbes de Civ. cap. 6. § 16. Budd. Isag. lib. ii. cap. 4.* See the close of this article.

It has been controverted, whether adultery may be lawfully committed in war, with the enemies' wives? The answer is in the negative, and the authorised practice of civilised nations is agreeable to this. It has also been a famous question, whether it be lawful for a woman to commit adultery with the consent of her husband, and for the

procuring some great good to him? St. Austin apparently allows of it; at least, does not condemn it. *De Serin. Dom. in Mont. lib. i. cap. 16. y 49. & De Civ. Dei. lib. xvi. cap. 25.*

It has likewise been a dispute, whether it be lawful for one of the parties married to commit adultery, with the consent of the other, for the sake of having children? Of which we have instances in Abraham, who, on this account, conversed with Hagar; and likewise among the Greeks and Romans.

Pollman, a German professor, has a dissertation on the husband's right to alienate his wife's body to another's use.

ADULTERY, illicit, that which is expressly contrary to some obligatory law: such, according to the generality of casuists, is all adultery, proper, improper, single, double, open, and occult; because of a natural baseness or turpitude in the thing, as well as its being a violation of conjugal faith, and injury to our neighbour.

Accordingly, punishments have been annexed to adultery in most ages and nations, though of different degrees of severity. In many it hath been capital, in others venial, and attended only with slight pecuniary mulcts. Some of the penalties are serious, and even cruel; others of a jocose and humorous kind.

Among the ancient Egyptians, adultery by consent, was punished in the man by a thousand lashes, given with rods; and in the woman, with the loss of her nose. Nevertheless adulteries were not unfrequent among the Egyptians.

The Grecian laws express great indignation against adultery. In the earlier times of Athens, the punishment of adultery seems to have been arbitrary. In other parts of Greece, adultery was severely punished.

Rich adulterers were sometimes allowed to redeem themselves with money, and the fine, called *μυχαρρυα*, was paid to the injured husband: and it was customary for the father of the adulterers to return the whole dowry which he had received of her husband. *Homer Odyss. l. 8. v. 317. 329.*

In the later times of Greece it was ordered by Draco, that he who caught an adulterer in the fact might impose on him any arbitrary punishment; and this law was confirmed by Solon. Nevertheless it appeared to have been highly impolitic, as it gave full scope to private revenge, instead of leaving the punishment to the state.

It was by the Grecian law farther ordered, that if any one was injuriously confined upon suspicion of adultery, he should make his complaint by appeal to the *Thesmothetae*, which if they found justifiable, he should be acquitted, and his sureties discharged from their bail; but in case he were found guilty, the judges were to inflict on him what punishment they would, death only excepted; and the offender was obliged to procure friends to be responsible for his future chastity.

The Spartans, indeed, may in one sense be said to have tolerated adultery, since they laughed at those who thought the violation of the marriage-bed an insupportable affront: they allowed other men the liberty of embracing their wives, which freedom they took with others in their turn. Nay, even strangers, as well as citizens of Sparta, were allowed the same freedom with their wives. Yet we find that their kings were exempt from this custom, that the royal blood might be preserved unmixed, and the government remain in the same lineal descent.

But notwithstanding this liberty, which was founded on mutual consent, they accounted all other adulteries the most heinous crime in the world; and while they adhered to their ancient laws they were wholly strangers to them. Among the ancient Spartans the idea of infidelity on the

part of the women to their husbands would have appeared as strange as that of displaying the least regard to studied ornaments in their dress. And Lycurgus, it is said, did not enact any law against adultery, because no such crime existed in Sparta. See Plut. Oper. tom. i. p. 49. tom 2. p. 289. Ed. Xylandr. Potter's Arch. lib. iv. cap. 12.

Plutarch tells us, that if any person discovered his sister or daughter, while unmarried, in this crime, he was allowed by Solon's laws to sell her for a slave. If a husband surprised his rival in the act of dishonouring him, he might put him to death, or oblige him by torments to ransom his life; but if the wife had only yielded to force, he could demand no more than a pecuniary fine at the discretion of the judges, as violence in such cases was less to be dreaded than seduction.

In the heroic ages, adulterers were stoned to death; and the punishment was called *ἀνδρὸς χύμας*, a stone coat. Homer Iliad, l. 7. Adulteresses were never after permitted to adorn themselves with fine cloaths; and in case they appeared so to do, were liable to have them torn off by any that met them, and likewise be beaten. The same liberty was permitted to any that found them in the temples, which were thought to be polluted by the admission of persons so infamous and detestable. Lastly, their husbands, though willing, were forbidden to cohabit any longer with them, upon pain of ignominy, *αἰσχρία*; but persons who prostituted women, were adjudged to die.

There were other remarkable punishments for adulterers among the Grecians; such, particularly, as putting out their eyes. And the Locrians observed this custom in later ages, being compelled to the observance of it by Zaleucus, their lawgiver, whose rigour in executing this law is very remarkable; for having caught his son in adultery, he resolved to deprive him of his sight, and remained a long time inexorable, notwithstanding the whole city was willing to remit the punishment, and requested him to spare the youth. At length, unable to resist the people's importunity, he mitigated his sentence, and redeemed one of his son's eyes, by causing one of his own to be put out; by this glorious act setting a memorable example both of justice and of mercy. Valer. Maxim. l. vi. c. 5.

At Gortyn in Crete, they punished adulterers after another manner; they were covered with wool, an emblem of the softness and effeminacy of their disposition, and in that dress they were carried through the city to the magistrate's house, who imposed a fine and sentenced them to ignominy, whereby they were in a manner deprived of all their privileges, and their share in administering the public business. Ælian. Var. Hist. l. xii. c. 12. not. Perizon. tom. 2. p. 736. Ed. Gronov. For other punishments, see ONOBATIS and PARATILMUS.

There are various conjectures concerning the ancient punishment of adultery among the Romans.

By a law of Romulus, of which Plutarch makes mention, a man had the liberty of turning away his wife, either for poisoning his children, counterfeiting his private keys, or for adultery. Though some maintain that it was made capital, by a law of Romulus, and again by the Twelve Tables. Others, that it was first made capital by Augustus; and others, not before the emperor Constantine. The truth is, the punishment in ancient time was very various, much being left to the discretion of the husband and parents of the adulterous wife, who exercised it differently, rather with the silence and countenance of the magistrate, than any formal authority from him. Thus we are told, the wife's father was allowed to kill both parties, when caught in the fact, provided he did it immediately, killed both together, and, as it were, with one blow. The same

power ordinarily was not indulged the husband, except the crime were committed with some mean or infamous person; though, in other cases, if his rage carried him to put them to death, he was not punished as a murderer. On many occasions, however, revenge was not carried so far, but mutilating, castrating, cutting off the ears, noses, &c. were deemed sufficient. The punishment allotted by the *lex Julia* was not, as many have imagined, death; but rather banishment, or *relegatio*, with the loss, on the part of the wife, of half her dowry, and a third part of her other goods; and on the part of the husband, of half his goods: though Octavius appears, in several instances, to have gone beyond his own law, and to have put adulterers to death. But though the Julian law left the accusation of adultery open to every body, yet strangers were seldom suffered to prosecute, where the husband made no complaint; but where the husband made a trade of his wife's infamy, or having seen her shame with his own eyes, patiently suffered the affront: in these cases, adultery became a crime of public concern; and the Julian law provides a punishment for such husbands as well as for their wives.

Under Augustus, the guilty parties, after the payment of heavy forfeitures and fines, were condemned to long or perpetual exile in two separate islands.

Under Macrinus, adulterers were burnt at a stake. Constantine, it is said by Noodt and others, first by law made the crime capital. Under Constantius and Constant, adulterers were burnt, or sewed in sacks, and thrown into the sea. Under Leo and Marcian, the penalty was abated to perpetual banishment, or cutting off the nose.

By the civil law, as altered by Justinian, who, at the instance of his wife Theodora, mitigated the severity of the *lex Julia*, adultery is punished with whipping, and shutting up in a convent for two years: during which time, if the husband do not consent to take her back again, she is shaven, and shut up for life.—This is called *authenticating*, as having been established by an authentic.

In France, however, the whipping is omitted, that the husband may be the less averse to the taking her back within the two years.

Under Theodosius, women convicted of this crime were punished after a very singular manner, viz. by a public constupration; being locked up in a narrow cell, and forced to admit all the men to their embraces that would offer themselves. This custom was again abolished by the same prince.

It was controverted whether, among the Romans, adultery was allowed to be compounded?

By an edict of the emperor Antoninus, the husband was not allowed to bring an action of adultery against his wife, unless he himself were innocent; the reason given for it is very natural, *per iniquum enim videtur esse ut pudicitiam vir & uxor exigit, quam ipse non exhibeat.*

By the Jewish law, adultery was punished by death in both parties, where they are both married, or only the woman. The Jews had a particular method of trying, or rather purging an adulteress, or a woman suspected of the crime, by making her drink the bitter water of jealousy; which, if she were guilty, made her swell.

In Arabia Felix the punishment of adultery was death. Strabo Geog. tom. ii. p. 1130.

By the laws of Jenghiz Khan, founder of the Mogul empire, adulterers were condemned to death; and a man was permitted to kill them, when surprised in the act. Some of the people, however, disliked this law, because it was a custom with them to offer their wives and daughters to their friends who visited them, in token of respect and affection: and they petitioned to be continued in the exercise

of this privilege, which was allowed. But they were regarded as depraved and infamous.

Among the Mingrelians, adultery is punished with the forfeiture of a hog, which is usually eaten in good friendship between the gallant, the adulterers, and the cuckold. Chardin. Voy. tom. i. p. 47.

In some parts of the Indies, it is said, any man's wife is permitted to prostitute herself to him who will give an elephant for the use of her; and it is reputed no small glory to her, to have been rated so high. Montaigne's Ess. lib. iii. cap. 4.

Adultery is said to be so frequent at Ceylon, that not a woman but practices it, notwithstanding its being punishable with death. Bibl. Univ. tom. xxiii. p. 237.

Among the Japanese, and divers other nations, adultery is only penal in the woman. Among the Abyssinians, the crime of the husband is said to be only punished on the innocent wife. In the Marian Islands, on the contrary, the woman is not punishable for adultery; but if the man go astray, he pays severely; the wife and her relations waste his lands, turn him out of his house, &c. Among the Chinese there is reason to conclude, that adultery is not capital; for it is said that fond parents will make a contract with the future husbands of their daughters to allow them the gratification of a gallant. But without such precaution, the husband has power to inflict corporal punishment on a wife who transgresses, or to divorce her. Such, however, is the conjugal fidelity of the Chinese women, and so strictly are they guarded, that cases of this kind seldom happen. The Koran annexes the penalty of 100 stripes to the crime of fornication, in either sex; and in case of adultery, female slaves, whose punishment was half that of free women, received fifty stripes, and the latter were stoned. But in order to convict a woman of adultery, the commentators on the Koran say, that the charge must be supported by four male witnesses, and a false accuser was punished with eighty stripes, and his testimony was deemed for the future invalid.

In the kingdom of Benin, the punishment of adulterers among the lower classes, is the forfeiture of the personal and real estate of the gallant, which the husband seizes and enjoys; and he is therefore anxious to detect the intrigue, as soon as he has occasion to suspect it. The offending wife is driven out of the house with a cudgel, and deemed infamous. Among persons of superior condition, the crime is atoned by a sum of money, which the relations of the wife advance, to prevent the scandal annexed to adultery.—Among the governors and magistrates, the crime is punished with greater severity. The woman and her gallant are immediately put to death, if detected in the fact; and their bodies are thrown on the dunghills as a prey to the birds and beasts, without process of law, or form of trial. Hence it is said, the violation of the marriage bed is less known in Benin than in any other country.

In Spain, they punished adultery in men by cutting off that part which had been the instrument of the crime.

In Poland, before Christianity was established, they punished adultery and fornication in a very particular manner: the criminal they carried to the market-place, and there fastened him by the testicles with a nail; laying a razor within his reach, and leaving him under a necessity either of doing justice upon himself, or of perishing in that condition.

By the law of Scotland, simple adultery is distinguished from that which is notorious and manifest. Open and manifest adulterers, who continue incorrigible, notwithstanding the censures of the church, are punished capitally. The punishment of simple adultery, not being defined by statute,

is left to the discretion of the judge; but custom has made the falling of the single cheek one of its penalties.

The Saxons formerly burnt the adulterers, and over her ashes erected a gibbet, whereon the adulterer was hanged. In this kingdom, likewise, adultery by the ancient laws was severely punished. By the laws of Ethelbert, any one who committed adultery with his neighbour's wife was obliged to pay him a fine, and buy him another wife. King Edmund the Saxon, ordered adultery to be punished in the same manner as homicide; and Canute the Dane, ordered that a man who committed adultery should be beheaded, and that the woman should have her nose and ears cut off. In the time of Henry I. it was punished with the loss of eyes and genitals. Lib. Hen. I. cap. 12. Doomsday, tit. Cestrc. Civit.

Adultery at present is only punished by fine and penance in the spiritual court; or by an action at common law of *crim. con.* as it is commonly called, for damages; which are assessed by the jury, under the direction of the court, in proportion to the heinousness of the crime and the circumstances of the offender: though some of our law-books speak of adultery as a thing temporal against the peace. If a man takes another in the act of adultery with his wife, and kills him directly upon the spot, though this was allowed by the laws of Solon, as likewise by the Roman civil law (if the adulterer was found in the husband's own house), and also among the ancient Goths; yet in England it is not absolutely ranked in the class of justifiable homicide, but it is manslaughter. It is, however, the lowest degree of it; and therefore the court in such a case directed the burning in the hand to be gently inflicted, because there could not be a greater provocation. Blackst. Com. vol. iv. p. 192, 8vo. As to the adulterers, by our law, she undergoes no temporal punishment whatever, except the loss of her dower; and she does not even lose that, if her husband is weak enough to be reconciled to her, and cohabit with her after the offence committed. 13 Ed. I. cap. 34.

It is to be observed, that adulteresses are such either by the *Canon* or *Civil Law*.

According to the former, a woman is an adulteress, who either being herself married, converses carnally with another man, or being single herself, converses with a man that is married.

According to the latter, she is not an adulteress, if she be not herself in the married state, though she converses with a man that is. The crime, in this case, was more properly called *stuprum* than *adulterium*.

Hence, among the Romans, the word *adultera*, adulteress, differed from *pellex*, which denoted a single woman, who cohabited with a married man: and *pellex* differed from *concubina*, which signified her who had only intercourse with an unmarried man. The former was reputed infamous, and the latter innocent.

It is much disputed, whether adultery dissolves the bond of matrimony, and be a sufficient cause of divorce, so that the parties may marry again. This was allowed in the ancient church, and is still continued in the Greek, as well as the Lutheran and Calvinist churches. Romanists, however, disallow of it, and the council of Trent even anathematized those who maintain it; though the canon of anathematization was mitigated in deference to the republic of Venice, in some of whose dominions, as Zant, Cephalonia, &c. the contrary usage obtains.

The ecclesiastical courts in England so far agree with the papists, that they only grant a divorce *a mensa & thoro*, in case of adultery; so that a complete divorce, *a vinculo matrimonii*,

monii, to enable the parties to marry again, cannot be had without an act of parliament.

By a council of Nantes, marriage was declared dissolved by adultery, but the innocent party was not allowed second marriage. In after-times, leave was given to the innocent party alone; and afterwards the same was allowed to the criminal party.

Adultery, in a moral view, is unquestionably a crime of an atrocious nature, and productive of very injurious consequences. On the part of the man who solicits the chastity of a married woman, it includes the crime of SEDUCTION, and is attended with the same mischief. The infidelity of the woman is aggravated by cruelty to her children, who are involved in her shame and made unhappy by the discord and separation of their parents. Should it be said that the pernicious consequences result from the discovery, and not from the crime, it may be replied that the commission is never secure from discovery; and that if undetected connections of this nature be allowed, the husband can have no security for his wife's chastity, independently of her principles and disposition, besides her want of opportunity or temptation; which would deter men from marrying, defeat the purposes of the conjugal connection, with respect to domestic order and happiness, and render marriage such a state of jealousy and alarm to the husband, as must end in the slavery and confinement of the wife. Besides, the vow by which married persons engage their mutual fidelity is witnessed before God, and accompanied with circumstances of religious solemnity, which approach to the nature of an oath. The crime is therefore little short of perjury on the part of the offenders; and the seduction of a married woman is little less than subornation of perjury: and this guilt is altogether independent of a discovery. The usual and only apology for adultery is the prior transgression of the other party. This is a circumstance which can merely extenuate, but cannot justify the crime; unless it could be pleaded, that the obligation of the marriage vow depends upon the condition of reciprocal fidelity, for which plea there is no foundation. The way of considering the offence of one party as a provocation to the other, and the other as only retaliating the injury by repeating the crime, is a childish trifling with words.

"Thou shalt not commit adultery," was an interdict delivered by God himself: and in both the Old and New Testament the crime of adultery is represented as distinct from, and accumulated upon that of fornication.

Some have been of opinion, that the history of the woman taken in adultery, recorded in the eighth chapter of St. John's Gospel, gives countenance to this crime. When Christ told the woman, "Neither do I condemn thee;" we must believe, it is said, that he deemed her conduct either not criminal, or not a crime, however, of a very heinous nature. A more attentive examination of this case (says Archdeacon Paley) will convince us that nothing can be concluded from it, as to Christ's opinion concerning adultery, either one way or the other. The design of the persons, whose conduct on this occasion is recorded, and who are said to have tempted Christ, "that they might have to accuse him," was to draw him into an exercise of judicial authority, that they might be empowered to accuse him before the Roman governor of usurping or intermeddling with the civil government. Christ knew this to be their design, and determined to defeat it. When he asked the woman, "hath no man condemned thee?" he spoke, and was understood by her to speak of a legal and judicial condemnation; otherwise her answer, "No man, Lord!" was

not true. In the same sense he uses the word *condemn* in his reply "Neither do I condemn thee;" i. e. I pretend to no judicial character or authority over thee; it is no office or business of mine to pronounce or execute the sentence of the law. When Christ adds, "go and sin no more," he in effect tells her, that she had sinned already; but as to the degree or quality of the sin, or Christ's opinion concerning it, nothing is declared, or can be inferred in this way.—Paley's Principles of Moral and Political Philosophy, vol. i. p. 309-3.

Elfner (Observ. vol. i. 318.) and Suicer (Thesaur. vol. i. p. 205.) have shewn, that the word *αμαρτωλον*, to *sin*, is used by the most elegant Greek classics (as the corresponding word *peccare* is by the Latin) to signify the commission of adultery; and this strongly intimates, that even the light of nature taught many of the heathens the exceeding sinfulness of it.

If Christ had undertaken the decision of the case recorded in this history, he must, *ipso facto*, have rendered himself obnoxious to the Romans, as well as to the Sanhedrim; and if he had *condemned her*, a new occasion of offence must have arisen, in consequence of that, to Pilate, if execution had been ordered without an application to him; and to the Jews, if Christ had directed such an application to be made. See Doddridge and other Commentators *in loc.*—and Lardner's Works, vol. i. p. 41, 8vo.

It is therefore needless to recur to the solution of the difficulty adopted by some biblical critics, who have disputed the genuineness of this passage. By such, however, it has been urged, that this history is wanting in the Syriac version, as well as in the Alexandrian and Bodleian copies, and indeed in most of the oldest MSS, and that it was not acknowledged by several of the Greek fathers, which induced Beza to question, and Le Clerc, with many others, to reject its authority. In favour of this history appeal is made to sixteen copies used by R. Stephens, to most of those consulted by Mills and Beza, to the Harmonies of Tatian and Ammonius, to the apostolical constitutions and the Synopsis of Athanasius, to many of the Latin fathers, to several ancient Syriac MSS. to the Greek and Latin printed copies, &c. Mill and Wettstein *in loc.* Whitby *in loc.* Fabricius's Codex Apocr. New Test. tom. i. p. 355, &c. See also Lardner's Works, vol. v. p. 67, &c. &c.

ADULTERY is also used in *Ancient Customs*, for the punishment or fine imposed for that offence, or the privilege of prosecuting for it.

In which sense, *adulterium* amounts to the same with what the Saxons called *legerwita*.

ADULTERY is sometimes used, in a more extensive sense, for any species of impurity, or crime, against the virtue of chastity; and in this sense divines understand the seventh commandment.

ADULTERY is also used, especially in Scripture, for idolatry, or departing from the true God, to the worship of a false one.

ADULTERY is also used in *Ecclesiastical Writers*, for a person's invading, or intruding into a bishoprick, during the former bishop's life. The reason of the appellation is, that a bishop is supposed to contract a kind of spiritual marriage with his church.

The translation of a bishop from one see to another was also reputed a species of adultery; on the supposition of its being a kind of second marriage, which, in those days, was esteemed a degree of adultery. This conclusion was founded on that text of St. Paul, *Let a bishop be the husband of one wife*, by a forced construction of church for wife, and of bishop for husband. Du-Cange.

ADULTERY is also used, by *Ancient Naturalists*, for the act of ingrafting one plant upon another.

In which sense, Pliny speaks of the adulteries of trees, *arborum adulteria*, which he represents as contrary to nature, and a piece of luxury, or needless refinement.

ADULTERY is also used by some fanciful *Astronomers* and *Astrologers*, for an eclipse of the sun, or moon, happening in an unusual, and, as they suppose, irregular manner: as in the case of horizontal eclipses, where, though the sun and moon be diametrically opposite, yet they appear as if above the horizon at the same time.

ADUMBRATION, in *Heraldry*, denotes the shadow of any beast or charge, outlined, and painted of a darker colour than the field. There is perhaps no instance of this bearing in any English coat; but it is often mentioned by French and German authors.

ADUMMIM, in *Scripture Geography*, a town and mountain in the tribe of Benjamin, which some place south and others north of Jericho. If, as some say, the road from Jerusalem to Jericho passed through this town, it must have been west of Jericho. Josh. xv. 7.—xviii. 17. The mountain of *Adummim*, which Dr. Shaw assigns to the tribe of Judah, joins to the mountain of Quarantania, and through it, he says, is cut the road that leads from Jerusalem to Jericho; a difficult pass, the *mountain of blood*, or the *bloody road*, as the name may import: where probably it was, from the nature of the situation, that the man fell among thieves, mentioned in Luke x. 30. Shaw's Trav. vol. ii. 276.

ADUNA, a river of Sufiana, mentioned by Pliny, tom. i. p. 334.

ADUNICATI, a people of Gaul, in that part which was called the Roman Province.

ADVOCARIA, in *Middle Age Writers*, a tax paid the lord for his protection; sometimes also called *salvamentum*.

ADVOCATE, **ADVOCATUS**, compounded of *ad*, to, and *vocare*, to call, q. d. *I call to my aid or defence*, among the Romans, a person skilled in their law, and who undertook the defence of causes at the bar. The Roman advocates answered to one part of the office of a barrister among us, viz. the pleading part; for they never gave counsel, that being the business of the *jurisconsulti*.

The Romans, in the first ages of their state, held the profession of an advocate in great honour; and the seats of their bar were crowded with senators and consuls: they, whose voices commanded the people, thinking it an honour to be employed in defending them.

They were styled *comites*, *honcrati*, *clarissimi*, and even *patroni*; as if their **CLIENTS** were not less obliged to them, than freed-men to their masters. See **PATRON**.

The bar was not at that time venal.—Those who aspired to honours and offices, took this way of gaining an interest in the people, and always pleaded *gratis*.

But no sooner were luxury and corruption brought into the commonwealth, than the bar became a sharer in them.—Then it was that the senators let out their voices for pay, and zeal and eloquence were sold to the highest bidder.—To put a stop to this abuse, the tribune Cincius procured a law to be passed, called from him *Lex Cincia*, whereby the advocates were forbid to take any money of their clients.—Fred. Brunerus has published an ample comment upon this law.

It had before this been prohibited the advocates to take any present or gratuities for their pleading.—The emperor Augustus added a penalty to it, subjecting those who took money to the forfeiture of four times the sum they

received: notwithstanding which, the advocates played their part so well, that the emperor Claudius thought it an extraordinary circumstance, when he obliged them not to take above as many sesterces as are equivalent to eighty pounds sterling, or upwards, for pleading each cause.

On occasion of Silius's receiving four hundred thousand sesterces, or about 2200*l.* from an illustrious knight, and afterwards betraying him, the *lex cincia*, revived by Augustus, which prohibited advocates from receiving either money or presents from their clients, was enforced; and Claudius, it is said, allowed advocates to take as much as ten thousand sesterces, or about 80*l.*; but if they took more they were to be prosecuted for extortion. This regulation passed into a law. Nero, in his first speech to the Senate, declared his purpose of revising and enforcing the ancient laws, by which advocates were forbidden to receive fees. It was an apophthegm of Thrasea, who suffered death under this Emperor, A. D. 66, that advocates should undertake only the causes of their friends, of people in distress, and such as might tend to set good examples and purify the morals. Pliny, Ep. vi. 29. Alexander Severus gave stipends to the advocates in the provinces, provided he was well assured that they pleaded without being feed by their clients. But the injunction which disallowed advocates from receiving any thing of their clients was found to be impracticable in its utmost rigour. Accordingly, Constantine did not attempt to revive it; but he pronounces those advocates, who obliged their clients to make over to them by deeds the best part of their property in land, cattle, or slaves, or who prostituted their talents in this odious traffic, unworthy to be admitted into the company of honest men, and he excluded them from the bar. Cod. Theod. tit. 10. leg. 1.

ADVOCATE is still used in countries, and courts, where the civil law obtains, for those who plead and defend the causes of clients trusted to them.

In the English courts, *advocates* are more generally called **COUNSEL**.

In Scotland they have a college, or *Faculty of Advocates*, about 200 in number, appointed to plead in all causes before the Courts of Session, Justiciary, and Exchequer. They are also intitled to plead in the House of Peers, and other supreme courts in England. A candidate for the office of advocate undergoes three successive trials; the first in Latin, upon the civil law, and Greek and Roman antiquities; the second in English, upon the municipal law of Scotland; and in the third, he defends a Latin thesis, which is impugned by three members of the faculty. Before he puts on the gown, he makes a short speech in Latin to the lords, and then takes the oaths to the government, and *de fide*. From this respectable body all vacancies on the bench are generally supplied. In 1660, the faculty founded a library upon a very extensive plan, suggested by Sir George McKenzie, advocate to king Charles II., who enriched it with many valuable books. The collection has been gradually increasing, and it now consists of many valuable books on law and other subjects; several original MSS. and a great variety of Jewish, Grecian, Roman, Scots, and English coins and medals.

By the articles of the Union, none are to be named ordinary lords of session, except those who have been advocates, or principal clerks of session for five years, &c.

In France, they had also two kinds of advocates, viz. pleading advocates, *avocats plaideurs*; and counsel advocates, *avocats consultants*. This distinction was formed with a view to the two branches among the Romans, *advocati*, and *jurisconsulti*.—Yet there is this difference, that the function of the *jurisconsulti*, who only gave their advice, was of a different kind from that of the *advocati*; being a sort of private and

and perpetual magistrature, principally under the first emperors; and the *advocati* never became *jurisconsulti*. Whereas, on the other hand, in France, after the advocates have attained to reputation and experience enough at the bar, they quit so busy a province, and become a kind of chamber-counsel.—They had also their advocate general, and king's advocate, *avocat du roy*.

ADVOCATE, Lord, or King's, in Scotland, one of the eight great officers of state, whose business is to give his advice about the making and executing of laws; to defend the king's right and interest in all public meetings; to prosecute all capital crimes before the judiciary; and to concur in all pursuits before foreign courts for breaches of the peace; and also in all matters wherein the king, or his donator, has interest.—He intends no processes of treason, except by warrant of privy-council.

The *lord advocate* is sometimes an ordinary lord of session; in which case he only pleads in the king's causes; otherwise, he is at liberty to plead in all causes.

He is the principal crown-lawyer in Scotland, and has the privilege of wearing his hat when he pleases in court. The office of *king's advocate* is not very ancient; having been established about the beginning of the 16th century. He had not originally the power of prosecuting crimes without the concurrence of a private party; but in 1597, he was authorised to prosecute crimes at his own instance.

ADVOCATE of a city, or town, is a magistrate established in several places of Germany, for the administration of justice in that city, in the emperor's name. See **ADVOWEE**.

ADVOCATE is more particularly used, in *Church History*, for a person appointed to defend the rights and revenues of a church or religious house.

The word *advocatus*, or *advowee*, is still retained, for what we usually call the *patron*, or him who has the advowson, or right of presentation, in his own name.

The abbey and monasteries had also all their advocates, or *advowees*. See **ADMINICULATOR**.

There are several other kinds of advocates; as

ADVOCATE, consistorial, is an officer of the court of Rome, whose business it is to plead on the oppositions made to the provisions of benefices in that court. There are ten of these in number.

ADVOCATES, elective, those chosen by the abbot, bishop, or chapter, a particular licence being had from the king, or prince, for that purpose. The elections were originally made in the presence of the count of the province.

ADVOCATES, feudal, were of the military kind, who, to make them more zealous for the interest of the church, had lands granted them in fee, which they held of the church, and did homage, and took an oath of fidelity to the bishop or abbot. These were to lead the vassals of the church to war, not only in private quarrels of the church itself, but in military expeditions for the king's service, in which they were the standard-bearers of their churches.

ADVOCATE, fiscal, fisci **ADVOCATUS**, was an officer instituted by the emperor Adrian, to defend the cause and interests of the **FISCUS**, or private treasury, in the several tribunals where that might be concerned.

ADVOCATES, juridical, in the *Middle Age*, were those who from attending causes in the court of the comes, or count of the province, became judges themselves, and held courts of their vassals thrice a year, under the name of the *tria placita generalia*.

In consideration of this farther service, they had a particular allowance of one third part of all fines, or mulcts, imposed on defaulters, &c. which was called *tertia bannorum pars, tertius denarius, tertia pars compositionum, tertia pars*

legum, or emendarum, &c.; besides a proportion of diet for themselves and servants.

ADVOCATES, monachal, were the advocates of the mother or cathedral churches.

ADVOCATES, military, those appointed for the defence of the church, rather by arms and authority, than by pleading and eloquence.

These were introduced in the times of confusion, when every person was obliged to maintain their own property by force; bishops and abbots not being permitted to bear arms, and the scholastic or gown'd advocates being equally unacquainted with them, recourse was had to knights, noblemen, soldiers, or even to princes.

ADVOCATES, nominative, those appointed by a king, or pope. Sometimes the churches petitioned kings, &c. to appoint them an advocate; at other times this was done of their own accord. By some regulations, no person was capable of being elected advocate, unless he had an estate in land in the same county.

ADVOCATES, regular, those duly formed and qualified for their profession, by a proper course of study, the requisite oath, subscription, licence, &c.

ADVOCATES, subordinate, those appointed by other superior ones, acting under them, and accountable to them.

There were divers reasons for the creation of these subordinate advocates: as, the superior quality of the principal advocate, his being detained in war, or being involved in other affairs; but chiefly the too great distance of some of the church lands, and their lying in the dominions of foreign princes.

ADVOCATES, supreme, or sovereign, were those who had the authority in chief, but acted by deputies, or subordinate advocates. These were also called principal, greater, and sometimes general advocates.—Such in many cases were kings, &c. when either they had been chosen advocates, or became such by being founders, or endowers of churches. Princes had also another title to advocateship, some of them pretending to be *advocati nati* of the churches within their dominions.

ADVOCATIA, in the *Feudal Law*, the procuration of some public business, committed by a superior to his substitute.

ADVOCATIA is also used for the patronage and protection of a church, college, monastery, and the like, in which sense it amounts to the same with **ADVOWSON**.

ADVOCATIA is also used for the protection and defence of lay persons, estates, &c.

ADVOCATION, ADVOCATIO, in the *Civil Law*, the act of calling another to our aid, relief, or defence.

ADVOCATION, bill of, in *Scots law*, a writing drawn up in the form of a petition; whereby a party, in an action before an inferior court, applies to the supreme court, or Court of Session, for calling the action from the inferior court before itself.

ADVOCATION, letters of, in *Scots law*, the decree or warrant of the Court of Session, upon cognizance of the facts set forth in the bill, drawn up in the form of a summons, and passing under the signet, discharging the inferior judge, and all others from farther procedure in the cause, and advocating it to itself.

The grounds upon which these letters may be sought, are incompetency, comprehending defect of jurisdiction, and reasons for declining competent jurisdiction, arising from suspicion of the judge, or privilege in the parties; and iniquity, which happens when the judge delays justice, or pronounces sentence contrary to law. No cause for a sum below twelve pounds can be advocated from an inferior court to the Court

of Session, unless the inferior judge be incompetent, in which case the cause may be removed from him by advocacy, however inconsiderable the subject.

If after letters of advocacy are intimated to the judge, he yet proceeds, his decree will be null, as given *spere mandato*. Mackenzie, Inst.

ADVOCATIONE Decimarum, a writ which lies for the claim of the fourth part, or upwards, of the tithes that belong to any church. Reg. Orig. 29.

ADVOCATURA, in *Writers of the Middle and Barbarous Age*, denotes an inferior kind of jurisdiction, exercised by advocates within the districts of their respective churches, &c. The word is sometimes used as synonymous with **ADVOCATIA**. Du-Cange.

ADVOWEE, in *Ancient Customs*, and *Law Books*, denotes the advocate of a church, religious house, or the like.

The word is otherwise written *avowee*, *advowee*, and *avowee*; sometimes *advouer*; being derived from *avouer*, to own, or acknowledge.

There are advowees of cathedrals, abbeys, monasteries, &c. Thus Charlemagne had the title of advowee of St. Peter's, and he is said to have been the first on whom this title of advowee was conferred by the pope, for having protected Italy and the church against the Lombards; king Hugh, of St. Riquier; and Bolandus mentions some letters of pope Nicholas, for which he constituted king Edward the Confessor, and his successors, advowees of the monastery at Westminster, and of all the churches in England.

These advowees were the guardians, protectors, and administrators of the temporal concerns of the churches, &c. and under their authority were passed all contracts which related to them.

It appears also, from the most ancient charters, that the donations made to churches were conferred on the persons of the advowees. They always pleaded the causes of the churches in court, and distributed justice for them, in the places under their jurisdiction. They also commanded the forces furnished by their monasteries, &c. for the war; and even were their champions, and sometimes maintained duels for them.

This office is said to have been first introduced in the fourth century, in the time of Stillico; though the Benedictines do not fix its origin before the eighth century.

By degrees, men of the first rank were brought into it, as it was found necessary, either to defend with arms, or to protect with power and authority. In some monasteries they were only called *conservators*; but these without the name had all the functions of advowees. The imperial advowee was a magistrate formerly established by the emperors to administer justice, in their name, in the cities of the empire.

There were also sometimes several *sub-advowees*, or sub-advocates, in each monastery, who officiated instead of the advowees themselves; which, however, proved the ruin of monasteries; those inferior officers running into great abuses.

Hence also, husbands, tutors, and every person in general, who took upon him the defence of another, were denominated advowees, or advocates. Hence several cities had their advowees; which were established long after the ecclesiastical ones, and doubtless from their example. Thus, we read in history of the advowees of Augsburg, of Arras, &c.

The **VIDAMES** assumed the quality of advowees; and hence it is, that several historians of the eighth century confounded the two functions together.

Hence also it is, that several secular lords in Germany bear mitres for their crests, as having anciently been advowees of the great churches.

Spelman distinguishes two kinds of ecclesiastical advowees.—The one, of causes, or processes, *advocati causarum*; the other, of territory, or lands, *advocati soli*.

The former were nominated by the king, and were usually lawyers, who undertook to plead the causes of the monasteries.

The other, which still subsist, and are sometimes called by their primitive name, advowees, though more usually **PATRONS**, were hereditary; as being the founders and endowors of churches, &c. or their heirs.

Women were sometimes advowees, *advocatissæ*. And, in effect, the canon law mentions some who had this title, and who had the same right of presentations, &c. in their churches, which the advowees themselves had.

In a stat. 25 Ed. III. we meet with *advowee paramount*, for the highest patron; that is, the king.

There are also advowees of countries and provinces.—In a charter of the year 1187, Berthold duke of Zeringhen is called advowee of Thuringia; and in the Notitia of the Belgic churches, published by Miræus, the count of Louvain is styled count and advowee of Brabant. In the 11th and 12th centuries we also meet with the advowees of Alsatia, of Suabia, &c.

ADVOWING, or **AVOWING**, **ADVOCARE**, in *Law*, see **AVOWRY**.

ADVOWSON. See **ADVOCATIA**.

ADVOWSON, or **ADVOWZEN**, in *Common Law*, signifies a right to present to a vacant benefice.

Advowson is so called, because the right of presenting to the church was first gained by such as were founders, benefactors, or maintainers of the church, viz. *ratione fundationis*, as where the ancestor was founder of the church; or *ratione donationis*, where he endowed the church; or *ratione fundi*, as where he gave the soil whereupon the church was built: and therefore they were called *advocati*. They were also called *patroni*, and thereupon the advowson is called *jus patronatus*; and he who has the right of advowson is called the patron of the church. An advowson is, strictly speaking, an incorporeal hereditament: for it is not itself the bodily possession of the church and its appendages, but a right of giving to some other person a title to such bodily possession. The patronage can only be conveyed by operation of law, by verbal grant, either oral or written, which is a kind of invisible, mental transfer; and being so vested it lies dormant and unnoticed, till occasion call it forth: when it produces a visible, corporeal fruit, by entitling some clerk, whom the patron shall please to nominate, to enter and receive bodily possession of the lands and tencments of the church. 1 Inst. 119. Fleta, lib. v. cap. 14.

Though the nomination of fit persons to officiate in every diocese was originally in the bishop, yet they were content to let the founders of churches have the nomination of the persons to the churches so founded, reserving to themselves a right to judge of the fitness of the persons so nominated. Gibb. ii. ed. 756.

Advowsons are of two kinds. 1. *Advowson in gross*, or a right subsisting in itself, belonging to a person, and not adhering to any manor or lands as parcels thereof. 2. *Advowson appendant*, which depends on a manor, as appurtenant to it. This will pass, or be conveyed, together with the manor, as incident and appendant thereto, by a grant of the manor only, without adding any other words.

Advowsons formerly were most of them appendant to manors, and the patrons were parochial barons: the lordship of the manor, and patronage of the church, were seldom in different hands, until advowsons were given to religious houses.

heaves. But of late times the lordship of the manor, and advowson of the church, have been divided.

Advowsons are also *presentative*, *collative*, or *donative*: *presentative*, where the patron presents or offers his clerk to the bishop of the diocese, to be instituted in his church, if he be found canonically qualified: *collative*, where the benefice is given by the bishop, as original patron thereof; or by means of a right he has acquired by *lapse*, in which case the bishop cannot present to himself; but he does by the one act of collation or conferring the benefice, the whole that is done in common cases, by both presentation and institution; *donative*, as where the king, or any subject by his licence, founds a church or chapel, and ordains that it shall be merely in the gift or disposal of the patron, subject to his visitation only, and not to that of the ordinary, and vested absolutely in the clerk by the patron's deed of donation without presentation, institution, or induction. This is said to have been anciently the only way of conferring ecclesiastical benefices in England. See INSTITUTION. If, as the law now stands, the true patron *once* waives this privilege of donation, and presents to the bishop, and his clerk is admitted and instituted, the advowson is now become for ever *presentative*, and shall never be *donative* any more.

Sometimes, anciently, the patron had the sole nomination of the prelate, abbot, or prior; either by investiture (i. e. delivery of a pastoral staff), or by direct presentation to the diocesan; and if a free election was left to the religious, yet a *conge d'elire*, or licence of election, was first to be obtained of the patron, and the person elected was confirmed by him.

If the founder's family became extinct, the patronage of the convent went to the lord of the manor. Unless the several colleges in the universities be restrained in the number of advowsons they may receive; it is argued they will in time acquire such a stock as to frustrate the design of their foundation, (which is the education of youth), by creating too quick a succession of fellows; so that there will not be in the colleges a sufficient number of persons of competent age, knowledge, and experience to instruct and form the minds of the youth. In some colleges the number of advowsons is said to be already two-thirds, or more, of the number of fellows. It is objected, on the other side, that the succession of fellows may be too slow, as well as too quick; whereby persons well qualified may be detained so long in colleges, as not to have strength or activity enough left for the discharge of parochial functions.

Colleges holding more advowsons in number than a moiety of the fellows, are not capable of purchasing more. Grants of advowsons by papists are void. 9 Geo. II. c. 36. § 5. 11 Geo. II. c. 17. § 5.

Advowsons are temporal inheritances, and lay fees; they may be granted by deed or will, and are assets in the hands of heirs or executors. The recovery of advowsons, as temporal rights, was effectually provided for by one of the excellent regulations of Edward I. Before his time the law, in this respect, was extremely deficient.

Presentations to advowsons, for money or other reward, are void. 13 Eliz. cap. 6. See Burn's Eccl. Law, vol. i.

Advowson of the *Moiety of the Church*, is where there are two several patrons and two several incumbents in the same church, the one of the one moiety and the other of the other moiety. A moiety of the advowson is where two must join in the presentation and there is but one incumbent. See Stat. 7 Anne c. 18. In Scotland the right of advowson is called PATRONAGE.

ADVOWTRY. See ADULTERY.

ADUR, in *Geography*, a river of Suffex that falls into the sea at Shoreham, and admits ships of burden to go up to the town.

ADUST, ADUSTUS, formed of *adurere*, to burn, among *Physicians*, &c. is applied to such humours, as by long heat become of a hot and fiery nature.

Such is choler supposed to be. Melancholy is usually considered as black and adust bile.

Good is said to be adust, when, by reason of some extraordinary heat, its more subtile parts are all evaporated, leaving the grosser, with all the impurities therein, half torrifed.

ADUSTION, in *Surgery*, is the same as *Cauterisation*, and signifies the application of any substance to the animal body, which acts like fire. See CAUTERY and CAUSTIC. The ancient surgeons, especially the Arabians, were remarkably fond of having recourse to adustion in local diseases; but the use of actual heat is very rarely admitted by the moderns. See MOXA.

ADUSTION, among *Physicians*, is used for an inflammation of the parts about the brain, and its membranes, attended with a hollownefs of the *sinuiput* and eyes, a pale colour, and dryness of the body; in which case the yolk of an egg, with oil of roses, applied by way of cataplasm is recommended; as are the leaves of turnsol, the parings of a gourd, the pulp of a pompion, applied in the same manner with oil of roses.

ADY, in *Natural History*, a name given to the palm-tree of the island of St. Thomas. It is a tall tree with a thick, bare, upright stem, growing single on its root, of a thin light timber, and full of juice. The head of this tree shoots into a vast number of branches, which being cut off, or an incision being made therein, afford a great quantity of sweet juice, which, fermenting, supplies the place of wine, among the Indians.

The fruit of this tree is called by the Portuguese *caryococ*, and *carioffee*; and by the black natives ABANGA. This fruit is of the size and shape of a lemon, and contains a kernel, which is good to eat. The fruit itself is eat roasted, and the raw kernels are often mixed with mandioc meal. These kernels are supposed very cordial. An oil is also prepared from the fruit, which answers the purpose of oil, or butter, in Europe.

This oil is also used for anointing stiff and contracted parts of the body. Ray.

ADYLISUS, in *Ancient Geography*, a mountain which Pliny places in Bœotia.

ADYNAMIA, in *Medicine*, formed of the primitive α , and *δυναμις*, strength, debility or weakness from sickness. Accordingly *Adynamie*, denote those affections of the human body which form the second order of the second class in the arrangement of Dr. Cullen, and which he defines to be a diminution of the involuntary motions, whether vital or natural. This is a distinct class in the distribution of Vogel. It comprehends the genera of *syncope*, *dyspepsia*, *hypochondriasis*, and *chlorosis*. Some naturalists place these under *debilitates*, and Linnæus calls them *quietales*. See NOSOLOGY.

ADYNAMON, among *Ancient Physicians*, a kind of weak factitious wine, prepared from must boiled down with water; to be given to patients, to whom genuine wine might be hurtful.

ADYRMACHIDÆ, or ADYRMACHITÆ, in *Ancient Geography*, a people of Libya, inhabiting the sea-coast, near the Canopic mouth of the Nile. Herodotus (l. iv. c. 168.) describes them as resembling the Egyptians in their customs and manners. Silius Italicus refers to them, lib. iii. v. 278. p. 149. Ed. Drakenb.

"Versicolor contra cætra, et falcatus ab arte
Ensis Adymachidis, ac lævo tegmina crure."

ADYTUM, a secret or retired place in the Pagan temples, where oracles were given, and into which none but the priests were admitted. Thus Seneca in his tragedy of Thyestes (iv. l. 679.)

"———Hinc orantibus

Responsa dantur certa, cum ingenti sono
Laxantur adyto fata."

The word originally signifies inaccessible; being compounded of *α*, *not*, and *δωρ*, or *δωρ*, *to enter*.

The *Sanctum Sanctorum*, or *Holy of Holies*, of the temple of Solomon was of the nature of the Pagan *adytum*, none but the high-priest being admitted into it, and he but once a year, on the great day of expiation. After the Babylonish captivity this place wanted the ark, the mercy-seat, the shechinah of the divine presence, and the Urim and Thummim; the defect of these causing an imperfection in the Jewish worship, compared with the former state of it, a restoration of them is devoutly supplicated in the Jewish liturgy; particularly in the most solemn part of it which they call *Shemoneh Eshreh*, or the *eighteen prayers*.

ADZE, or ADDICE, a cutting tool, of the axe kind; having its blade made thin, and arching, and its edge at right angles to the handle; chiefly used for taking thin chips off timber or boards, and for paring away certain irregularities which the axe cannot come at.

The adze is used by carpenters, but more by coopers, as being convenient for cutting the hollow sides of boards, &c. It is ground from a bafe on its inside to its outer edge; so that when it is blunt they cannot conveniently grind it, without taking its helve out of the eye.

ADZEL, in *Geography*, a mean place in the government of Riga, subject to Russia. N. lat. 56°. 30'. E. long. 38° 5'.

ADZENETA, a small town of Valencia, in Spain, seated on the mountain *Pegna Golosa*, in which grow multitudes of excellent plants. N. lat. 40°. 30'. W. long. 0°. 16'.

ADZUD, a town of Moldavia in European Turkey, nine miles west-fourth-west of Birlat.

ÆE, or Æ, a diphthong, or double vowel, compounded of A and E.

Authors are by no means agreed as to the use of the æ in English words.—Some out of regard to *etymology*, insist on its being retained in all words, particularly technical ones, borrowed from the Greek and Latin; while others, from a consideration that it is no proper diphthong in our language, its sound being no other than that of the simple *e*, contend that it ought to be entirely disused; and, in fact, the simple *e* has of late been adopted instead of the Roman æ; as in the word *equator*, &c.

ÆA, in *Ancient Geography*, a considerable and celebrated city and port of Colchis, near the river Phasis, and distant from the sea, according to Pliny, (H. N. l. vi. c. 4. t. i. p. 304.) 15 miles, but according to Stephanus (de Urb. p. 30.) more than 37 miles. It was encompassed by the rivers Hippos, so called from its rapidity, and Cyaneos, so denominated from its colour, near their confluence in the Phasis, and thus formed into a kind of peninsula. Some have conjectured that it was the same with the *Æapolis* of Ptolemy; and that it derived its name either from the Greek *αἶα*, *earth*, or from the Hebrew *אֵי*, *island*. The Circe obtained the appellation of *Æea* from this city. See Homer's *Odyss.* l. ix. v. 32. and Virgil l. iii. v. 386. It is also repeatedly mentioned by Apollonius Rhodius, as a place to which the river was navigable. *Argonautic* l. ii. v. 424.—1096. pp. 188. 250. Ed. Hoelzlin. Ovid likewise (in

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his *Metam.* l. vii. v. 9. tom. ii. p. 446. Ed. Burman.) speaks of the

"———Validos Ætias ignes."

Tradition ascribes its origin to the famous Sesostris, king of Egypt, who, after having traversed the whole of Asia with his army, left a colony in Colchis, and there created pillars of stone upon which were engraven, according to Apollonius, the names and position of the countries through which he had passed. Pliny and Strabo also represent it as the abode of king Æeta, and the theatre of the adventures of his daughter Medea. It had a temple dedicated to the god Mars, and another to Phryxus. It was anciently famous for its gold and silver, and other metals, which might have given occasion to the Argonautic expedition, first by Phryxus and afterwards by Jason. Strabo. *Geog.* tom. i. p. 38. &c. It is now *Lippopotamo*.

There was another town called *Æea*, in Thessaly; and a fountain of this name in Macedonia.

ÆÆA, the name of an island, which Mela (l. ii. c. 7.) supposes to have been situated in the bay of Sicily, and to have been the habitation of Calypso. But he has probably confounded the name of this island with that of *Æa* above mentioned; as both the island of Calypso, or Ogygia, and that of Circe, or *Æa*, are far distant from the coast of Sicily.

ÆACEA, in *Antiquity*, solemn feasts and combats, celebrated in Ægina, in honour of Æacus, who had been their king, and who, on account of his singular justice upon earth, was supposed to have a commission given him to be a prince or judge, whose office it was to preside over Elysiun, or the region of bliss. This Æacus, it is said, was the son of Jupiter and Ægina; and when his country was depopulated by a plague, he is reported to have obtained of Jupiter a supply of inhabitants, who, at his request, converted ants into men; whence they were called Myrmidons, from *μυρμικæ*, *ants*. The meaning of the fable seems to be that he drew them out of their caves into which they had retired for security, when they were invaded by pirates, and encouraged them to apply to agriculture and commerce; so that by their industry they recovered what they had lost.—See ÆGINA.

ÆACUS, in *Entomology*, a species of the SPHINX, having six yellow points on the fore wings, and the latter yellow, with the margin of an azure colour. It is found in Austria.

ÆAMENE, in *Ancient Geography*, a country of the Nabathæans, in Arabia.

ÆANA, a city of Macedonia, founded by Æanus, son of Elymus, king of the Tyrrhenians, who, leaving his own country, inhabited Macedonia.

ÆANIS, a fountain of Locris, situated in the sacred grove called *Æaneus lucus*, so called, according to Strabo, from a Greek named Æanes, who was killed there by Patroclus.

ÆANITIS, a country of the Nabathæans.

ÆANTIDES, a tribe of Attica, which comprehended six different people, viz. those of Marathon, Ænone, Paphidæ, Rhamnus, Titacidæ and Tricorythus.

ÆANTIUM, or AJACIUM, a small place in Asia, upon a promontory north-west of *Rhætheum*. Here, it is said, Ajax was buried. His statue found in this place, was taken away by Marc Antony, and restored by Augustus.

ÆANTIUM was also a town and promontory of Thessaly, in the extremity of the peninsula, which contained Magnesia, opposite to Thebes of Thessaly, and at the entrance of the Pelagic gulph.

ÆAS, a river of Greece, which sprang from Mount Pindus, and flowed into the Adriatic sea, about 10 stadia from the city of Apollonia. This is supposed to have been the same with the river *Aour*. Strabo. tom. i. p. 486.

M m

ÆAS,

ÆAS, or **AIAS**, a mountain of Egypt upon the Red Sea.
ÆBUDÆ, a name given by ancient Geographers to the Western isles of Scotland.

ÆBURA, a town of Spain near the Tagus, in the province of Castile; now *Talamanca la Reyna*.

ÆCÆ, a town of Italy, in Magna Græcia.

ÆCCANI, a people of Tuscany, near the city, formerly called *Æcus*, to the South of Luceria, and now Troia. Plin. H. N. tom. i. p. 168.

ÆCHILENSI, a people, who lived, according to Ptolemy, in the northern parts of Sardinia.

ÆCHMALOTARCHIA, in *Antiquity*, a Greek term, signifying the chief or leader of the Jewish captives in Babylon. The Jews who refused to follow Zerubbabel, and return with him to Jerusalem, after the Babylonish captivity, created an *Æchmalotarch* to govern them. The Jews, indeed, did not call him by this name, as some authors have asserted, for that people spoke Hebrew, or Chaldee, and not Greek. But Origen, and others who wrote in the Greek tongue, rendered the Hebrew name ראש גלות *ra'sh galuth*, q. d. *chief of the captivity*, by a Greek name of the like import, *αρχιμαλοταρχος*, formed from *αρχιμαλος*, *captain of an army*, *speaker* or *war*, and *αρχων*, *commander* or *chief*. However, the Jews seem to have had officers of this kind before the return from Babylon, as we may infer from the history of Sufannah; the two elders who condemned her being supposed to have been *Æchmalotarchæ* that year. The Jewish writers assure us that the *Æchmalotarchæ* were only to be chosen out of the tribe of Judah.

The eastern Jews had their *princes of the Captivity*, as the western Jews had their patriarchs. The Jews are said still to have an *æchmalotarcha* at Babylon, but without the authority of the ancient ones. One person of this description, selected from the house of David, was formerly acknowledged and honoured as a prince among the Jews, and had some sort of jurisdiction, as far as it was consistent with the government to which they were subject; and it was sometimes allowed and ratified by the reigning princes. But if such an officer now exist at Babylon or elsewhere, he is merely the head of the sect in that place, without sword or sceptre, or any power of coercion, or authority of jurisdiction, besides what he derives from the voluntary submission of the Jews, who inhabit such places. Nothing, therefore, can be more vain than the pretence of the Jews, that by this *æchmalotarcha*, the sceptre and law-giver are preserved in the tribe of Judah; and that the prophecy of Jacob (Gen. xlix. 10.) is not yet fulfilled by the advent of the Messiah. Basnage's Hist. Jews. Prideaux's Conn. vol. i. p. 153. vol. ii. p. 934.

ÆCIDIUM, in *Botany*, a genus of the *cryptogamia fungi* class and order; its characters are, that it has a membranaceous sheath, smooth on both sides, and full of naked separate seeds. Gmelin enumerates 18 species, some of which belong to the *LYCOPERDON* of other authors. Several of these are found on the leaves of other plants; and one of them is known to agriculturists by the name of the *Red Gum*. This species usually grows upon the inside of the glumes of the ealyx, and of the exterior valvule of the corolla, under their epidermis; which, when the plant is ripe, bursts, and emits a powder of a bright orange colour. This little plant, says an ingenious observer, (Linnæan Transf. vol. v. p. 122) does not appear to be materially injurious to the grain, if at all. He has seen ears full of it, with very plump kernels; and has also found it upon branched ears. Before the cuticle, which covers the seed of this fungus, bursts, it has very much the appearance of a pustule upon the human body. Other species grow on decaying wood and mosses, and in the leaves of tussilago farfara and petasites, *Bartlia viscosa*, *Age-*

mone nemorosa, *Adoxa moschatellina*, *Carduus arvensis*, and *Betonica officinalis*, &c.

ÆCLUS, in *Entomology*, a species of *PAPILIO*, with the wings black above, cinereous beneath, waved with black, and with a yellow ocellated spot. It is found in Anboyna.

ÆCULANUM, or **ÆCLANUM**, in *Ancient Geography*, a town of the Hirpini in Italy, situate between Beneventum and Tarentum. The inhabitants are called by Pliny (tom. i. p. 167.) *Æculani*, and in an ancient inscription of Gruter *Æclanenses*. The town, according to Cluverius, is now called *Iricento*.

ÆDEA, in *Entomology*, a species of *PAPILIO*, with wings spotted with white, the anterior greenish, the posterior marked with a yellow band; found in South America.

ÆDELITE. See **ZEOLITE**.

ÆDEPSI *Therma*, *baths of Ædepsus*, in *Ancient Geography*, the name of a city in the island of Eubœa upon the western coast. The baths were consecrated to Hercules.

ÆDES, in *Antiquity*, a chapel, or inferior kind of temple, distinguished by this, that it was not consecrated by the Augurs, as those properly called **TEMPLES** were. Such was the ærarium, or treasury; called *Ædes Saturni*.

ÆDESIUS, in *Biography*, the disciple and successor of Jamblichus, lived in Cappadocia, and, after the example of his master, pretended to supernatural communications with the Deity, and practised theurgic arts. Of the events that occurred to him the most ludicrous is this: viz. That, in answer to his prayers, his future fate was revealed to him in hexameter verses, which suddenly appeared upon the palm of his left hand. Towards the close of his life, he committed his school at Cappadocia to the care of his disciple and friend Eustathius, and removed to Pergamus, where he had a numerous train of followers. Brucker's Hist. Phil. by Enfield, vol. ii. p. 75.

ÆDICULA, in *Antiquity*, a term, denoting the inner part of the ædes or temple, in which the altar and statue of the deity were placed; but the term had various acceptations. It sometimes denoted a low small building, or ædes parva, consecrated to some divinity: it often signified a niche in the wall for receiving a statue, and those especially of the Lares or Penates; and sometimes the representations of temples, which were offered and suspended in the temples of the gods, and more especially in that of Diana of Ephesus.

ÆDICULUS, in *Roman Mythology*, the deity who presided over the construction and conservation of buildings.

ÆDILATE, in *Antiquity*, the dignity or magistracy of the Roman **ÆDILES**. This is otherwise called *Ædilitas*. In inscriptions we find it represented by the abbreviature. **ÆD.**

ÆDILE, **ÆDILIS**, in *Antiquity*, a Roman magistrate, vested with divers functions, chiefly that of superintending the buildings both public and private; as baths, aqueducts, roads, bridges, causeways, &c. The word is formed of *ædes*, *temple*, or *house*, on account of their having the care of temples, houses, &c.

The ædiles at Rome corresponded to what the Greeks called *agoranomi*, and *astynomi*; they differed from *oecronomi* and *ararii*, who were rather receivers of the revenues; also from *logista*, *curatores* & *paires civitatis*.

To the ædiles belonged the inspection of the weights and measures. They fixed the rate of provisions, and took care the people suffered no exactions. The inquiry and cognizance of debauchees, and disorders in public houses, likewise belonged to them: they were also to revise comedies; and it belonged to them to treat the people with grand games and spectacles, at their own expence. They were likewise to attend on the tribunes of the people.

To the ædiles also belonged the custody of the plebiscita, and the censure and examination of books. They had the power,

power, on certain occasions, of issuing edicts; and, by degrees, they procured to themselves a considerable jurisdiction, the cognizance of various causes, &c.—This office ruined numbers by its expensiveness; so that in Augustus's time, even many senators declined it, on that account.

All these functions, which rendered the ædiles so considerable, belonged at first to the ædiles of the people, *ædiles plebei*, or *minores*: these were only two in number, and were first created in the same year as the tribunes: for the tribunes, finding themselves oppressed with the multiplicity of affairs, demanded of the senate to have officers, with whom they might intrust matters of less importance, and accordingly two ædiles were created: and hence it was, that the ædiles were elected every year, at the same assembly as the tribunes. These plebeian ædiles continued in the sole possession of the office during the space of 127 years, from the year of Rome 261, when they were appointed, to the year 388. But these ædiles having refused to celebrate the great games, on occasion of the reconciliation that took place between the senate and people in consequence of the grant that one of their order should be consul, because the celebration was attended with an expence which they were unable to support, the Patricians offered to undertake the charge, upon condition that they should obtain the honours of the ædileship. Their offer was accepted with gratitude; and the senate passed a decree for the election of two ædiles annually out of the order of the patricians. From this time there were two kinds of ædiles at Rome; the one were called *Plebeian Ædiles*; the other were called *Ædiles Curules*, or *Majores*, i. e. *Curule Ædiles*, because they had the right of sitting in a *Curule* chair, adorned with ivory, when they gave audience; whereas the plebeian ædiles sat on benches: and this chair was placed in the chariot in which they were carried; a distinction annexed to the great offices of the commonwealth.

It is not easy to describe exactly the different functions of these two kinds of ædiles. It is probable, however, that the curule ædiles shared all the ordinary functions with the plebeian; but their principal and distinguishing office pertained, according to Cicero, in the last of his orations against Verres, (*Oper. l. 4. p. 524. Ed. Olivet*) to their presiding in the games celebrated in honour of different divinities, to the care of the sacred edifices, and to the civil government of Rome in general. They were also appointed judges in all cases relating to the selling or exchanging of estates. The distinctions which these ædiles enjoyed were the right of giving their opinion in the senate, not according to the date of their admission into that body, but a more honourable rank, the robe called *toga prætexta*, the curule chair, and the right of having images, which were set up in their halls and carried in pomp at their funerals; all of which were privileges that were annexed to the great offices of state.

The first curule dignity held at Rome was the ædileship, and the age for entering into that office was 37. In two years it was succeeded by the prætorship, and after the like interval, by the office of consul. The manner in which the office of ædile was sustained, and particularly in the exhibition of games, very much contributed either to gain or alienate the attachment of the people with respect to the other dignities. The expence attending the games and shews was, in some cases, enormous. Cicero was moderate, as he informs us in his *Offices*, l. 2. *apud oper. tom. 3. p. 353. Ed. Olivet*. But the expences of others in that department of their office which respected the games were so exorbitant, as to give Livy reason for observing, that the revenues of the most opulent princes would hardly suffice to support them. Of

this fact we have a memorable example in the ædileship of M. Scaurus, in the 694th year of Rome; so that Pliny, (l. 36. c. 15.) from the almost incredible profusion which this ædile bestowed upon the theatre which he erected, took occasion to exclaim, that the ædileship of Scaurus finally ruined and subverted the manners of the public.

Augustus transferred the care of the public shews and sports to the prætors, and would not allow them to be exhibited at their own charge; but obliged the people to contribute a part, and paid the rest out of the public treasury.

To ease these four first ædiles Cæsar created a new kind, called *ædiles cereales*, as being deputed chiefly to take care of the corn, which was called *donum Ceresis*; for the heathens honoured Ceres as the goddess who presided over corn, and attributed to her the invention of agriculture. These ædiles cereales were also taken out of the order of patricians. In the municipal cities there were ædiles, with the same authority as at Rome.

We also read of an *ædilis alimentarius*, expressed in abbreviation by *Ædil. alim.* whose business seems to have been to provide diet for those who were maintained at the public charge, though others assign him a different office.

In ancient inscriptions we also meet with ædiles of the camp, *ædilis castrorum*.

ÆDILIS, in *Entomology*, a species of the *CERAMBYX* with a spinose thorax, marked with four yellow spots, with obtuse nebulous elytra and very long antennæ. It is found in the trunks of trees in Europe; and is also called *Capricornus Rufficus*.

ÆDILITIUM edictum, among the Romans, was that whereby a remedy was given a buyer, in case a vicious, or unsound beast, or slave, was sold him. It was called *ædilitium*, because the preventing frauds in sales and contracts belonged especially to the curule ædiles.

ÆDITUUS, in *Antiquity*, the keeper of a sacred mansion, who had the care of the offerings and ornaments of the deity to whom it was peculiarly devoted.

The word is compounded of *ædes*, and *tuor*, *I defend*, q. d. *à tuendis ædibus*; originally it was written *æditimus*.

The *ædituus* is the same with what Scævola calls *hierophylax*, the Latins sometimes *ædilis*, and the Greeks *ιερωποις*, answering to the sexton among us.

The *æditui*, among the Romans, were officers of distinction, being the depositaries not only of the treasure, but of the public acts, or records.—The *æditui* had their several cells, near the temples, the custody of which was committed to them. *Struv. Ant. Rom.*

The female deities had a female officer of the same kind, under the denomination *æditua*.

ÆDITUUS, MARTIN, in *Biography*, born at Amsterdam, was first physician to Frederic II. king of Denmark. Adrien Jonghe, dedicated his treatise “*De Coma*” to him, published at Basle in 1558, whence it appears that he was then in high repute.

ÆDOIÀ, the same as *PUDENDA*.

ÆDON, in *Ancient Geography*, an island of Marmarica, on the borders of Egypt.

ÆDON, in *Ornithology*, a species of *MUSCICAPA*.

ÆDUI, in *Ancient History*, a denomination given to the most ancient and powerful people of Gaul, who were situated between the rivers Seine, Loire and Saone, within the 46th and 47th degree of latitude; and who were the only allies Cæsar had at the time of his invading Gaul.

Their country was fruitful, and furnished abundance of corn. Their principal city was Bibracte or Augustodunum, now Autun. The form of their government was aristocratic; and they chose their chief magistrate annually.

This government only lasted till the establishment of the Romans in Gaul. The Ædui then occupied the countries comprehended in the dioceses of Autun, Chalons, Maçon, and part of that of Dijon. Their allies and their subjects comprehended the rest of La Bourgogne, La Bresse, Le Lyonnais, Le Beaujolois, Le Forez, Le Bourbonnois, and Le Nivernois.

ÆDUSII, allies of the Romans, bordering upon Celtic Gaul.

ÆGA, in *Ancient Geography*, a river of Phocis:—a town of Æmonia:—an island between Tenedos and Chios:—and a promontory of Asia Minor in Æolis.

ÆGADES, ÆGATTE, or ÆGUSA. *Isulae*, three islands lying north of Cape Lilybæum, or on the west side of Sicily opposite to the main land between Marsella and Trapani; viz. Phorbantia, or Buccina, as Pliny calls it, Ægula or Capraria, and Hiera, called also Maritima. The first is now called Lavenzo, the second Favignana, which is very fruitful, and the third Marciano. In these islands the Romans under the Consul L. Catulus obtained a signal victory over the Carthaginians, which terminated the first Punic war.

ÆGÆ, or ÆGEAN, is derived, as some have supposed, from the genitive *Αἰγός* of *Αἴξ*, a goat. See ÆGEA. But several ingenious moderns, and particularly the Abbé Berquier and M. Gobelin, tracing the origin of the name to its primitive roots *ag*, *aig*, have found that these words, in the Pelasgic and Celtic languages, denote waters or maritime countries; and they have concluded, that the appellation Ægæ is derived from the vicinity of the places to which it is applied to waters, or from their being better adapted to maritime commerce than other places. Accordingly they add, that Neptune was particularly honoured in the Ægean cities.

ÆGÆ was a city of Cilicia on a promontory in the gulf of Ifficus, having Issus to the north-east, and Mallos to the north-west;—it was also a town of Macedonia, called ÆGEA and EDESSA:—a town of the Thracian Chersonesus, probably ÆGOS *Potamos*:—a town in the Myrrhina, a country of Æolis, south of Cuma and east of Phocæa, on the border of the gulf, which town, as Tacitus informs us, was overwhelmed by an earthquake:—a town of Lydia:—another of Locris:—another of Ætolia:—another of the island of Eubœa, where they had a temple of Neptune:—and another of Achaia, on the gulf of Corinth, at the mouth of the river Crathis, (see Homer II. l. viii. v. 208.) In Ægæ of Cilicia there were medals of gold, bronze, and silver. The symbol was half a horse; and rich imperial medals were struck here in honour of several of the Roman emperors. In Ægæ of Macedonia, the medals were silver, gold, and bronze; and the common type was a goat. In Ægæ of Æolia, which was governed by prætors, there were struck Greek imperial medals in honour of some of the Roman emperors.

ÆGEUS, the name of a river, mentioned by Suidas, in the island of Corcyra. Stephanus Byzantinus, and Eustathius speak of a canton in Phocis, under the name of Campus Ægæus, (*πεδιον αἰγίων*) taken from a river Ægas which runs there.

ÆGAGROPILA or ÆGAGROPILUS, in *Natural History*, and in *Veterinary Medicine*, is a ball generated in the stomachs of some animals. There are two species of intestinal collections that have this appellation, but which are entirely dissimilar. The one is composed of hair, and is very usually found in the stomach of the rupicapra, or chamois goat. The other species is truly a calculous concretion, which is found more frequently in the intestines of

different animals, particularly of horses. It is this kind that is sometimes called bezoar Germanicum, or the German BEZOAR. The word is Greek, from *αἰγαιός*, the rupicapra or rock goat; and *πῖλος*, a ball. See BALLS, and HAIR-Balls.

ÆGAGROPILA, in *Botany*, a species of *CONPERVA*, with very ramose filaments closely united from the centre, and constituting a globe.

ÆGAGRUS, in *Zoology*. See GOAT and IBEX.

ÆGALEUS Mons, in *Ancient Geography*, a mountain of Attica, near the isle of Salamine:—a mountain also of Mesenia bears the same name.

ÆGARA, a town of Lydia, according to Ptolemy.

ÆGAS, a river of Phocis.

ÆGEA, a town of Mauritania Cæsariensis, according to Ptolemy, who places it in long. 26°, and lat. 27° 10'.

ÆGEA or EDESSA, now *Vodena*, was the ancient capital of Macedonia, the residence of Caranus, the first king of Macedon, and the burial-place of the kings of his line to the time of Alexander the Great. It derived its appellation, as it is pretended, from the following circumstance. Caranus, who was by birth an Argive, leaving his native country at the head of a considerable body of Greeks, was undetermined where they should settle. But upon consulting the oracle, he was instructed to establish his empire according to the direction of the goats. Ignorant of its meaning, he pursued his course to the country, afterwards called Macedonia, and approached Edessa the capital of the small kingdom Æmathia, governed by king Midas. The sky was overcast, and a storm succeeded; upon which Caranus observed a herd of goats running for shelter into the city. This circumstance reminded him of the response of the oracle; and, commanding his men to follow him, he entered the city by surprise, and thus possessed himself of it and of the whole kingdom. In gratitude to his conductors he changed the name of the place into Ægea, and called his people Ægeates or Ægeadæ; and introduced a goat into his standard in commemoration of the event. In the book of Daniel, the he-goat is the symbol of Macedon. Pliny, l. iv. c. 10. tom. 1. p. 200. Ed. Hard. Mede's Works, B. iii. Comment. Apocal. p. 473.

ÆGEAN Sea, a name given by the ancients to that portion of the Mediterranean, which extends from the promontory of Sunium and the island of Crete, as far as the Hellespont. It is now the Archipelago, separating Europe from Asia, washing on one side Greece and Macedon, and on the other Caria, Ionia and Phrygia. The origin of the appellation Ægean has been variously assigned. Festus has recorded three etymologies; one that is derived from the numerous islands that are scattered over this sea, and which appear at a distance like a herd of goats; another, because the queen of the Amazons perished in it; and a third, because Ægeus the father of Theseus threw himself headlong into it. Vossius, however, and many other learned persons, are not satisfied with either of these etymologies; but conceive it to be derived from *αἶγες* Doricé *fructus*; and that the waves are denominated *αἰγες*, i. e. goats, on account of the leaping motion of these animals. See ÆGÆ.

The navigation of this sea, which abounds with islands to the number of 53, from Tenedos to Crete, according to the enumeration of ancient geographers, and which are comprehended under the two general denominations of CYCLADES and SPORADES, is both difficult and dangerous: whence proceeds the proverb, he sails on the Ægean sea, or *Αἰγῶν πλεῖ*; applied to a person who engages in a hazardous undertaking. The Ægean sea is usually divided into seven parts, viz. 1. The sea of Crete, between that island

island and the Peloponnesus. 2. The Myrtoan sea, before Peloponnesus and Attica. 3. The sea of Greece, along the coast of Greece. 4. The sea of Macedonia, on the coasts of that kingdom and of Thrace. 5. The Ægean sea, properly so called, between Eubœa and Lemnos. 6. The Icarian sea, towards the island of Icarus. 7. The Carpathian sea and that of Rhodes, lying between this island and that of Crete. The principal rivers running into this sea are the ALIACMON, ERIGON, AXIUS, STRYMON and NESTUS. The Ægean sea was peculiarly favourable to commerce by means of the spacious bays that were formed by it on the Asian coast, of which the most remarkable were the STRYMONIC, SINGITIC, TORONÆIC and THERMÆAN.

ÆGEIS or ÆGIS, a tribe of Attica, so called from Ægeus the son of Pandion, contained 16 boroughs or towns.

ÆGELETHRON, in *Botany*, a name used by some authors for the common mercurialis, or English mercury, an eatable wild herb.

ÆGELI, in *Ancient Geography*, a people of Media in Asia, supposed by some to be the same with the Ægli mentioned by Herodotus.

ÆGELICA, a town of Macedonia, which, as Livy informs us, was surprised by Attalus.

ÆGEON, in *Entomology*, a species of SCARABÆUS, of a red colour, with the horn of the thorax short and incurved and bearded beneath; and that of the head recurved and subulate. It is found in South America and India.

ÆGEONIS Promontorium, a promontory of the Euxine Sea, at the mouth of the river Rhyndachus, or on the confines of Mylia and Bithynia.

ÆGERI, or ECERE, in *Geography*, a community of Switzerland, which forms with the town of Zug, and the community of Mensengen and Bar, the sovereignty of the canton of Zug. It is divided into two parishes; the higher Ægeri, where the council of the community is held, and lower Ægeri or Wilægeri near the lake Ægeri, which is a league in length and very deep, and abounds with fish. The river Loretz runs into it.

ÆGERIA, in *Entomology*, a species of PAPILIO, with dentated brown wings, spotted with yellow, and with an ocellus on both sides of the anterior wings, and four ocelli on the upper side of the posterior wings, and four points under them. It is found on the grass in Europe.

ÆGESTA, a town of Sicily, called also SEGESTA. It is now *Barbara*.

ÆGETA, AGETA, or *Egeta*, a town of Upper Mæsia on the Danube, probably the *Eieta* of Ptolemy, is placed by M. d'Anville near Trajan's Bridge, south-west of Zernes.

ÆGEUS, in *Fabulous History*, was king of Athens, and father of Theseus. Minos king of Crete, having subdued the Athenians, in a war occasioned by their murder of his son, inflicted upon them this penalty; that they should annually send into Crete seven of the noblest of the Athenian youths to be devoured by the Minotaur. After three years Theseus was sent; the young prince killed the Minotaur; but having forgotten to change the black sails into white upon his return, according to the instructions given him by his father, Ægeus conceiving him to be dead, cast himself headlong into the sea, which, from this circumstance, says the fable, obtained the name of the Ægean sea. The Athenians decreed divine honours to Ægeus, and sacrificed to him as a marine deity, the adopted son of Neptune.

ÆGIACUS, or ÆGIOCHUS, in *Mythology*, a name given to Jupiter, on account of the goat Amalthæa, by which he was suckled.

ÆGIÆ, in *Ancient Geography*, a town of Laconia, south-west of Crocea:—and a town also of Ætolia, which, according to Dioseorides, afforded saffron.

ÆGIALA, a name anciently given to ACHAIA *propria*, or the kingdom of SICYON, and derived from Ægialeus, the supposed founder and first monarch.

ÆGIALE, in *Mythology*, one of the three graces.

ÆGIALUS, in *Ancient Geography*, a small town of Asia Minor upon the Euxine, in the district belonging to the Heneti in Paphlagonia;—a place in Peloponnesus, between Sicione and Buprasium:—a town of Thrace, near Strimon:—a town of Æthiopia, near the Nile:—a town in the island of Amorgos:—and a town of Sicione, afterwards called Mecone. In Ægialeus of the Peloponnesus, Greek imperial metals were struck under the authority of the archons, in honour of Caracalla and Domna.

ÆGIAS, among the *Ancient Greek Physicians*, denotes a white speck on the pupil of the eye, occasioning a dimness of sight, either arising from an excrementitious humour, or from the reliëts of the cicatricula of an ulcer on the part.

This is the same with what others write *ægi* and *æglia*.

ÆGICERAS, formed of *αἴξ*, a goat, and *κερας*, a horn, in *Botany*, a genus of the class and order of *pentandria monogynia*; the characters of which are, that the calyx is a one-leafed, bell-shaped, half-five-cleft, coriaceous, permanent perianthium; the corolla has five petals; the stamina are five filaments; the pistillum is an oblong germen with a single style; the pericarpium is a bowed, coriaceous, one-celled, one-valved capsule, gaping on the convex side; and the seed is single. There are two species; one, a native of the Molucca islands, the *rhizophora corniculata* of Linnæus; the other a native of Ceylon. Martyn.

ÆGICOREOS, in *Ancient Geography*, was one of the four first tribes of Attica.

ÆGIDA, the principal town on the north of the territory of Istria in Italy, situated in a small island, joined to the land by a bridge. Pliny has preserved the ancient name, and in an inscription of Gruter, it is called *Ægidis insula*. It was afterwards called Justinopolis, after the emperor Justinian; and it is now *Capo de Istria*. N. lat. 45° 50'. E. long. 14° 20'.

ÆGIDES, in *Surgery*, is a term employed by Hippocrates (Prædict. L. ii. ἀγιδης) to denote an opacity of the cornea, which intercepts the rays of light passing through the pupil. See ALBUGO, LEUCOMA, and OPHTHALMIA.

ÆGIDION, a name given to a *collyrium* for inflammations and defluxions of the eyes. It is also called *ægopropion*.

ÆGIDION Insula, in *Ancient Geography*, a name given by Arrian to an island in the Indian Sea.

ÆGIDIUS, PETRUS ALBIENSIS, in *Biography*, was deputed by Francis I. to visit the celebrated places in the East, and to learn their state. He was taken by pirates, but made his escape, and died of a surfeit in 1555, at the age of 65 years. His works are "Descriptio Bosphori Thraciæ," "Descriptio Urbis Constantinopolitanæ," "De Piscium Massiliensium nominibus Gallicis et Latinis," "De Elephantis." He likewise translated into Latin Theodoret's Commentary upon the twelve minor prophets, and Ælian's sixteen books of the history of animals.

ÆGIDIUS, surnamed *Atheniensis*, was a Greek physician and philosopher under the emperor Tiberius II, in the eighth century. He became a Benedictine, and wrote several tracts, of which the principal are those; "De Pulsi-bus et de Venenis." Being accidentally wounded by an

arrow, he would not suffer the wound to be dressed, that he might exercise his fortitude in bearing pain.

ÆGIDIUS de COLUMNA, a Roman monk of the Augustine order, was preceptor to the sons of Philip III. of France, and taught philosophy and theology in the university of Paris with so much reputation, that he was honoured with the appellation of "The most profound Doctor." After being advanced to the rich bishopric of Berri, he died in 1316; leaving behind him on his monument the character of "Lux in lucem reducens dubia;" i. e. the luminary that brought dark things to light; a character which his writings, on account of their profound and unfathomable obscurity, do not justify. Brucker's Hist. Philos. by Enfield, vol. ii. p. 379. His "Lucubrations on the Sentences of Lombard," were printed at Basil, in 1623. His work "On original Sin," in 4to. at Oxford, in 1479; and his "Quæstiones Metaphysicæ and Quodlibeticæ," at Venice in 1501.

ÆGIDIUS Corbolenfis, or Gilles de Corbeil, canon of Paris, was physician to Philip Augustus, king of France, and lived about the end of the twelfth century; "ex Salernitana Schola, Haller says, Medicus et Poeta." He wrote a treatise, "On Compound Medicines," in Latin verse, which has not been printed; also "Liber unus de Urinarum judiciis, et de Pulsibus liber unus, Venetiis impress. 1494, cum Expositione et Commento M. Gentilis de Fulgineo:" reprinted at Lyons 1505, and at Basil 1579.

ÆGILA, in *Ancient Geography*, a borough of Laconia, in the Peloponnesus. Pausanias (p. 320.) informs us, that it had a temple of Ceres, in which Aristomenes, a general of the Messenians, surprised an assembly of women, who were celebrating a feast in it; and that the women not only defended themselves, but repulsed him, without any arms besides the knives which they used for their sacrifices; and that he escaped merely by favour of Archidama, a Messenian female, whose affection he had engaged.

ÆGILA. See **ÆGYLA**.

ÆGILIA, one of the boroughs of the tribe of Antiochides in Attica.

ÆGILON, an island, called also **CAPRARIA**, now **CARIGOTTO**.

ÆGILIPSA, a place of Greece in the vicinity of Ithaca, situate near Crocylia of Epirus. Homer's *Il.* ii. v. 633.

ÆGILIUM. See **IGILIUM**.

ÆGILOPS, formed of *αἴγος* *ωψ*, goat's face, on account of its roughness, *wild Fescue*, in *Botany*, a genus of the *monocotyledon* order, and *polygymia* class, and of the natural order of *gramina* or *grasses*: the characters are, that the hermaphrodite calyx is a large bivalvular glume, sustaining three flowers, and that the valves are ovate, truncate, streaked with various awns; the corolla is a bivalvular glume, the outer valve ovate, terminated by a double or triple awn, the inner lanceolate, erect, awnless, with the edge bent in longitudinally; the nectary two-leaved, with ovate, flat, transparent, very small leaflets; the stamina have three capillary filaments, with oblong anthers; the pistillum is a turbinate germen, the styles are two and reflex, with hairy stigmas; no pericarpium; and the seeds are oblong, convex on one side, grooved on the other, with the inner valve of the corolla adhering to it, and not opening. There are four species; viz. *ovata*, *caudata*, *triuncialis*, and *squarrosa*; to which Gmelin adds the *aromatica* and *saccharina*; and he ranks this genus under the *triandria digynia* class and order. The first of these grasses is wild in the southern countries of Europe, and was cultivated in 1683, by Mr. James Sutherland; the second was found by M. Tournesfort in Crete; the third grows about Montpellier, Marseilles, Nice, and

Smyrna, and was introduced in 1776 by M. Thouin; and the fourth was found by Tournesfort in the Levant, and by Cavanilles in Spain. They all seem to be annual.—Martyn's Miller's Dict.

ÆGILOPS is also a name given to the *holm-oak*, a species of the *QUERCUS*; to the *wild OAT*, a species of the *AVENA*; to a species of the *ANDROPOGON*, and to a species of the *BROMUS*. *Ægilops incurvata* is a species of the *ROTEBOLIA*.

ÆGILOPS, or **ÆGYLOPS**, in *Surgery*, an **ABSCCESS** seated near the inner angle of the eye, which is so called from its giving a cast of that organ resembling a goat's eye, (from *αἴξ*, a goat, and *ὤψ* the eye.) It has been noticed by Virgil, "*Transversa tuentibus Hircis*." The sinusity, which we now indiscriminately call *fistula lachrymalis*, in its incipient state, was named **ANCHILOPS** by some of the ancients; but, in its stage of suppuration, it was termed *ægilops*. For the description and treatment of this disorder, see **FISTULA LACHRYMALIS**.

ÆGIMURUS, in *Ancient Geography*, a small island in the Gulph of Carthage, about thirty miles from that capital. Pliny, (*H. N.* tom. i. 251.) informs us, that there were two rocks near this island, called the *aræ ægimuri*, or *ægimori*, which, according to Servius, were the remains of an island, some ages before his time, absorbed by the sea. This author likewise informs us, that they were called *aræ*, because on them the Romans and Carthaginians concluded a treaty, and made them the limits of their respective dominions. Virgil refers to these in his *Æneid*. l. i. v. 113.

"Saxa vocant Itali, mediis quæ in fluctibus aræ."

The modern *Zowamoore*, or the *Zimbra* of our sea-charts, lying betwixt Cape Zibeeb and Cape Bon or Ras-addar, is the *Ægimurus* of the ancient. The gulph in which this island lies, is remarkable for its great depth as well as breadth, and on this account was justly named by Virgil, *Æneid*, l. i. v. 163. *secessus longus, a long recess*. Shaw's Trav. p. 76. 4to.

ÆGINA, an island in the Saronic gulph, or bay of Engia. It was more anciently known by the names of Oenone or Oenopia, (*Plin.* tom. i. 209.) and Myrmonidia, from its inhabitants the Myrmidons, so famous among the poets. It was called *Ægina* by *Æacus*, who reigned in this island, from the name of his mother, the daughter of *Æolops*, king of *Boeotia*, who being debauched by *Jupiter*, as fabulous history reports, in the similitude of a lambent flame, was removed from *Epidaurus* to this desert island. It is now called *Ægina*, and is one of the islands of the Archipelago. It lies between the territory of Athens, and that of *Epidaurus*, eighteen miles distant from the coast of Athens, and fourteen from *Peloponnesus*. It is about twenty-six miles in circuit, and had anciently a city of its own name, which being destroyed by an earthquake, the inhabitants were exempted by *Tiberius*, for the space of three years, from paying any kind of tribute. Pausanias (*in Corinth.* c. 12.) speaks of two magnificent temples in this island, the one consecrated to *Venus*, the other to *Jupiter*. The latter was built upon the summit of a mountain called *Panhellenius* by *Æacus*, in order to propitiate *Jupiter* in a time of drought; who was supplicated under this epithet, and granted to his votaries rain. The temple was of the Doric order, and had six columns in front, and claims a very remote antiquity: its remains, in a very ruined state, indicate its original magnificence. The soil of this island was at first very stony and barren; but being cultivated by the inhabitants, it became very fruitful; and hence, says *Strabo*, (*tom. i. p. 576.*) the inhabitants were called

Myrmidons,

Myrmidons, i. e. *emmetts*, from their industry. This island was first peopled by the Epidaurians, who were originally Dorians, and afterwards by colonies from Crete and Argos. These were, in process of time, driven out by the Athenians, and the Athenians by the Lacedæmonians, who restored the island to the ancient proprietors. The Ægeians applied themselves, in a very early period, to trade and navigation, and sent colonies into the neighbouring islands of Imbros and Crete, in the latter of which (says Strabo) they built and peopled the city of Cydon. The first money, according to the same writer, was coined in Ægina by one Phiden. Pliny (tom. ii. p. 640.) commends the brass of this island, and asserts that the famous statue of this metal, representing an ox, which stood in the forum boarium at Rome, was carried from hence to adorn that capital. The Ægeians were originally governed by kings; but afterwards introduced the republican system, which became so powerful as to vie even with Athens. Æacus, from whom sprung the Æacide, who reigned in different countries with reputation and power, was the second king of this island; and, according to Macrobius (*Adversus Gentes*, l. vi. p. 131.), he lived about two generations before the Trojan war, and was the first who built a temple in Greece. Upon the dissolution of this monarchy, the Ægeians became subject to the Epidaurians; but applying themselves to navigation, they became powerful by sea, and revolted from their masters, ravaged their territory, and carried away the two famous statues of Damias and Auxias. This occasioned an irreconcilable enmity between the Ægeians, and Athenians. This island was at last reduced by the Athenians, and continued subject to them, till, at the end of the Macedonian war, it was declared free by the Romans; but in the reign of Vespasian it underwent the same fate as the other states of Greece. In the year 1536 it was subdued by the Turks, after an obstinate resistance: the capital was plundered and burnt; and after a great slaughter of the inhabitants, the rest were carried away into slavery. The population of this, as well as of other little states, in the times of their splendour, was immense. Ægina had once 420,000 slaves, the proportion of whom to freemen was, in ancient republics, according to the monopoly of wealth. In Greece it is supposed to have been about twenty to one. The most remarkable circumstance related by modern travellers concerning this island is, that it swarms with partridges, and that for preventing their increase the people go out every year to break their eggs: fearing, lest, by decreasing their corn, these birds should produce a famine. They have no hares, foxes, or wolves in this island. In summer the rivers are dry. The waiwode or governor farms the revenue of the Grand Seigneur for twelve purfes, or 6000 piaftres. About half this sum is repaid annually by the caratch-money, or poll-tax.

The town of *Engia*, so called by corruption from *Ægina*, is said to consist of about 800 troops, and has a castle, and near it may be seen the remains of a magnificent structure, which was probably one of the celebrated temples which formerly graced this island.

Imperial Greek medals were struck in this island, in honour of Elagabalus and Plautilla.

ÆGINETA, PAULUS, in *Biography*, a celebrated surgeon of the island of Ægina, from which he derived his name. He is placed by Le Clerc in the fourth century, but by Abulpharagius in the seventh. He was eminently skilled in surgery, and his works are frequently cited by Fabricius ab Aquapendente, and indeed form the basis of this

author's valuable treatise. He is the first author that takes notice of the cathartic quality of rhubarb. He begins his book with the description of women's diseases, and he is said to be the first person among the ancients that deserves the appellation of a man-midwife. His works are *Libri vii. de Re Medica, seu opera omnia Græce, Venetiis 1528, fol.*—*Idem ex interpret. & cum Annot. J. Guinteri Andernaci Venet. 1542, 8vo.*—*Id. cum Annot. Jac. Goupyli. ex ed. & cum Schol. J. Bapt. Camotii Venet. 1553, 8vo.*

ÆGINETTES, in *Ancient Geography*, a small town of Paphlagonia, and also a small river of the same province in Asia Minor.

ÆGINETIA, in *Botany*, a species of *OPONANCH* with a single-flowered stalk, and a subspatheaceous flower.

ÆGINHARD, in *Biography*, a native of Germany, who was educated by the munificence of Charlemagne, and who afterwards became his secretary, and as some suppose his son-in-law, by marrying his daughter Emma; but it has been lately proved that she was not the daughter of Charlemagne. He is said to have been carried through the snow on the shoulders of the affectionate Emma, that his footsteps might not be traced from her apartments by the emperor her father. This story was copied by Addison from an old German Chronicle, and admirably embellished by this elegant writer in the third volume of the *Spectator*. Æginhard, after the death of his wife, which he deplores in a letter still extant, is supposed to have passed the remainder of his days in religious retirement; and to have died soon after the year 840. His life of Charlemagne, his *Annals* from 741 to 889, and his letters, are inserted in the second volume of Dufresne's *Scriptores Francorum*. An improved edition, with the Annotations of Hermann Schmincke, was printed in 4to. in 1711.

ÆGINIUM, in *Ancient Geography*, a town of Greece, in Thessaly, on the frontiers of the Tymphæan mountains near the source of the Ion, which here forms a small lake, and south-west of Azorus.

ÆGIOCHUS, a small place in the island of Crete, where Jupiter was nourished by a goat, according to Diodorus. See ÆGIACUS.

ÆGIPA, a town of Æthiopia, near the Nile.

ÆGIPAN, in *Antiquity*, a denomination given to Pan, and the Panes.

The ancients also give the name *ægipans* to a sort of monsters mentioned by Pliny, Solinus, and Pomp. Mela. Salmassius, in his notes on Solinus, takes *ægipan* to have signified the same, in Lybia, with *sylvanus* among the Romans.

Vossius rejects the opinion, and shews that the *ægipans* had not faces like men, as the *sylvans* had; but like goats. In effect, the whole upper part of the body resembled that animal; and as to the lower, they painted it with a fish's tail. The monster represented on some medals of Augustus by antiquaries, called *Capricornus*, appears to be the true *ægipan*.

The word is derived from *æg*, a goat; Pan being represented with the horns, feet, and legs of that animal.

ÆGIPHILA, formed from *æg* and *phila*, *Goat's friend*, a genus of the *tetrandria monogynia* class and order, and the natural order of *Vitices*: the characters are, that the calyx is a one-leaved, bell-shaped, four-toothed, loose, very short, permanent perianthium; that the corolla is one-petalled, salver-shaped, with a cylindric tube, narrower and longer than the calyx, border quadrifid, flat, equal, and clefts oblong;

the

the stamina are capillary filaments inserted into the mouth of the tube, erect, and anthers roundish; the pistillum is a roundish superior germ, style capillary deeply bifid, and stigmas simple: the pericarpium is a roundish two-celled berry, surrounded with the permanent calyx; and the seed is either in pairs or solitary. There are four species, viz. *martiniensis*, *clata* or the *luzia* of Brown, *fiatula*, and *trifida*, to which are added in the last edition of Linnaeus's system, the *villosa*, *arborescens* and *levis*. The first is a shrub about six feet high with white flowers, which appear in November, a native of Martinico, and was introduced in 1780, by Mr. Francis Masson. La Marek thinks this species ought to be classed with the *VERBENA*. The other species are natives of Jamaica.

ÆGIPIUS, a river of Asia, which discharges itself into the Euxine, above Dioscurias.

ÆGIPLANETUM, in *Ancient Geography*, a mountain of Greece, mentioned by Æschylus in his *Agamemnon*, and supposed to be in the vicinity of Corinth.

ÆGIRA, a town of Achaia, supposed to be founded by Egirus, the sixth king of Sicyon, and situate, according to Polybius (l. iv. c. 57. p. 322. D. Ed. Casaub.) in that part of Peloponnesus that is washed by the Corinthian bay, between Ægium and Sicyon, opposite to Parnassus, and at the distance of seven stadia from the sea. It was covered with steep and almost inaccessible hills; and adorned with several temples, one of which was appropriate to Venus celestis, into which no men were allowed to enter, and also with several pictures and statues. Pausanias (p. 593.) speaks of one of these pictures, which exhibited an aged man, who had received a mortal wound, and who was placed between three brothers and three sisters. The expression of concern and grief was so lively, that the picture was denominated *παῖς ἐν σπυράδῃ*. It is now a small village called *Xylocastro* or *Hyllocastro*.

ÆGIRA was also one of the names which the ancients gave to the island of Lesbos.

ÆGIRCIUS, *Gers*, a river of Gaul, which rose in the Pyrenees, passed to Aufci or Aufch, and discharged itself into the Garumna.

ÆGIRUM, or **ÆGIRUS**, a town of the isle of Lesbos, on the east side between Mitylene and Methymna.

ÆGIRUSA, a town of Æolis; and also of Megaris.

ÆGIS, in the *Ancient Mythology*, a name given to the shield or buckler of Jupiter and Pallas.

The goat Amalthea, which had suckled Jove, being dead, that god is said to have covered his buckler with the skin thereof; whence the appellation *ægis*, from *αἶς*, *αἶς*, *she-goat*.

Jupiter afterwards restoring the beast to life again, covered it with a new skin, and placed it among the stars. As to his buckler, he made a present of it to Minerva; whence that goddess's buckler is also called *ægis*.

Minerva, having killed the Gorgon Medusa, nailed her head in the middle of the *ægis*, which henceforth had the faculty of converting into stone all those who looked thereon; as Medusa herself had done during her life.

Others take the *ægis*, not to have been a buckler, but a cuirass, or breast-plate; and it is certain the *ægis* of Pallas, described by Virgil, *Æn.* lib. viii. ver. 435. must have been a cuirass; since that poet says expressly, that Medusa's head was on the breast of the goddess. But the *ægis* of Jupiter, mentioned a little higher, ver. 354, seems to have been a buckler: the words

“Cum sæpe nigrantem
Ægida concuteret dextra,”

agreeing very well to a buckler; but not at all to a cuirass, or breast-plate.

Servius makes the same distinction on the two passages of Virgil; for on verse 354, he takes the *ægis* for the buckler of Jupiter, made, as above-mentioned, of the skin of the goat Amalthea; and on verse 435, he describes the *ægis*, as the armour which covers the breast; and which, in speaking of men, is called *cuirass*; and *ægis*, in speaking of the gods. Many authors have overlooked these distinctions for want of going to the sources.

ÆGISSUS, or **ÆGYPTUS**, in *Ancient Geography*. See **ÆGYPTUS**.

ÆGISTÆ, a town of Italy in Brutium, east of Consentia, called by Pliny *Aprustum*.

ÆGISTHÆ, a town which Ptolemy places in Arabia Felix; long. 83° 30' lat. 11° 45'.

ÆGISTHUS, in *Entomology*, a species of **PAPILIO**, with brown wings, spotted with a light green, found in China; and resembling the species called *Agamemnon*.

ÆGISTHUS, in *Ancient History*, the son of Thyestes by his daughter Pelopeia, who, in order to conceal the incest, exposed the child in the woods; where he was found by a shepherd and nursed with goat's milk, from which circumstance he derived his name. In mature life he killed his uncle Atreus, and kept Clytemnestra, the wife of Agamemnon, during the absence of her husband at the siege of Troy, and at his return murdered him; but was at last himself slain by Orestes in revenge of his father's death. Ovid's *Ep.* viii. 53.

ÆGITHALLUS, in *Ancient Geography*, a promontory and citadel of Sicily, between Drepanum and the Emporium Ægitanum; afterwards called *Acellus*, corruptly written Ægitharion in Ptolemy, situate near mount Eryx, and now called *Capo di Santo Teodoro*.

ÆGITIUM, a town of Ætolia in Greece.

ÆGITNA, a town of Gaul, belonging, according to Polybius (p. 962) to the Oxybii. The Romans besieged and took the town, and made slaves of the inhabitants; and on this account Q. Opimius the consul obtained a triumph, A. U. C. 599.

ÆGIUM, a considerable town of Achaia Propria, 40 stadia from the place where Helice stood, and famous for the council of the Achæans, who assembled there, either on account of the dignity of the place or the convenience of its situation, as we learn from Pausanias (l. 7. c. 24. p. 584. Ed. Kuhnii.) and from Livy (l. 38. c. 30. t. 5. p. 216. Ed. Drakenb.) It was also famous for the worship of the conventional Jupiter, (*ὁμαχουργία Διός*), of the Panachæan Ceres, of Æsculapius, Lucina, Juno, and other deities. In this place there was a kind of chapel, in which were preserved the statues of Hercules, Jupiter and Minerva, called the Argian gods. Venus had also a temple in Ægium near the sea, and in it was a statue of Jupiter Homagyrus. The territory of Ægium was watered by two rivers, viz. Phoenix and Meganites. The epithet derived from it is *Ægiensis*. There is a coin, says Cellarius (t. 1. p. 757) in the cabinet of the king of Prussia, with the inscription, AITT, and the figure of a tortoise, which is the symbol of Peloponnesus, and ascertains the place where it was struck. Greek imperial medals were struck in this city in honour of Plautilla, Commodus and Elagabalus.

ÆGLE, in *Entomology*, a species of **PAPILIO**, with black wings; the anterior and the disc of the posterior marked with greenish spots; found in India.

ÆGLE, in *Mythology*, the mother of the GRACES; also, one of them; and according to Virgil (*Eclog.* vi. 21.) the most beautiful of the *NAIADES*.

ÆGLEFINUS,

ÆGLEFINUS, in *Ichthyology*, a name given by authors to the **Haddock**.

ÆGLETE, in *Ancient Geography*, a place in the isle of Anapha, whence Apollo obtained the surname of **Æglete**.

ÆGLESTAWICK, in *Geography*, a good harbour, half a mile from **Södertälje**, a town of Sudertorn in Sweden. E. long. 18° 40'. N. lat. 59° 25'.

ÆGLEUS, in *Botany*, a term derived from the Greek *αἴγλιος*, and used by Galen to distinguish the white chamæleon thistle, which was an esculent and medicinal plant, from the *crebennus*, *ἰσπέννος*, which was what we call the black chamæleon thistle, and was esteemed poisonous.

ÆGOBOLIUM, in *Antiquity*, the sacrifice of a goat offered to Cybele. This was an expiatory sacrifice, which nearly resembled the *taurobolium* and *criobolium*, and seems to have been sometimes joined with them.

ÆGOBOLUS, a surname given to Bacchus, because instead of a young man who was sacrificed to him, he contented himself with a goat.

ÆGOCEPHALUS, in *Ornithology*, the name by which authors call the bird, known in England by the name of the **Godwit**, or in some places the **Yarwhop** or **Yarwhip**.

ÆGOCERAS, in *Botany*, a name given to *ῥενουρφεκ*, on account of its corniculated fruit; the word signifying *goat's horn*.

ÆGOCERATOS. See **HUGONIA**.

ÆGOCEROS, formed of *αἴξ*, goat, in *Astronomy*, a name given to the constellation Capricorn. Thus, Lucan, l. 9. v. 537, and l. 10. v. 213.

“ — Varii mutator circulus anni

Ægoceron, cancrunque tenet.”

Pan, dignified by the poets and elevated to the stars, transformed himself into a goat, and was called **Ægoceros**.

ÆGOLETHRON, in *Botany*, a plant described by Pliny; which appears to be the same with what Tournefort describes under the name of *chamærodendros pontica maxima mespili folio, flore luteo*. The ancients attribute dangerous qualities to it.

ÆGOMANTIA, in *Antiquity*, a species of divination performed by means of a goat.

ÆGON, in *Entomology*, a species of **PAPILIO**, with brown wings and spotted yellow fasciæ; found in Jamaica. **Ægon** is also a name given by some writers to the **ARGUS**.

ÆGONES, in *Ancient Geography*, a people of Gaul, transported according to Polybius (p. 105) into that part of Italy called **Cispadana**, and placed between the **Senones** and **Bouï**.

ÆGONICHUS, in *Botany*, a name mentioned by Pliny, as a synonym of the *lithospermum* or *gromwell*, and formed of *αἴγος*, *ovis*, the *claw*, or *hoof of a goat*. The ancients also called it *exonychon*; and by these terms expressed its being like the exterior part of the human nails on the fingers, and deduced the resemblance from the hardness and scaly nature of the seeds.

ÆGOPHAGA, in *Mythology*, a surname of Juno, because goats were sacrificed to her.

ÆGOPHTHALMUS, the *goat's-eye stone*, in *Natural History*, a name given by some authors, to those pieces of agat, or other semi-pellucid gems, which have circular spots resembling the eyes of that animal in colour, and in their round figure.

ÆGOPHTHALMUS, in the Linnæan System by Gmelin, is a species of **HELIX**, with an umbilicated shell of a greenish colour without spots; and having seven spiral turns. It is found in India, Barbary and South America.

ÆGOPODIUM, formed from *αἴξ*, a goat; and *πῶς*, a di-

minutive of *πῶς*, a foot, in *Botany*, a genus of the *pentandria digynia* class and order, and of the natural order of *umbellales* or *umbellifera*: the character of which are, that the universal umbel of the calyx is manifold and convex, the partial similar, but flat; without in places, and the proper perianthium scarce observable: the universal corolla is uniform, with every floscule fertile; the particular has five obovate, concave petals, inflex at the top and equal: the stamina consist of simple filaments, twice as long as the corolla, with roundish anthers; the pistillum has an inferior germ, simple erect styles of the length of the corolla, with headed stigmas; no pericarpium; the fruit ovate-oblong, streaked and bipartite; the seeds are two, ovate, oblong, concave, and streaked on one side, and flat on the other. There is one species, viz. *Æ. podagaria*, Herb. Gerard, gout-weed, or acheweed, which is a perennial, creeping weed, with white flowers, that appear in May or June. It is aromatic, but not used in medicine. The Germans formerly resorted to it for assuaging the pains of the gout and piles, whence its name gout-weed. Linnæus says, that when it is tender in the spring, it is boiled for greens and eaten in Sweden. Cows, sheep and goats eat it; but horses are not fond of it. It is found amongst rubbish in shady places, in cultivated grounds, and in the hedges.

ÆGOPODIUM. See **CICUTA** and **SMYRNIUM**.

ÆGOPOGON, a name used by Tragus, and some others, for the common meadow-sweet or *ulmaria*. See **SPIRÆA**.

ÆGOPRICON, formed from *αἴξ* and *πῶς*, to *saw* or *fasten*, but without any ascertained meaning; in *Botany*, a genus of the *monoecia monandria* class and order: the characters are, that the male flowers are small, in an ovateament; their calyx one-leaved, tubulous or trifid: no corolla; the stamina of one filament, longer than the calyx, erect, with an ovate anther: the female flowers are on the same plant and solitary; the calyx and corolla are the same as the male: the pistillum has an ovate superior germ, three divaricate styles, with simple permanent stigmas: the pericarpium is a globular berry, tricoccus and trilocular within, with a bifid point: the seeds are solitary, and angular on one side. There is one species, viz. *Æ. Betulinum*, which is a tree very much branched, with wrinkled bark, and alternate leaves resembling those of myrtle. Dalberg noticed it in Surinam, and Aublet in Guiana. Martyn. Gmelin in the last edition of Linnæus, refers this genus to the *monandria trigynia* class and order.

ÆGOSPOTAMOS, q. d. *Goat's river*, in *Ancient Geography and History*, a river of the Thracian Chersonesus, falling with a north-east course into the Hellespont, to the north of Sestos. There was also a town, called **Ægos**, and a naval station, at the mouth of this river, nearly opposite to Lampacus. At this place, the Lacedæmonians under Lyfander, obtained a complete victory over the Athenians, commanded by Conon; and this victory, which was soon followed by the capture of Athens, put an end to the Peloponnesian war, and to the maritime power of the Athenians. The Athenian fleet, after the loss of Lampacus, retired to this station, and here they halted over against the enemy, who were then at anchor before Lampacus. The Hellespont in this part of it is not above two thousand paces broad; and therefore the two armies, being so near each other, expected to come to an immediate battle. Lyfander, however, was cautious and wary; and determined, notwithstanding repeated insults on the part of the Athenians, to wait till the Athenians had debarked their forces. Alcibiades represented to the Athenian generals the inconveniences and dan-

per of their situation, and offered to attack the enemy by land and force them to battle; but jealousy prevented their proceeding by his advice, and he therefore withdrew. On the morrow the Athenians offered battle; but Lyfander chose rather to submit to renewed insults than to hazard the event of a battle, before he had completed his previous arrangements. At length, however, the admiral's galley gave the signal by the sound of trumpet, and the whole fleet advanced in good order. The land army also hastened to the top of the promontory to observe the contest. The strait that separates the two continents in this place is about 15 stadia, 1875 paces, or $\frac{1}{2}$ of a league in breadth, and this space was presently cleared by the activity and diligence of the rowers. Conon, the Athenian general, proceeding from the shore the order and progress of the Lacedæmonian fleet, was alarmed, and gave immediate orders for the troops to embark. But for want of vigilance and due discipline on the part of the generals, the troops were dispersed, and were indulging themselves in a variety of ways, under an apprehension of perfect security. Upon the first onset of the enemy, Conon perceived that all was lost, and disengaging himself with nine gallees, of which number was the sacred ship called the *Paralian*, fled to Cyprus, where he took refuge with Evagoras. The rest of the fleet and army was either captured or destroyed. Lyfander, after having plundered the camp, and fastened the enemy's gallees to the sterns of his own, returned to Lampfacus, amidst the sound of flutes and songs of triumph. It was his glory to have achieved one of the greatest military exploits recorded in history, with little or no loss, and to have terminated a war in the space of an hour, which had lasted 27 years, and which perhaps, without him, had been of much longer continuance. The Athenians, some time before this event, had at the instigation of Philocles, one of their generals, passed a decree for cutting off the thumb of the right hand of all the prisoners of war, that, being unable to handle the pike, they might be only fit to serve at the oar. On this occasion Lyfander asked Philocles what punishment he thought such a decree merited, and wished him to pass sentence upon himself. Philocles, notwithstanding his danger, haughtily and magnanimously replied: "Accuse not people of crimes who have no judges; but as you are victor, use your right, and do by us as we had done by you if we had conquered." Having said this, he instantly prepared for execution, without betraying the least timidity. All the other prisoners, in number about 3000, were put to the sword, except Adamantus, who had opposed the above-mentioned decree. After this expedition all the Athenians were ordered, on pain of death, to repair to Athens, which was soon besieged, and which capitulated and surrendered, A. M. 3600. Ant. I. C. 404. Diod. Sic. l. xiii. c. 105. 107. tom. i. p. 627, 630. Ed. Weffeling. Plut. in Alcib. oper. tom. i. p. 212, in Lyfand. p. 438. Ed. Xyland. Rollin's Ant. Hist. vol. iii. p. 284, 288, 880.

ÆGOSTENA, or **ÆGISTHENA**, a town of Greece, north-west of Megara, near the sea of Alcione: celebrated for a temple of Melampus, son of Amytheon, to whom they offered annual sacrifices.

ÆGOSTHENIA, a town of Greece in the Locris.

ÆGUA, a town of Bætica in Spain.

ÆGUSA, or **ÆTHUSA**, a small island on the coast of Africa Propria, mentioned by Pliny and Ptolemy, being one of the cluster called the **ÆGADES**.

ÆGYLA, **ÆGILIA**, or **ÆGIALIA**, one of the Greek islands mentioned by Stephanus, (De Urb. p. 35,) situate between Crete and Peloponnesus: the same with that

mentioned by Pliny (H. N. t. i. p. 209), 15 miles from Cythera.

ÆGYPSUS or **ÆGISSUS**, a town of Moesia near the river Ister. M. d'Anville refers it to the vicinity of the place on the Danube, where Darius Hytaspis constructed a bridge, when he was engaged in a war with the Scythians. Ovid. Epist. ex. Pont. l. i. ep. 8. tom. iii. p. 732. Ed. Burn.

ÆGYPT. See **EGYPT**.

ÆGYPTIACA, in *Botany*, signifies the **PAPYRUS**.

ÆGYPTIACUM, in *Pharmacy*, a name given to divers **UNGUENTS** of the detergent, or corrosive kind.

We meet with a *black*, a *red*, a *white*, a *simple*, a *compound*, and a *magistral Ægyptiacum*.

The *simple Ægyptiacum*, which is that usually found in our shops, is a composition of verdegrise, vinegar, and honey, boiled to a consistence: the prescription is Mesue's.—It is usually supposed to take its name from its dusky colour, wherein it resembles that of the natives of **Ægypt**.—It is improperly called an unguent; as there is no oil, or rather fat, in it. Some chuse to call it *Mel Ægyptiacum*, and *Oxymel Æruginis*. It is chiefly used in eating off rotten flesh, and cleansing foul ulcers; particularly venereal ones in the throat, &c. It also destroys those cancerous erosions apt to grow in children's mouths. Gmelin's App. Med. vol. i. 346.

The German dispensaries have another composition called *Ægyptiacum compositum magistrale*, or *Hildani*, wherein treacle, mithridate, camphor, &c. are ingredients.

White Ægyptiacum is a composition of lily roots mixed up with aromatics; it is mentioned by Hippocrates, and is the same with what other ancients call *cicinum*. It was used by the ladies of those days to smear over their faces, to preserve their complexions.

Hippocrates also speaks of another unguent under the same name, composed of the flowers of the Egyptian thorn.

Farriers make a red, as well as a black kind, of much the same ingredients, only with some difference in the proportions; used especially to soften the hoofs of a horse, when too hard.

ÆGYPTIAN PEBBLE. See **JASPER**.

ÆGYPTILLA, in *Natural History*, the name of a stone described by the ancients, and said, by some authors, to have the remarkable but imaginary quality of giving water the colour and taste of wine.

This stone was variegated with veins of black and white, or black and bluish, with a plate or vein of whitish red, and seems to have been of the onyx, sardonix, or camea kind, none of which possess the property which some fanciful writers have ascribed to it.

ÆGYPTION, the name of a topic used by the ancients in uterine disorders.

ÆGYPTUM pharmacum ad aures. Aetius (Tetrab. ii. Serm. 2. c. 83.) speaks of this as excellent for detaching fetid ulcers of the ears, which he says it cures, though the patient were born with them.

ÆGYPTUS, in *Fabulous History*, the son of Belus and brother of Danaus, who, having fifty sons, married them to the fifty daughters of his brother; and by their father's order, each of them, except one, slew her husband the first night. Lynceus, who escaped, dispossessed his father Danaus of the kingdom, and reigned over the Argives for sixty-nine years.

ÆGYPTUS, in *Ancient Geography*, a name given by Homer to the Nile, and by which it was very anciently distinguished in Ethiopia. It has been commonly supposed, that

that this name was given to it on account of its black colour; but Mr. Bruce (*Travels*, vol. iii. p. 65.) conceives, that as Egypt in the Ethiopic language is called *Tgypt*, and an inhabitant of the country *Gypt*, which means the country of ditches or canals, drawn from the Nile on both sides at right angles with the river, nothing is more obvious than to write *Tgypt*, whence Egypt, and with its termination *us* or *our*, *Ægyptus*. See NILE. Plutarch (tom. ii. p. 1157.) says, it was first called Melas, from Melas the son of Neptune, and that it was afterwards called *Ægyptus* from *Ægyptus* the son of Vulcan and Leucippe who governed Egypt; and who was so distressed by the sacrifice of his daughter Aganippe in obedience to the Pythian oracle, as a means of securing the fertility of the country by the retreat of the Nile, that he threw himself into the river; and from this circumstance it obtained the appellation.

ÆGYS, a town of Laconia, which, according to Pausanias was destroyed by the Lacedæmonians in the reign of Archelaus, whose reign commenced 957 years before Christ, and lasted forty years, because its inhabitants took part with the Arcadians.

ÆHOITULLA, in *Zoology*. See **ÆHETULLA**.

ÆICHRYSON, in *Botany*, a name given to the **SEDUM majus**; called also **Æithales**.

ÆINAUTÆ, in *Antiquity*, senators of Miletus, who held their deliberations on board a ship, far from shore, and till matters were resolved upon, never returned to land. The greek word *αἰναυταί* signifies *always mariners*. Plut. in *Quæst. Rom.*

ÆIZOON, αἰζων, from *ai* always, and *zon* life, *sempervivum* is a name given to **SEDUM** or **HOUSELEEK**.

ÆLANA, or **ELANA**, in *Ancient Geography*, a city of Arabia Petræa on the Red Sea, at the north end of the Ælanitic gulf. It is now called *Ailat*.

ÆLANITIC, **ÆLANTIC**, or **ELANITIC gulf**, a bay of the Red Sea, verging towards the north-east, and belonging to Arabia; so called from the city *Ælana*, situated near it.

ÆLEA, a small place of Dardania, south-west of Sardica.

ÆLEN, **ELEN**, **ALA**, **AQUILEGIA** or **HALCYDES**, in *Geography*, a large market town in the canton of Bern in Switzerland, which was greatly damaged by an inundation in 1740. It gives name to one of the four mandements into which the government, lordship or county of Aelen is divided. This district, which was for some time subject to Savoy, was afterwards given to the landholders of the Valais, who in 1536 exchanged it with the city of Bern for another district called Gundis. This lordship itself, which is now managed by a governor residing in a seat on an eminence in the town of Aelen, consists of a tract of fertile hills and vales, producing fine fruits and excellent wines; and the richness of its pastures is manifested by its large breeds of cattle.

ÆLFRED, in *Biography*. See **ALFRED**.

ÆLFRIC, an eminent ecclesiastic of the tenth century, who was the son of an earl of Kent, and who, after some imperfect instructions, received from an ignorant secular priest, assumed the habit of the Benedictine order of monks in the monastery of Abingdon, over which Athelwold presided. When Athelwold was created bishop of Winchester in 963, Ælfric among other Abingdon monks was settled in his cathedral; and, in order to testify his gratitude, for the advantages which he had enjoyed under the tuition of Athelwold, he conformed to the wishes of his benefactor in communicating instruction to the youth of his diocese. With this view, he compiled his Latin Saxon vocabulary, and some Latin Colloquies. The former work was pub-

lished by Somner, under the title of a glossary, at Oxford in 1659. Ælfric also translated from the Latin into the Saxon language, most of the historical books of the Old Testament, part of which was printed at Oxford in 1698. At Winchester he also drew up his canon, a kind of charge to be delivered by the bishops to their clergy, which are preserved in the first volume of Spelman's Councils, and were composed, says his biographer, (*vidi infra*) between the years 980 and 987. Upon his removal about the year last-mentioned to Cerne Abbey, he translated from the Latin fathers, the last volume of his homilies. In 988 he was made abbot of St. Alban's, and composed a liturgy for the service of his abbey; and about the latter end of the year 991, when he was bishop of Wilton, he translated a second volume of Homilies. Here he also wrote his Latin-Saxon grammar, a supplement to his Homilies, a Tract dedicated to Sigward or Sigefrith, containing two epistles on the Old and New Testaments, which his biographer supposes to have been written between the years 987 and 991. In 994 Ælfric was translated to the see of Canterbury, where, after exerting himself with laudable spirit and prudence for some years, in defending his diocese against the incursions of the Danes, he died Nov. 16th, in the year 1005. He was buried at Abingdon, but his remains were transferred to Canterbury in the reign of Canute. He is represented as the greatest prelate the Saxon church ever had since the days of St. Austin; and as our first reformer next to king Alfred, by introducing the knowledge of the scriptures among the laity. For the times, it must be allowed, he was a man of considerable learning; his morals were irreproachable, and his faith was free from many of the corruptions which have disgraced religion. There was another Ælfric surnamed *Bata*, who was pupil of the former in the school established by Athelwold at Winchester, who was made archbishop of York in 1023, and died in 1051. Another of the same name was abbot of Malmesbury in 974, was created bishop of Crediton in 977, and died in 981. There were several other persons of this name. The celebrated antiquary Leland has expressed his doubts, whether Ælfric, the author of the Latin-Saxon grammar, was the same with the translator of the Homilies, or with the abbot of St. Alban's, who drew up the liturgy, which continued to be used there till his own times. Bale and Pitts have ascribed these three works to three different persons. Whereas, archbishop Usher, by confounding Ælfric, archbishop of Canterbury, with Ælfric, archbishop of York, and with Ælfric, bishop of Crediton, has reduced into one person three men who were really distinct. See Edwardi-Rowei Morefi de Ælfrico, Dorobernensi Archiepiscopo, Commentarius; ed. per Dr. Thorkelin, 4to. 1789.

ÆLIA, an appellation derived from one of the names of Adrian, and applied to several towns.

Ælia adiana. See **ZAMA**.—*Augusta mercurialis*. See **TRUANA**.

ÆLIA Capitolina, a name given by the emperor Adrian, from Ælius that of his own family, and Capitolinus the epithet of Jupiter, to the new city which he caused to be built about A.D. 134, near the spot where the ancient Jerusalem stood; and which, on his visit to the eastern parts of the Roman empire, he found in ruins. Here he settled a Roman colony, and dedicated a temple to Jupiter Capitolinus in the room of that of Jerusalem. This profanation of the holy place irritated the passions, increased the rebellions, and aggravated the sufferings of the Jews during the reign of Adrian. The city was once more

He was honoured with the appellation of Sophist, which was a title appropriate in that age to men of wisdom and learning; and with the office of pontifex, as Suidas informs us. He appears to have devoted himself with peculiar assiduity to literary pursuits, and to the study and practice of eloquence. As a writer he acquired a high degree of reputation, and as a person of sound principles and integrity he has been much extolled. Ælian greatly admired and diligently studied Plato, Aristotle, Isocrates and Plutarch, and particularly the poets Homer, Anacreon, Archilochus, &c. and he expresses himself in terms of peculiar commendation of Hipparchus, the son of Pisistratus, as the liberal patron of the poets. Such were his impartiality and candour, that though he was himself a Roman, he declares his preference of the Greek writers. His most celebrated works are his "Varie Historiæ," of which we have an excellent edition in Greek and Latin by Gronovius, in two vols. 4to.; to which are annexed the "Fragments" of Ælian, collected by Kuhnus, out of Suidas, Stobæus and Eustathius; and his 17 books "De Natura Animalium," published by the same editor, two vols. 4to. with the annotations of Geiser, Triller, and Gronovius.

SELUKUS, in *Psychology*, the god of the cats: he is represented by the ancient Egyptians, sometimes as a cat, sometimes as a man with a cat's head. Such was the veneration with which cats were regarded by the Egyptians, that if a person killed any of them, with or without design, he

he was punished with death; and it is reported, that, in time of a famine, which compelled the inhabitants to devour one another, no person was accused of having tasted any of these sacred animals. See Diodor. Sicul. l. i. tom. i. p. 94. Ed. Weßeling.

ÆLURUS, in *Zoology*. See CIVET.

ÆLUS, in *Ancient Geography*, a borough of Arabia Felix, belonging, according to Ptolemy, to the Ælefar.

ÆM, AM, or AMF, a liquid measure used in most parts of Germany; but different in different towns: the æm commonly contains 20 vertils, or 80 masses; that of Heidelberg is equal to 48 masses; and that of Wittenberg to 160 masses. See AAM.

ÆMATHIA, or EMATHIA, in *Ancient Geography*, a district of Macedonia, which received its appellation from Æmathius, a prince of remote antiquity, and extended as far as the Sinus Thermaicus, or gulf of Salonichi to the east. It contained several considerable cities, particularly ÆGÆA. This district formerly gave name to the whole country of Macedonia.

ÆMILIA, one of the 17 provinces of Italy in the later divisions of the Roman empire, bounded on the north by the Po, on the east by the Adriatic gulf, on the south by the Apennines, and extending to the south east as far as Ariminum.

ÆMILIAN way. See *Roman ways*.

ÆMILIANA, a town of Spain.

ÆMILIANI, JEROME, in *Biography*, was founder of the regular clerks of St. Maieul in the 16th century. See *FATHERS of Somasquo*.

ÆMILIANUS, ÆMILIUS, or C. JULIUS, a Moor of mean descent, who, having served from his youth in the Roman armies, raised himself to the first employments in the state, and became first consul, and afterward emperor. Under Gallus he was governor of Pannonia and Mæsia; and in this station he rallied the intimidated and dispersed forces of Rome, and by a signal victory routed the barbarians, who were spreading devastation through the Illyrian provinces, and terror as far as the gates of Rome itself. Having distributed as a donative the money collected for the tribute, he was proclaimed emperor on the field of battle by the acclamations of the soldiers. A. D. 253. Gallus, who was at this time heedless of the public welfare, and indulging himself in the pleasures of Italy, was roused out of his lethargy by information of the success, revolt and hostile approaches of his aspiring lieutenant, now the declared emperor. Æmilianus, by forced marches, hastened to Interamna, now Terni, about 32 miles from Rome; and here he was met by Gallus, and his son Volusianus, at the head of a considerable army. The troops of the latter, comparing the ignominious conduct of their sovereign with the glory of his rival, and seduced by the offer of a considerable increase of pay, deserted from the Imperial standard; and having murdered both Gallus and his son, united, with the followers of Æmilianus, in proclaiming him emperor. The senate added their legal sanction to the rights of conquest. To this assembly, the new emperor addressed assurances, that he should resign to their wisdom the civil administration, and reserving to himself the office of their general, that he would in a short time assert the glory of Rome, and deliver the empire from all the barbarians of the north and of the east. His pride was flattered by the applause of the senate; and medals are still extant, representing him with the names and attributes of Hercules the Victor, and Mars the Avenger. When Valerian, who was conducting a numerous and well disciplined body of troops to the assistance of Gallus, heard

at Rhætia that he was dead, he quickened his march, and determined to revenge his death. The army of Æmilianus, composed of traitors to their former sovereign, lay encamped on the plains of Spoleto, and awed by the character and forces of Valerian, he had no sooner arrived than they imbrued their hands in the blood of a prince who had been so lately the object of their partial choice. Thus Valerian obtained the possession of the throne, without waiting to it through the blood of the Roman citizens. Æmilianus was killed at a bridge in the vicinity of Spoleto, which Victor the younger pretends was denominated, from this circumstance, the bloody bridge. He died in the 46th year of his age, after a short reign of three, or at most four months. Eusebius (l. vii. c. 10. p. 255) does not rank him among the emperors; and in the chronicle of Alexandria and that of Nicephorus, Valerian is placed immediately after Gallus. According to Aurelius Victor (in Æmil.) he died a natural death. Anc. Un. Hist. vol. 13. p. 482, 8vo. Gibbon's Hist. vol. i. p. 408, 410, 8vo.

ÆMILIUS, PAULUS, the son of Lucius Paulus, who was killed at the battle of Cannæ, was born about the year of Rome 530, ante Christ 224, and was twice consul. He lived, says Plutarch, in an age that abounded with great men, and took pains to be inferior to none of them. His first military command was in Spain, whither he went as prætor in the war with Antiochus, to quell a general revolt, in effecting which he succeeded. In his first consulate (ante Christ 182,) he triumphed over the Ligurians, and on his return lived privately, and superintended the education of his children; and in the second, (ante Christ 168) subdued Perseus, king of Macedonia, reduced that country to a Roman province, and established a new form of government, from which circumstance he obtained the name of *Macedonicus*. His behaviour, in consequence of his decisive victory, evinced him to be a man of strict justice; for, according to the rules of war, he gave the plunder of the camp to the infantry, and that of the adjacent territory to the horse. The cities he would not suffer to be touched: and as for the royal treasures he conveyed every part of them to Rome, though his integrity excited the ill-will of the army. In his progress through Greece, with a view of settling the division of the country, and establishing his new plan of government, he went to Epirus for the purpose of executing a decree of the Senate, which was so severe, that he could not read it without tears, though he could not demur in obeying it. This decree granted to the Roman army the pillage of the whole of the country which had adhered to Perseus. Æmilianus distributed his troops in small bodies through the town, under a pretence of securing their liberty; but when the ten chiefs of the state had brought into the camp, in pursuance of his orders, all the gold and silver they could find, he allowed the soldiers, on a certain day and hour, to make booty of the remaining property of the poor inhabitants; of whom 150,000 were made slaves, and sold for the benefit of the republic.

His conduct towards Perseus, the vanquished and degraded sovereign, manifested nobleness of mind. When the king's ambassadors approached, he said to those that were near him, "Mark the inconstancy of fortune; this man, who but the other day thought the ample kingdom of Macedonia nothing, whilst he was hindered from subduing the Dardanians and Illyrians, now confined in a narrow island, sends these poor men to ask favours." When Perseus entered his tent, and would have thrown himself at the feet of the consul, he rose hastily, gave him his hand, and would

would not suffer him to kneel; and afterwards treated him with civility and respect. When Æmilius returned to Rome, he obtained, after some hesitation, a triumph of three days, which was one of the most splendid spectacles Rome had ever beheld. The gold and silver carried in the flow amount to a sum which was sufficient to free the people from all taxes for 125 years. Perseus was at this time confined in a common gaol; and the consul's reply to his request, that he might not be made a spectacle in his triumph was not to honourable to his humanity as his former conduct. "This (says he) is entirely in your own power; you need not ask the favour of us;" intimating that the king might kill himself, and thus avoid the shame of being exposed. However, when the humiliating spectacle was finished, and the unfortunate Perseus confined, with circumstances of depression and cruelty, in the common gaol, Æmilius ordered him to be released, and treated with greater decency. The consul did not long survive his triumph. Having accepted the office of censor, and discharged it with honour, he fell into a lingering illness, of which he died, in the 64th year of his age, ante Christ 160. His funeral was conducted with great solemnity; and the natives of those countries which he had conquered, who were then at Rome, attended the procession, contended for the honour of carrying his bier, and paid the tribute of their tears and praises to his humanity and integrity. To his children he only left at his death the patrimony he had received from his ancestors, without having augmented it, says Plutarch, by a single drachma. One of his two sons, by his first marriage, was adopted into the family of the Scipios, and called *Africanus Minor*, and the other into another family: and of the two others by his second wife, who were the hopes of his family, one died five days before his triumph, and the other three days after it. "Fortune, says he, on this occasion, by placing my triumph between the funerals of my two children, as though she meant to divert herself with human events, overwhelms me indeed with trouble and sorrow, but ascertains a full security to my country, having emptied her whole quiver upon me. She has taken a pleasure in exposing the conqueror and the conquered alike, as a spectacle to all mankind; with this difference indeed, that the conquered Perseus has still his children, but those of the conqueror Paulus Æmilius are now no more. But the public happiness alleviates my grief for my domestic misfortunes." His character, says a judicious biographer (See Aikin's Gen. Biog.) was that of a genuine Roman, adorned with letters, and humanized by philosophy. As a military man he may be estimated by the maxim delivered by him to his son Scipio; "A good general never gives battle but when led to it by absolute necessity, or by a very favourable opportunity." He was twice married, first to Papiria, the daughter of Papirius Mæso; and being divorced from her, he took a second wife. In early life his reputation was such that he obtained the ædileship against twelve competitors, who afterwards became consuls. The office of augur he faithfully executed, with a rigid attention to the performance of every rite enjoined by the religion of his country; nor was he less observant of that military discipline by which Rome had become victorious. Plut. in Paul. Æmil. Oper. tom. i. p. 255, &c. edit. Xyland.

ÆMILIUS MACER, a poet of the Augustine age, wrote on the virtues of herbs. There are several editions of his works; but in general so altered and interpolated, Haller says, by the monks, that the genuine lines are scarcely to be distinguished. Many of his verses were inserted in the popular work called the *Schola Salernitana*.

ÆMILIUS PARTHENIANUS, one of the Latin historians, flourished under the emperor Marcus Aurelius. He composed a history of all those who attempted to usurp the sovereign power, and brought it down at least to the year 175, for he wrote the life of Avidius Cassius. He is quoted by Vulcatius Gallicanus, who lived under Diocletian. Voff. Hist. Lat. lib. iii.

ÆMILIUS, PAULUS, a celebrated historian, was a native of Verona, and gained such reputation in Italy, that he was invited into France by Louis XII, in order to write a Latin history of the kings of France, and had a canonry granted him in the cathedral of Paris. He was thirty years in writing this history, and yet it was not completed at his death. Erasmus says of him, that he resembled the painter Protogenes, who thought he had never finished his pieces: thus, says he, Paulus Æmilius is never satisfied with himself. It was his usual custom to revise and alter his own performances, that they would hardly be known to be the same; and this made him so slow, that elephants could bring forth sooner than he could produce a work. Lipsius speaks of his history and manner of writing in terms of high commendation. It is divided into ten books, and extends from Pharamond to the fifth year of Charles VIII. in 1488. The tenth book was left unfinished; but the history was continued in nine books to the close of the reign of Francis I. by Arnoldus Ferronius, and the continuation was published at Paris in 1650. Æmilius, as to his private life, was a man of exemplary conduct and irreproachable reputation. He died at Paris in 1529, and was buried in the cathedral. Biog. Dict.

ÆMILIUS PONS, one of the bridges of Rome, called also *Sublicius*, because it was built on piles.

ÆMINES *Portus*, were situated in a small island of Gaul, now called *Embiez*, between Taurocutum on the north-west and the promontory Citharistes.

ÆMINIUM, a town and river in Spain mentioned by Pliny (tom. i. p. 228.), now called *Agueda*. This town was situated in the province of Lusitania, near the northern bank of the Monda, a little to the south of Talabriga.

ÆMOBOLIUM, in *Antiquity*, the blood of a bull or ram, offered in the sacrifices, called taurobolia and criobolia; in which sense the word occurs in ancient inscriptions. Reinesius and Vandale take it for a corruption, and alter it to Ægobolium. M. de Boze defends the Æmobolium.

ÆMODÆ, or ΕΜΟΔÆ, in *Ancient Geography*, islands of the Ocean to the north of Great Britain.

ÆMONA, *Lanbach* or *Laybach*, a Roman colony and a fortified place in Italy to the east of the Julian Alps.

ÆMONIA, one of the ancient names given to Thessaly.

ÆN, or ΑΙΝ, a village of Judæa, belonging to the tribe of Judah, and afterwards comprehended in that of Simeon, and assigned to the Levites of this tribe.

ÆNA, or ΑΙΝΑ, a town of Arabia Felix; and also a town of Macedonia.

ÆNEIA. See ÆNIADÆ.

ÆNARIA, an island in the bay of Cumæ, or opposite to Cumæ in Italy. It derived its name, says Pliny (l. iii. c. 6. tom. i. p. 160.) from its being the station of the ships of Æneas. It is called Inarine by Virgil (*Æn.* ix. v. 716.), by Ovid (*Metam.* l. xiv. v. 89. t. ii. p. 939. Ed. Burm.), and by Silius Italicus (l. viii. v. 543. p. 436. Ed. Drakenb.), and it is now ISCHIA. It has not been improbably conjectured, that this island was, at some former period, violently separated from the continent by an earthquake. The evidences of such a disruption are calcined rocks,

rocks, numerous caverns, and the nature of the soil, which yields a great quantity of alum. About the year 1459, Bartholomew Perdis, a Genoese merchant passing by this island, observed several aluminous rocks along the coast; some of which he calcined in a furnace, and thus obtained excellent alum. By this discovery he was enabled to revive the art of making alum, which had been neglected in Italy for many centuries, and which he brought from Rocca, in Syria, where he traded for many years.

About 163 years before this period, it is said that the most pleasant and fruitful part of this island was destroyed by a volcano, and that a small town was consumed by the flames which issued from it, and afterwards swallowed up. Grævii Thesaur. Antiq. et Hist. Italiae, vol. ix. p. 3. p. 88. For other authorities to the same purpose, see Beckman's Hist. Invent. et Discov. vol. i. p. 303, &c.

ÆNARIUM, a grove of Achaia consecrated to Jupiter, where, as Strabo (tom. i. p. 593.) informs us, the Achæans held their public assemblies.

ÆNEA, or **ÆNIA**, a city of Mygdonia in Macedonia, at the southern entrance of the Thessalonian Gulf near the island Pallene, is said to have been founded by Æneas. On the promontory adjoining to this city there was a temple of Venus, according to Dion. Halicarn. the foundation of which is attributed to the same person. See Dion. Halicarn. l. i. t. i. p. 39. Ed. Oxon. Livy, l. xl. c. 4. t. v. p. 432. Ed. Drakenb. Stephan. de Urb. p. 44. Livy, (l. xlv. c. 10. t. v. p. 752.) places Ænia in a fruitful country, about fifteen miles from Thessalonica and opposite to Pydna; but this must be laxly interpreted, as Pydna was near the river Aliacmon, and Ænia was probably near the upper part of the Thermian bay. Ænia has been sometimes erroneously confounded with Ænus.

ÆNEAS, in *Entomology*, a species of **PAPILIO**, with black wings, a green spot on the upper part of the primores, and a sanguineous spot on the postici. It is found in India.

ÆNEAS, in *Fabulous History*, was a Trojan prince, the son of Venus and Anchises, who, at the destruction of Troy, is said, probably by poetical fiction, to have carried away his aged father and his household gods on his back. Hence, it is alledged, Virgil distinguishes him by the epithet *Piur*. See *Ælian*, Var. Hist. tom. i. p. 264. He also led his son Ascanius by the hand, and thus saved his father and son, &c. from the Greeks; but he lost his wife Creusa in the escape. Some say that he and Antenor betrayed the city of Troy. But Virgil, desirous of maintaining his resemblance to Ulysses in all his adventures, excuses him. After the siege of Troy he landed in Africa, and was kindly received by Dido; but quitting her coast, he arrived in Latium or Italy, where he married Lavinia, the daughter of king Latinus, who thus secured to him the throne of Latium. The story of the loves of Dido and Æneas, though an interesting part of the *Æneid*, is allowed to be a mere poetical ornament, introduced by a gross anachronism. Æneas, as a testimony of his gratitude to Latinus and affection for Lavinia, gave her name to the camp he had pitched, and, instead of Troy, called it Lavinium. The Trojans followed the example of their leader, and by marriages, forming alliances with the Latin families, became, in a short time, one and the same people with the Latins. In the mean time Turnus, who had been contracted to Lavinia, and who was disappointed in his expectations by her marriage with Æneas, went over to the Rutuli; and excited a battle between them and the Latins, in which both he and Latinus were killed. Thus Æneas, by the

death of his father-in-law, and of his rival, obtained the quiet possession of the kingdom of Latium, which he governed with great wisdom, and transmitted to his posterity. Æneas is said to have reigned three years, in which time he established the worship of the gods of his own country, and to the religion of the Latins added that of Troy. The two palladiums, which had been the protectors of that city, became the tutelary deities of Lavinium, and in succeeding ages, of the whole Roman empire. The worship of Vesta was likewise introduced by Æneas, and probably by his means Jupiter, Venus, and many other deities, who had been revered in Troy, became known to the Latins; from which circumstance some have supposed that the poets took occasion to represent him under the character of a *pious* hero. The Rutuli, in the mean while, entered into an alliance with Mezentius, king of the Tyrrhenians, and united with them in their attempts to drive out these new adventurers. Æneas engaged them in a battle, which lasted till night; when being driven to the banks of the Numicus that ran close by Lavinium, he was forced into the river, and was there drowned, in the year of the Julian period 3538, ante Christ 1176. The Trojans concealed his body; and pretending that he had suddenly vanished away, made his credulous subjects regard him as a deity; and they accordingly erected a temple to him under the title of Jupiter Indiges. Virgil has immortalized this prince, by making him the hero of his *Æneid*.

Æneas was succeeded by his son Ascanius, so called from a river of Phrygia of that name, and denominated Julius from Ilus, formed from Ilum or Troy, who founded *Alba longa* as the capital of his kingdom. See Dion. Halicarn. l. i. p. 34. 51. tom. i. Ed. Oxon. 1704. Livy, l. i. c. 22. and 2. tom. i. p. 18.—21. Ed. Drakenb.

ÆNEAS of *Gaza*, a sophist by profession, was originally a disciple of Hierocles, and a Platonic philosopher, but afterwards became a Christian, and flourished about the year 487. He himself assures us, that he saw the African confessors, whose tongues were cut out by Hunneric king of the Vandals, in 484, under the reign of the emperor Zeno; and that he heard them speak. This supernatural gift of the African confessors, who spoke without tongues, says Mr. Gibbon (*History of the Decline and Fall of the Roman Empire*, vol. vi. p. 295, 8vo.), will command the assent of those, and of those only, who already believe that their language was pure and orthodox. But the stubborn mind of an infidel is guarded by secret incurable suspicion; and the Arian, or Socinian, who has seriously rejected the doctrine of the Trinity, will not be shaken by the most plausible evidence of our Athanasian miracle. Æneas composed a dialogue, entitled "*Theophrastus*," on the immortality of the soul, and the resurrection of the body; besides twenty-five epistles, still extant. The dialogue was first translated into Latin, and published at Basil in 1516, in Greek and Latin, at Basil in 1560, with other pieces, at Leipzig in 1658, with a translation and notes by Barthius, in 4to. See *Biblioth. Patrum*, tom. viii. p. 664, 665. *Cave's Hist. Liter.* p. 297, and Fabricius, *Bibl. Græc.* tom. i. p. 427.

ÆNEAS, **TACTICUS**, one of the most ancient Greek authors who have written on the art of war. He lived about 300 years before the Christian æra. The age in which he lived is settled by Casaubon, who informs us, that Cineas, who was a disciple of Epicurus, and an ambassador from Pyrrhus to Rome in the 125th Olympiad, composed an epitome of the works of Æneas. His work was published by Casaubon, in Greek and Latin, with notes, and it is annexed to his edition of Polybius, printed

printed at Paris, fol. 1609. See also Fabr. Bibl. Græc. l. iii. c. 10. §. 10.

ÆNEAS, SYLVIVS, PICHLOMINI, was born on the 15th of October, 1405, at Corsignano, a small town in the territory of Siena, the name of which he afterward changed into *Pisa*. His mother, when she was pregnant with him, dreamed that she should be delivered of a mired infant, and interpreting her dream by the mode of degrading clergymen, which at that time was crowning them with a paper mitre, she conceived her son would be a disgrace to her family. But the dream proved to be a promise of his future advancement. Having been well educated, though in low circumstances, at a grammar-school in his native town, he was enabled, by the assistance of friends, to go to the university of Siena, in 1423, where he made great proficiency, and published several pieces in the Latin and Tuscan languages. In 1431, he attended Cardinal Capranica, then named De Fermo, to the Council of Basil, as his Secretary. He occupied the same office under Cardinal Albergotti, who sent him to Scotland to mediate a peace between the English and Scots. Upon his return, he was appointed Secretary to the Council of Basil, which he defended against the authority of the Popes, both by his speeches and writings. This Council assigned to him other offices of importance; and he was employed in various embassies; in one of which, to Straßburg, he is said to have had an intrigue with a lady, by whom he had a son. For this adventure he has made an humorous apology, in a letter to his father, preserved in Wharton's Appendix to Cave's Hist. Liter. p. 114, anno 1458. In 1439, he was crowned by the Emperor Frederic III. with the poetic laurel; and, in 1442, appointed Secretary to the Empire, and advanced to the senatorial order. Having made his peace with Pope Eugenius III, he was honoured with the office of Secretary to his Holiness, which he was allowed to retain without resigning his post under the emperor. Upon the decease of this pope, Æneas was chosen by the cardinals to preside in the conclave till another pope should be elected. Pope Nicholas conferred upon him the bishopric of Trieste, and he was at the same time appointed counsellor to the emperor, and superintendent of the most important concerns of the empire. He afterwards became archbishop of Siena; and, in 1452, attended Frederic to Rome, when he went to receive the Imperial crown. Upon his return, he was named legate of Bohemia and Austria. In 1456, he was made a Cardinal; and, upon the decease of Calixtus III, in 1458, elected pope, by the name of Pius II. Upon his advancement to the papal chair, his views and sentiments, like those of others in similar circumstances, underwent a total revolution. He published a bull, retracting all he had written in defence of the Council of Basil, meanly apologized for his former conduct, and became a strenuous advocate of the papal prerogatives.

"We exhort and advise you in the Lord, (says he) not to pay any regard to those writings which injure in any manner the authority of the apostolic see, and assert opinions which the holy Roman church does not receive. If you find any thing contrary to this in our dialogues or letters, or in any other of our works, despise such notions, reject them, follow what we maintain now. Believe what I assert now I am in years, rather than what I said when I was young; regard a pope rather than a private man; in short, reject *Æneas Sylvius*, and revere *Pius II.*" On this occasion, he declared appeals from the pope to a council to be null, erroneous and detestable, and contrary to the sacred canons.

Although he declaimed, with all the powers of his eloquence against the Turkish war, when he was secretary to the emperor, and described, from his own experience, the repugnant state and spirit of Christendom; yet, when he was raised to the papal throne, he devoted his life to the prosecution of this war. With this view, he attended a convention of princes at Mantua; but when the pontiff appeared at Ancona, to embark in person with the troops, engagements vanished in excuses; a precise day was adjourned to an indefinite term; and his effective army consisted of some German pilgrims, whom he was obliged to disband with indulgences and alms. The French, who had incurred the pope's displeasure by appealing to a council in defence of the Pragmatic sanction, opposed this measure; but he seems to have been placated by the consent of Louis XI, in 1461, to abolish that edict, which the parliament of Paris had so lately and so vigorously supported. In the following year, 1462, he interposed in a dispute which took place between the Cordeliers and Dominicans, and issued a bull forbidding them to brand one another with the odious epithets of heretics. In the exercise of his high office, Pius exerted himself with spirit and activity in bringing many contests to a peaceful termination, and in settling the claims of various princes. During his pontificate he received ambassadors from the Patriarchs of the east; who professed their unanimous agreement to submit to the pope as vicegerent of Jesus Christ. At Ancona, whither he repaired for the purpose of embarking in the prosecution of the Turkish war, he was seized with a fever, which terminated in his death, on the 14th of August, 1464, in the 59th year of his age.

Spondanus, in his ecclesiastical Annals, says, that he was inferior to none in learning, eloquence, dexterity, and prudence; and the cardinal of Pavia, in his speech to the conclave, concerning the choice of a successor, pronounces this eulogium on Pius II. that he was a pope who had all the virtues in his character; and that he had merited the utmost commendation by his zeal for religion, his integrity of manners, his solid judgment, and profound learning. Ambition, however, seems to have been his ruling principle; and his conduct furnishes an example, in addition to many others, of the versatility which a change of circumstances produces in persons that are influenced by this principle. The verse of Virgil's *Æneid*, (lib. i. v. 382) which begins — *Sum pius Æneas* — and the end of the following verse — *fama super Æthera notus*, have been applied to him.

A history of his life, supposed to have been written by himself, was published by his secretary, John Gobelin. It was printed at Rome in 4to. in 1584 and 1589, and at Frankfort, in folio, in 1614. We have an edition of Æneas Sylvius's works, printed at Basil, in folio, in 1551. His life is prefixed to the edition of his works, printed at Helmstadt, in folio, in 1700.

Some apophthegms of Æneas are recorded, of which the following are a specimen: As a covetous man is never satisfied with money, so a learned man should not be with knowledge.—Common men should esteem learning as silver, noblemen prize it as gold, and princes as jewels.—The laws have power over the commonalty, but are feeble to the greater ones.—A citizen should look upon his family as subject to the city, the city to his country, the country to the world, and the world to God.—The chief place with kings is slippery.—And as all rivers run into the sea, so do all vices into the court.—The tongue of a sycophant is a king's greatest plague.—A prince who would trust nobody

is good for nothing, and he who believed every body no better.—He who governs many should himself be ruled by many.—Those who go to law are the birds, the court the field, the judge the net, and the lawyers the fowls.—Men ought to be presented to dignities, not dignities to men.—A covetous man never pleases any body, but by his death. To tell lies is a slavish vice.—Lust sullen and stains every age of man, but quite extinguishes old age.

ÆNEATORES, in *Antiquity*, the musicians in an army; including those who played trumpets, horns, litui, buccine, &c. The word is formed from *Æneus*, on account of the brazen instruments used by them.

ÆNEID, in *Literary History*, the title of Virgil's celebrated epic poem. The subject of this poem is very happily chosen: as nothing could be more noble, so nothing could be more interesting to the Roman people, than Virgil's tracing the origin of their state to a hero of such celebrity as *Æneas*. Whilst the object was splendid in itself, the theme afforded the poet an opportunity of pursuing, by means of the traditionary history of his country, the future great exploits of the Romans, and of describing Italy and the territory of Rome itself, in its ancient and fabulous state. Dr. Blair thinks that there is no foundation for the opinion, advanced by some critics, that the *Æneid* is an allegorical poem, bearing constant reference to the character and reign of Augustus Caesar; or that Virgil's chief design in composing it was to reconcile the Romans to the government of that prince, who is portrayed under the character of *Æneas*. In this poem, unity of action is perfectly preserved; one main object being always kept in view, which was the settlement of *Æneas* in Italy, by order of the Gods. The episodes are likewise sufficiently connected with the main subject; and the nodus, or intrigue of the poem is, according to the plan of ancient machinery, happily formed. The wrath of Juno, who opposes the Trojan settlement in Italy, occasions all the difficulties which embarrass the undertaking of *Æneas*, and connects, throughout the whole work, the human with the celestial operations. Hence arise the tempest which throws *Æneas* on the African shore, the passion of Dido, who endeavours to detain him at Carthage, and the efforts of Turnus, who opposes him in war. At last, however, Juno's resentment is placated, upon a composition with Jupiter, that the Trojan name should be sunk in the Latin, and the hero become victorious. The poem, however, is not free from imperfections: one of which is, that there are scarce any characters marked in the *Æneid*. In this respect it is inferior to the *Iliad*, which abounds with characters and action. The character of *Æneas* himself is cold and tame, and not marked with any of those strokes that touch the heart. His behaviour to Dido manifests obduracy, which renders him unamiable. Dido's own character is well supported, and exhibits a figure more truly animated than any other which Virgil has chosen. Besides this defect of character in the *Æneid*, the distribution and management of the subject are, in some respects, exceptionable. Allowance indeed ought to be made for an incomplete work: for it is said, that the six last books did not receive the finishing hand of the author; on which account he ordered, by his will, the *Æneid* to be committed to the flames, which was happily prevented by Augustus. The wars with the Latins are inferior, in point of dignity, to the destruction of Troy, the intrigue with Dido, and the descent into hell; and in the conduct of these wars, the reader, as Voltaire observes, is tempted to take part with Turnus against *Æneas*. This defect might have

been remedied by the poet's making *Æneas*, instead of distressing Lavinia, by killing her lover and mentioning her mother's death, and embroiling her country in a war, deliver her from the persecution of some rival, who was odious to her and to the whole country. The distinguishing excellence of Virgil is tenderness. He was endowed by nature with exquisite sensibility; he felt every affecting circumstance in the scenes which he describes; and he knows how, by a single stroke, to reach the heart. This, in an epic poem, is the merit next to sublimity, and renders the composition interesting to every reader. The second book is one of the greatest master-pieces that was ever executed; and Virgil seems to have there exerted all the powers of his genius, as the subject afforded a variety of scenes, both of the awful and tender kind. The images of horror, presented by a city burning and sacked in the night, are finely mixed with pathetic and affecting incidents. The death of old Priam, and the family-pieces of *Æneas*, Anchises, and Creusa, are as tender as can be conceived. The fourth book, relating the unhappy passion and death of Dido, has been always most justly admired. The interview of *Æneas* with Andromache and Helenus in the third book; the episodes of Pallas and Evander, of Nisus and Euryalus, of Lausus and Mezentius, in the Italian wars, are striking instances of the poet's power of raising the tender emotions. The best and most finished books, upon the whole, are the first, the second, the fourth, the sixth, the seventh, the eighth, and the twelfth. Virgil's battles are, in point of fire and sublimity, inferior to those of Homer; but there is one important episode, the descent into hell, in which he has far exceeded Homer in his *Odyssey*. In all antiquity there is nothing equal, in its kind, to the sixth book of the *Æneid*. Through the whole description of the invisible world, there is displayed a certain philosophical sublime, which Virgil's platonic genius, and the enlarged ideas of the Augustan age, enabled him to support with a degree of majesty far beyond what the rude ideas of Homer's age allowed him to attain. It is needless to say any thing in praise of the sweetness and beauty of Virgil's numbers, which are universally acknowledged. Elegance and tenderness are the distinguishing excellencies of the *Æneid*. For the feeble passages of this poem, it ought to be admitted as an excuse that the *Æneid* was an unfinished work. Blair's *Lectures*, vol. iii. p. 248—258.

A late writer, viz. M. la Harpe, in his *Lycée*, or *Lectures at the Lycæum*, does not allow Virgil to be the inventor of a single incident, and scarcely of a verse, in his poem. He is not only accused of imitating Homer in his plan, his battles, and his principal events, as well as in his verses, but of plagiarisms from the old poets Ennius, Pacuvius, Accius, and Sævius, and from his contemporaries Lucretius, Catullus, Tibullus, Varius, and Propertius. It is confessed, however, that the 3d, 4th, and 6th books are great and admirable productions. The excellence of Virgil, in the estimation of this author, rests on the constant perfection of his style, to surpass which seems impossible. It is at once, he says, the delight and despair of all who wish to cultivate poetry; so that if he has not equalled Homer in invention, variety, or constant interest, he has surpassed him in the beauty of particular parts, and in the fine taste by which he has embellished his narratives.

ÆNESIPPA, in *Ancient Geography*, called by Strabo *Ænesippa*, an island of the Mediterranean, on the coast of Lybia.

ÆNESISPHYRA, a promontory, according to Strabo, and a port, according to Ptolemy, at the extremity of the

Can be the matter, term'd along the Lybian nome, to the north of the Nile, the great desert.

ÆNIPOLIS, a town of the Red Sea, in the Gulf of Suez, and to the south of the Red Sea.

ÆNIA was a city of the Thracians, Thely; and the name of a hill near the city of Marmara, in the Troad, according to Strabo, and a place near the city of Selyria.

ÆNIADÆ, the name of a river; one in Armenia, of the Taurus, and the mouth of the river Achælus, described by Pindar, and now called by modern travellers *Derios*; and another, according to Stephanus, in Macedonia. See ENIA.

ÆNIANA, a fortified town of Asia, near the Caspian Sea.

ÆNIANES, a people of the southern part of Thessaly, who dwelt to the east of mount Oeta, upon the Sperchius. They reckon them among the Ætolians.

ÆNIGMA, a proposition put in obscure, ambiguous, and generally contradictory terms to puzzle, or exercise the wit, in finding out its meaning; or, an obscure discourse covering some common and well known thing, under remote and uncommon terms.

The word is formed of *avriθεβαι*, *obscurè innuere*, to hint a thing darkly; of *αἶμα*, an obscure speech, *dissensu*.

The Latins sometimes call it *serpus*, *serpas*, or *serpens*.

The populace with us name it *riddle*; from the Belgic *radan*, or the Saxon *arathan*, to interpret.

The junius defines an ænigma to be an obscure parable, or allegory; and makes two kinds: the one *greater*, rendering the sentence more intricate and knotty, by a multitude of words; the other *lesser*, consisting of only one or two remote words, or allusions; as in Isaiah, ch. xi. 1. where Jesus Christ is called *נֶזֶר*, *serapus*, *rod*, or *branch*.

Fa. Bohours, in the memoirs of Trevoux, defines an ænigma, a discourse, or painting, including some hidden meaning, which is proposed to be guessed.

ÆNIGMAS, *painted*, are representations of the works of nature, or art, concealed under human figures, drawn from history or fable. Thus Jesus Christ, in the middle of the doctors, represents the Bible, &c.

A verbal ænigma is a witty, artful, and abstruse description of any thing.

The use of ænigmas was very great among the Egyptians. Gale thinks they might borrow their custom from the Hebrews, among whom, it is certain, ænigmas were not less in use. Witness Samson's riddle, Judges xiv. 12. 13. *I will now put forth a riddle to you*, &c. *וְיִירָד*, i. e. according to Vatable, an *ænigmatical problem*: the LXX. render it, *πρόβλημα*. Solomon is said to have been particularly skilful in the solution of ænigmas. Joseph. Antiq. lib. v. cap. 2. Clemens assures us, that the Egyptians placed *sphinxes* before their temples; to intimate that the doctrines of God and religion were *ænigmatical* and obscure. See *HIEROGLYPHIC*.

Some represent the ænigma as the same with *gryphus*: but the more exact writers make a distinction; though wherein the difference lies is not agreed on. Some make it consist in this, that the ænigma properly imports something merry or jocose, and *gryphus* a subject more grave and profound. Others reduce the difference to this, that in the *gryphus* there is something captious, and capable of leading into a snare, which is not found in the ænigma.

The *REBUS* is also ranked by some in the number of ænigmas.

In a general sense, every dark saying, every difficult question, every puzzle may pass for an ænigma. Hence *obscurum* has been called *ænigmatica sententia*.

The alchemists are great dealers in the ænigmatical language, the more so for the philosophical love being generally suppos'd in a riddle, &c. or. *Plus on veut et flamma* *plus on se chauffe*, *plus on se chauffe, plus on se chauffe*, *plus on se chauffe, plus on se chauffe*. Borehen has published an explanation of the riddles of chemists, alchemists, physicians, &c.

Among the ænigmas of chemists that called the *lybline ænigma* is famous, of which we had a copy in a MS. of Stephanus Alexandrinus.

Εἰς τὸν ποταμὸν ἔξω, ἀπὸ τῆς πόλεως ἔξω, ἔξω.
Αἰ, τίς τοι τὸν ποταμὸν ἐξέστη; ἔξω τῆς πόλεως.
Τὸ ποταμὸν ἐξέστη, καὶ τὸν ποταμὸν ἐξέστη.
Τὸ ποταμὸν ἐξέστη, καὶ τὸν ποταμὸν ἐξέστη.
Καὶ τὸν ποταμὸν ἐξέστη, καὶ τὸν ποταμὸν ἐξέστη.
Ὁς ἀπὸ τοῦ ποταμοῦ παρ' ἐξέστη.

Thus translated by M. Leibnitz.

Liber hic noster quadrigylus ipse notoris:
Sylaba habet binas, nisi quod tant ultima terminas.
Proinde quatuor, quintis non propria vox est.
His septem vicibus numerum centuria totum
Inprehatur, decadesque novem, tum bis tria. Si me
Noveris, hinc aditus ad sacra nostri patet.

Stephanus gives a mystical solution of this ænigma. Moret will have it signify the name Jehovah, which, according to him, comprehends the number 1696, abating one, the number contained in the ænigma. Brentius maintains that the whole sum amounts to 1711, and that it represents the word *ἄρσενικον*. The generality understand it of the word *arsenic*, or *ΑΡΣΕΝΙΚΟΝ*. M. Leibnitz gives a very artful solution of it in this sense, by only supposing the A to stand for a thousand, and I for unity, as we sometimes find them used by grammarians.

The operation of cupping, performed in ancient days by a machine of brass, is ingeniously represented by the following ænigma:

Αὐτὸς ἑίδον πρὸς χαλκὸν ἐπ' ἐπὶ χαλκιστοῖς;
“I saw a man, who, unprovok'd with ire,
Stuck brags upon another's back by fire.”

Arist. Rhetor. l. iii. c. 2. t. 2. p. 586. Ed. Duval.

Aulus Gellius (xii. 6.) has preserved a Latin ænigma, which he also calls a *serpus* or *serpos*, debased (says Mr. Harris in his *Philological Inquiries*, p. 202.) with all the quibble of a barbarous age:

“Semel minusne, an bis minus, (non fat scio)
An utrumque eorum (ut quondam audiui dicier)
Jovi ipsi regi noluit concedere.”

It is thus translated by Mr. Harris: “Was it *once minus*, or *twice minus*, (I am not enough informed), or was it not rather *the two taken together*, (as I have heard it said formerly) that would not give way to Jove himself, the sovereign.” The *two taken together*, that is, *once minus*, and *twice minus*, make, when so taken, *thrice minus*: and *thrice minus* in Latin is *ter minus*; which, taken as a single word, is *terminus*, the god of boundaries. The meaning of the riddle coincides with the Pagan legend, which says, that, when in honour of Jove the capitol was founded, the other gods consented to retire, but the god *Terminus* refused. See Ovid's *Fasts*, l. iii.; 667, &c. t. iii. p. 137. Ed. Burn.

The moral of the fable is just and ingenious, viz. that boundaries are sacred, and never should be moved.

F. Moretius has attempted to reduce the composition and resolution of ænigmas to a kind of art, with fixed rules, and principles, which he calls the philosophy of ænigmatic images.

ÆNIGMA, the subject of an, should be something easily conceived, and generally known.

ÆNIGMAS, the form of, consists in the words, which, whether they be in prose or verse, contain either some description, a question, or a propopœia. Those of the last kind are the most pleasing, inasmuch as they give life and action to things, which otherwise have them not. They are commonly involved either in a pun or metaphor, or sometimes in both. In such fancies, contrary to the principles of good metaphor, and good writing, perplexity is excited, not by accident, but by design, and the pleasure lies in being able to resolve it. To make an ænigma, therefore, two things are to be pitched on, which bear some resemblance to each other, as the sun, and a monarch; or a ship, and a house; and on this resemblance is to be raised a superstructure of contrarieties to amuse and perplex. It is easier to find great subjects for ænigmas in figures than in words, inasmuch as painting attracts the eyes, and excites the attention to discover the sense. The subjects of ænigmas in painting are to be taken either from history or fable; the composition here is a kind of metamorphosis, wherein, e. g. human figures are changed into trees, and rivers into metals. This conversion, however, does not depend merely on caprice; there must be something of suitableness, and even erudition to authorise it. Thus the battle of Constantine against Maxentius may be taken for the subject of an ænigma, to represent the game of chess: the sign which appeared in the heavens with the words, *in hoc signo vinces*, may properly enough represent the secret of this game, which consists in saving the king. It is much easier to turn *mythology* into ænigmas, than *history*. Accordingly several have imagined, that the conquest of the golden fleece was no other than the transmutation of metals; and that the fable of Circe was the art of chemistry in ænigma. Ænigmas of pure invention are a kind of poetry, and more subtle than those drawn from mythology; since here the matter itself is to be created: instead of adopting some history or received fable, something probable is feigned, the chief action whereof is known, e. g. a shipwreck, a conflagration, an amphitheatre, or the like. It is essential to ænigmas, that the history or fable under which they are presented, be known to every body; otherwise it will comprehend two ænigmas instead of one; the first of the history or fable, the second of the sense in which it is to be taken. Another essential rule of the ænigma is, that it only admits of one sense. Every ænigma which is susceptible of different interpretations, all equally natural, is so far imperfect.

ÆNIGMAS, the solution or explanation of, forms a kind of exercise, that is as difficult as it is amusing, and that affords scope for invention and penetration. By the solution of an ænigma we are to understand the discovery of a motto corresponding to the action and persons represented in a picture, taken either from history or mythology. This motto must, either by itself or its attendant circumstances, divert the spectators, and furnish occasion for displaying wit, and introducing pieces of poetry to illustrate the subject and awaken the attention of the audience. Those ænigmas which are expressed by figures, are more difficult of solution than such as consist of words, because images may have a greater variety of significations than words; so that to fix them to a particular

sense, we must apply every situation, symbol, &c. without omitting a circumstance belonging to them. As there are few persons in history or mythology that have not some particular character, this character must be regarded, in order to determine what the figure in any painting signifies, and to discover how it agrees with the subject of which we would explain it. Thus, if Proteus be represented in a picture, it may be taken to denote *inconstancy*, and applied either to a physical or moral subject, the character of which is mutability: e. g. an abanack which expresses the variable weather, seasons, heat, cold, storms, and the like. The colours of figures may also help to unriddle what they mean, e. g. *white* is an emblem of innocence, *red* of modesty, *green* of hope, *black* of sorrow, &c. When figures are accompanied with symbols, they are more determinate; these being, as it were, the soul of ænigmas, and the key that opens the mystery of them. Of all the symbols that occur in the writings of those who have treated of the subject, those only of Pythagoras are truly ænigmatical, which, under obscure proverbs, convey lessons of morality: as when he uses the phrase *stateram ne transilias* to signify, *do not injure*. Some ænigmas are so complicated, that no rules will serve for the solution of them, and that they occasion great perplexity to those who endeavour to interpret them. Such is that ancient and celebrated ænigma, called *Ælia Lælia crispis*, which has puzzled many learned persons, who have directed their attention to subjects of this nature. There are two copies of it, each of which claims authenticity. The one, formerly engraven on marble and more lately cut in fresh characters, by order of Achilles Volta, is preserved by the family of Volta at Casaralta near Bologna, and is as follows:

D. M.

Ælia Lælia Crispis,

Nec vir, nec mulier, nec androgyna,

Nec puella, nec juvenis, nec anus.

Nec casta, nec meretrix, nec pudica,

Sed omnia.

Sublata

Neque fame, neque ferro, neque veneno,

Sed omnibus.

Nec cælo, nec aquis, nec terrie,

Sed ubique jacet.

LUCIUS AGATHO PRISCIUS

Nec maritus, nec amator, nec necessarius,

Neque mœrens, neque gaudens, neque fletus,

Hanc

Nec molem, nec pyramidem, nec sepulchrum,

Sed omnia,

Seit et nescit cui posuerit."

Thus translated: *Ælia Lælia Crispis, who was neither male, female, nor hermaphrodite; neither a girl, nor a young woman, nor an old woman; neither chaste, nor a virgin, nor a modest woman; but all these. She died neither by famine, nor sword, nor poison; but by all these. She lies neither in the air, nor in the water, nor in the earth; but every where. Lucius Agatho Priscus, neither husband, nor lover, nor relation, neither sorrowful, nor rejoicing, nor weeping, erected this, which is neither fabric, nor pyramid, nor tomb; but all these; but to whom, he knows, and does not know."*

The other copy of this ænigma was found written in Gothic letters in a MS. at Milan, introduced with A.M.P. P.D. instead of D.M. *diis manibus*, which an anonymous author (Act. Erud. Lips. Mens. Mart. 1732) interpreting the riddle of a monument erected by one of the Ælian family to his own soul, decyphers thus: *animæ meæ propriæ dico*: at the end is the following addition: viz.

"Hæc et sepulchrum intus cadaver non habens,
Hæc et cadaver sepulchrum extra non habens,
Sed cadaver idem est et sepulchrum sibi."

Ænig. Here is a sepulchre without a corpse: here is a corpse without a sepulchre: the corpse and sepulchre are one and the same.

Of this enigma the solutions have been very numerous. On the four sides of the stone, on which it is inscribed, there are twelve different explanations, with the names of their sagacious authors. Mario Michael Angelo will have it to be rain; Licetus, the beginning and ending of friendship; Gevartius, love; Pontinus, the remains of three different persons: Tullius, the *materia prima*; Barnaud, an eunuch, or the philosopher's stone; Agathias Scholasticus, Niobe; R. V. . . . world soul, or the *idea Platonis*; Boxhornius, a shadow; Ovid Montalbanus, hemp; M. de Cicogne, pope Joan; Hamanum, Lot's wife; another anonymous person, the Christian church; Terrouas, music; Vefinondius, a lawsuit; and, to add no more, Count Malvasia, in a treatise intitled *Ælia Lælia Crispis non nata resurgens*, interprets it of a daughter promised to a person in marriage, who died pregnant with a male child before the celebration of her nuptials. See Keyser's Travels, vol. iii. 264, &c. 8vo.

ÆNIGMATICAL, something that relates to, or partakes of the nature of enigmas.

The philosophy of the DRUIDS was altogether ænigmatical.

The ancient sages in general affected an ænigmatical way of writing, to conceal their doctrines from the populace. The Romans in Nero's time were obliged to have recourse to the like method, though for different reasons. The ænigmatical characters of the Egyptians were a species of **HEROGLYPHICS**, consisting of such as bore no natural resemblance to the things they represented. Such was the beetle, used to express the sun: the serpent, to represent the stars.

We read of an ænigmatical medal presented by the Hungarians to Henry III. Schott has published an explication of an ænigmatical coin of the emperor Augustus, concerning which antiquaries have been long divided.

ÆNIGMATOGRAPHER, or **ÆNIGMATIST**, a maker or explainer of enigmas.

Hardwin, Vander Hardt, &c. are great ænigmatists.

ÆNIGMATOGRAPHY, **ÆNIGMATOGRAPHIA**, compounded of *αἰνigma* and *γραφω*, to describe, the art of making and resolving, or collecting **ÆNIGMAS**.

Ænigmatography, otherwise called *ænimatology*, may be divided into general and particular. The first gives rules concerning the nature, kinds, composition, and use of enigmas; the second considers the enigmas in particular sciences, or languages, Greek, Latin, Hebrew, philological, philosophical, theological, &c.

Nic. Reusner has a treatise, under the title of *Ænimatographia*.

ÆNIPPE, in *Entomology*, a species of **PAPILIO**, with roundish yellow wings, all of which are marked beneath with ocellated points; the fore wings with six, and the hinder with seven. It is found in China.

ÆNITTOLOGIUS, in *Poetry*, a kind of verse consisting of two *dactyls*, and three *trochei*. Such is,

Praha dira placent truci juvenæ.

ÆNIUM, in *Ancient Geography*, a promontory near Ænia, on the Thermaic gulf.

ÆNIUS, a small river of Dardania in Asia.

ÆNNUM, a small town of Egypt, mentioned by Pliny (t. i. p. 347.) called by others *Philoteræ*, and now *Susquem*.

ÆNOLA, in *Geography*, a market town of Naples, in

the province or jurisdiction of Terra di Lavoro. N. lat. 41° 15'. E. long. 13° 22'.

ÆNONA, in *Ancient Geography*, a city of Liburnia, called by Pliny (t. i. p. 178.) *Civitas Pafini*, now *Nona*. It lies on the Adriatic, by which it is almost surrounded, over against the island Gissa, and distant from it about four miles to the west. M. d'Anville places it to the south of Jadera in Dalmatia.

ÆNUS, a river of Vindelicæ, in Germany, which rises in the Rætian Alps; and discharges itself into the Danube. It is now the **INN**. Near this river was the town called *Æni pons* of Antonine, from a bridge that connected Noricum with that part of Vindelicæ, inhabited by the Boii.

ÆNUS was also a river of the Cimbric Chersonesus.

ÆNUS was also a mountain of Cephallenia, one of the Greek islands, where was a temple of Jupiter.

ÆNUS, **ÆNOS**, or **ÆNUUS**, a town of Thrace, built, says Strabo, cited by Stephanus (de Urb. p. 45.) by the Cumæans, but according to Mela, who seems to mistake this town for Ænia, by the exile Æneas. If it was founded by the Trojans, it was enlarged by the Cumæans. It is situated on one of the two mouths of the Hebrus. It was a free town, says Pliny (t. i. p. 204) in which was the tomb of Polydorus; and was one of the towns, Maronea being the other, on the Ægean Sea, conquered by Philip, the father of Perseus, and upon the defeat of the latter by the Romans, promised to Eumenes, king of Pergamus; but afterwards declared by the senate free and independent. Livy, l. xxxi. c. 16. c. 31. t. iv. p. 534, 557. Ed. Drakenb. Polybius, p. 380, 854. Ed. Casaub. The epithet derived from it is *Ænius*. It was also called *Apfynthus*. Here, according to Plutarch, (t. i. p. 763. Ed. Xylandr.) the brother of Cato of Utica died, and was honoured with a monument of marble in the forum of the *Ænii*. This town is now **ENO**.

Stephanus mentions four other towns of this name; one built by *Ænus*, the brother of Guneus; another, a city of Thessaly; a third, of the country of the Locrians; and a fourth, between Thapsacus and the Euphrates. There is also an island of this name adjoining to Arabia Felix.

ÆOLIAN ISLANDS are seven islands, situate between Sicily and Italy, in the Tyrrhenian or Tuscan sea; so called according to Pliny, (t. i. p. 164. Ed. Hard.) because Æolus reigned there in the time of the Trojan war. They were denominated by the Greeks *Hephestiades*, and by the Romans *Vulcaniæ*, from their fiery eruptions. They were also called by Strabo, (t. i. p. 394.) *λιπαρῶν νησοί*, i. e. *Liparensum insule*, from Lipara, the chief of them. Their names, according to Pliny, with whom Diodorus Siculus, (l. v. c. 7. t. i. p. 335. Ed. Wesseling.) agrees, are Lipara, Hiera, Strongyle, Didyme, Ericusa, Phœnicusa, and Euonymos. They are now called, *Isole di Lipari*. Ptolemy mentions fifteen of these islands; but he includes in the number several other little islands, which are too far distant to be properly included under the denomination of the Æolian islands.

ÆOLIC, in a general sense, denotes something belonging to **ÆOLIS**.

ÆOLIC, or **ÆOLIAN**, in *Grammar*, denotes one of the five dialects of the Greek tongue. It was first used in Boeotia; whence it passed into Æolia, and was that in which Sappho and Alceus wrote. We find also a mixture of it in the writings of Theocritus, Pindar, Homer, and many others. The Æolic dialect generally throws out the aspirate or sharp spirit, as *ἡμέρα* for *ἡμέρα*, day; draws back the

the accent, as *πόταμος* for *ποταμός*, river; changes α into ω , as *μέλας* for *μήλας*, black; and λ into α , as *μέλιον* for *μέλινον*; and in the singular ϵ into α ; puts *εἶπα* for *ἔειπα*, as *ὑπέστηα* for *ὑπέστηα*; and β before ρ , as *βρόδον* for *ῥόδον*, a rose; changes two μ into two π , as *ὀππαλα* for *ὀρμυζαλα*, the eye; and it agrees in so many things with the DORIC dialect, that the two are usually confounded together, and have been almost entirely followed by the Latins.

The *Æolic digamma* is a name given to the letter F, which the Æolians used to prefix to words beginning with vowels, as *Fωνος*, for *ωνος*; and also to insert between vowels, as *οFis*, for *οis*.

ÆOLIC verse, Carmen Æolicum, in Poetry, a kind of measure, consisting, first of an Iambic or Spondee; then of two Anapests, divided by a long syllable; and, lastly, a common syllable. This is otherwise called *eulogie*; and from the chief poets who used it, *Archilochian* and *Pindaric*.

Its type is, $\bar{\text{—}} \text{—} \text{—} | \text{—} \text{—} \text{—} | \text{—} \text{—} \text{—} | \text{—} \text{—} \text{—} | \text{—} \text{—} \text{—}$

e. g. "O stelliferi conditor orbis."

ÆOLIPILE, ÆOLIPILA, in *Hydraulics*, is an instrument consisting of a hollow metalline ball, with a slender neck, or pipe, arising from it. This, being filled with water, and thus exposed to the fire, produces a vehement blast of wind.

This instrument, Des Cartes, and others, have made use of, to account for the natural cause, and generation, of wind.—And hence its name, *Æolipila*, q. d. *pila Æoli, Æolus's ball*, or *Αἰόλος πύλας*, the gates of *Æolus*; *Æolus* being reputed the god of the winds.

Sometimes the neck is made to screw into the ball, which is the most commodious way; because, then, the cavity may the more readily be filled with water. If there be no screw, it may be filled thus:—Heat the ball red hot, and throw it into a vessel of water; the water will run in at the small hole, and fill about two thirds of the cavity.

If, after this, the *Æolipile* be laid on, or before the fire, so that the water and vessel become very much heated; the water being rarefied into vapour or elastic steam, will be forced out with very great violence and noise; but it will be by intervals, and not with a constant and uniform blast. Care should be taken that the aperture of the pipe be not stopped, when the instrument is put on the fire, and that the ball be not set upon a violent fire with very little water in it, otherwise the *Æolipile* will burst with a great explosion, and may occasion much mischief. The *Æolipile* is sometimes placed in a small carriage with wheels, and a cork is thrust into the extremity of the pipe. When the vapour has acquired sufficient strength to force out the cork, it will rush out with violence in one direction, while the ball and carriage move the contrary way. See a figure of the apparatus for this purpose in *Plate 1. Pneumatics, fig. 1.*

These phenomena the reader will be easily enabled to solve, from what is shewn under the articles, *AIR, WATER, and RAREFACTION.*

Chauvin suggests some farther uses of the *Æolipile*.—1. He thinks it might be applied, instead of a bellows, to blow the fire, where a very intense heat is required. This fact has been urged as an argument to prove the decomposition of water; but, in this case, it is not the steam which excites the fire, but the air which is driven before it; for an *Æolipile* will not produce this effect, but the contrary, unless a body of air be interposed between its aperture and the fire. Accordingly, Dr. Lewis condemns substituting the *Æolipile* instead of a bellows, and says, that upon trial he always found that instead of exciting, it extinguished the

fire. Com. Phil. Techn. p. 21.—2. If a trumpet, horn, or other sonorous instrument, were fitted to its neck, it might be made to yield music.—3. If the neck were turned perpendicularly upwards, and prolonged by a tube or hollow cylinder fitted to it, and a hollow ball laid on the orifice of the tube, the ball would be blown up, and kept fluctuating, or playing up and down, as in the stream of a FOUNTAIN. And, 4. It might serve to scent or fumigate a room, if filled with perfumed, instead of common water.

An *Æolipile* has been sometimes placed in a chimney, where it can be heated, the vapour of which serves to drive the smoke up the chimney.

Dr. Plott gives an instance where the *Æolipile* is actually used to blow the fire: the lord of the manor of Effington is bound by his tenure to drive a goose every new year's day three times round the hall of the lord of Hilton, while Jack of Hilton (a brazen figure having the structure of an *Æolipile*) blows the fire.

In Italy it is said, that the *Æolipile* is commonly made use of to cure smoaky chimnies; for being hung over the fire, the blast arising from it carries up the loitering smoke along with it.

This instrument was known to the ancients, and is mentioned by Vitruvius, lib. i. cap. vi. and it is also taken notice of by several modern authors; as Des Cartes, in his *Meteor.* cap. i. apud Opera Philos. tom. i. p. 141.

F. Merfennus, and some others have made use of this machine, to measure the gravity and degree of rarefaction of the air, by weighing the instrument, when red-hot, without water, and weighing it again when cold. But this method is liable to considerable objections. It supposes that there is no air in the ball when it is red-hot; whereas Varenus (*Geog.* vol. i. p. 438.) has shewn, that the air is rarefied but about 70 times; and, consequently, the weight, obtained by the above process, will be about 1-70th too small, or more or less, according to the intensity of the heat.

Some late authors have discovered a still more extraordinary use, to which the frauds of the heathen priesthood applied the *Æolipile*, viz. the working of tham miracles. Besides Jack of Hilton, which had been an ancient Saxon image, or idol, Mr. Weber shews, that *Pluſter*, a celebrated German idol, is also of the *Æolipile* kind; and in virtue thereof, could do noble feats; being filled with a fluid, and thus set on the fire, it would be covered with sweat, and as the heat increased would at length burst out into flames.

An *Æolipile* of great antiquity, made of brass, was lately dug up in the site of the Basingstoke canal, and presented to the antiquarian society of London. Instead of being globular, with a bent tube, it is in the form of a grotesque human figure, and the blast proceeds from its mouth.

ÆOLIS or *ÆOLIA*, in *Ancient Geography*, a country of Asia Minor, so called from the Æolians, who settled in this part of Asia, comprehended in former times the whole of Troas, and extended along the coast from Ionia to the Propontis: but in a more confined sense, it is situate between Troas to the north and Ionia to the south. According to Strabo (tom. 2. p. 872.) it extended from the promontory Lectus to the river Hermus, and contained 11 cities, mentioned by Herodotus (l. i. p. 73. Ed. Wesseling.) who observes, that Smyrna was taken from the Æolians by the Ionians. Ptolemy, and after him M. d'Anville, assign Caycus to the north, and Hermus to the south, as the limits of Æolis. The Æolians, according to Josephus, were descended from Eliphah, one of the sons of Javan; but according to the Greek historians from Æolus, the third son of Ion, son of Hellen, who was the son of Deucalion. They, as well as the Ionians

Ionians and Dorians, were Greek colonies, who were first sent to Asia about seven hundred years before the return of the Heraclidæ from Peloponnesus; that about a hundred years before the Christian æra, according to the tradition of Dr. Blin. Cheloni. Others say this colonization was 11 years after the falling of Troy, and 60 years before the return of the Heraclidæ. The Æolians migrated, they pretend, the Ionians about 150 years; and that of the Dorians was posterior to the Ionians near 70 years. Strabo (ubi supra) says, that tradition referred the migration of the Æolians to an earlier period than that of the Ionians, by four generations; that their colony was conducted by Orestes, that they were led into Thracæ by his son and successor Pericles, about 60 years after the destruction of Troy, at the time of the return of the Heraclidæ to Peloponnesus; that Archelaus, the son of Pericles, conducted them towards Chios; and that his son Gæmus advanced with them to the river Crætiæ, and took possession of Lesbos.

The Æolians were divided, after their settlement in Asia, into small states, or cantons, independent of each other, but united in one common confederacy. Their country, though more extensive than that of the Ionians, was inferior to it in all other respects. The Æolians, as well as the other Greek colonies in Asia, enjoyed their liberties, and lived according to their own laws, from the time of their migration to the reign of Croesus, king of Lydia, to whose power they were forced to submit. But as they were allowed to live unmolested under his mild government, they took occasion from this indulgence to oppose Cyrus, when he first invaded Lydia; but they were reduced to subjection by this victorious prince; and their state was more dependent under the Persian monarchs than it had ever been before. The Æolians and Dorians were not inferior to the European Greeks, till they were subdued by the Persians, but having lost their liberty they sunk into indolence, and became no less effeminate than the other Asiatics. Upon the conclusion of the peace between the Greeks and Persians, in the reign of Artaxerxes, one of the articles, sworn to by both parties, was, that all the Greek states of Asia should be made free, and allowed to live according to their own laws. Their condition was very various, and the Persian yoke, to which they were compelled to submit, was very oppressive, till they were rescued by Alexander, who restored all the Greeks in Asia to the enjoyment of their ancient rights and privileges. After the death of Alexander, they fell under the power of the kings of Syria, and continued subject to them till the Romans, after having delivered Greece from the oppression of Philip, king of Macedon, obliged Antiochus III. surnamed the Great, to grant the same liberty to the Greek colonies in Asia, which they had procured for the Greek states in Europe. They then entered into an alliance with the Romans, till they were subdued by Mithridates, king of Pontus, who compelled them to join with him against the Romans. Upon Sylla's arrival in Asia, they again declared for the Romans; but Sylla having completely subdued the lesser Asia, they were deprived of their liberty and burdened with taxes, which reduced them to beggary. They never afterwards were able to recover their ancient splendour, notwithstanding the favour shewn them by many of the emperors, under whose protection they enjoyed some share of liberty. Æolis is now a district of Anatolia; but is not remarkable in any respect, neither does it seem to enjoy any branch or article of trade.

Herod. l. i. p. 26—73, 141. l. ii. p. 90, &c. Diod. Sic. l. ii. p. 403, and l. xiv. p. 725. Ed. Wesseling. Thucyd. l. i. p. 62. Ed. Duker. Liv. l. xxxv. c. 16. tom. iv. p. 505. Ed. Drakenb.

ÆOLIUM, a city of the Thracian Chersonesus. M. d'Anville places it at the entrance of the Hellespont to the north, and calls it, with Pliny, *Elæus*.

ÆOLUS, in *Entomology*, a species of *PAPILIO*, with caudated azure wings, a black spot on the primores, and a white band, striated with black, under all of them; found in South America and India.

ÆOLUS, in *Mechanics*, denotes a portable machine, not long since invented by Mr. Tidd, for refreshing and changing the air in rooms.

This machine is adapted in its dimensions to supply the place of a square of glass in a sash window, and is executed in so small a compass, as to project but a little way from the sash, and in so neat a manner, says the inventor, as to be an elegant ornament to the place where it is fixed. It works without the least noise, requires no attendance, and occasions neither trouble nor expence to keep it in order. It throws in only such a quantity of air as is agreeable; and leaves off working, of its own accord, whenever the door or window is opened.

ÆOLUS, in *Heathen Mythology*, the god of the winds, painted with swollen cheeks, like one who with main force endeavours to blow a blast; also with two wings on his shoulders, and a high-coloured fiery countenance. He is said to have been the son of Jupiter by Acasta, or Sigesta, the daughter of Hippotus: or, according to others, the son of Hippotus by Meneclea, daughter of Hillus, king of Lipara. He dwelt, as some say, in the island Strongyle now Stromboli, one of the *ÆOLIAN* islands; or, as others say, either at Rhegium in Italy, or in Lipara. The government of the winds is said to be under his direction and controul. Some mythologists explain the fables relating to Æolus by representing him as a wife and good prince, who was able in consequence of his skill in the sciences, by the flux and reflux of the tides, and the appearances of the volcano in the island Strongyle, to foretel storms and tempests. See Polybii Fragmenta, p. 988.

ÆOLUS's Harp, in *Music*, an instrument so named, from its producing an agreeable harmony, merely by the action of the wind.—It is thus constructed.—Let a box be made of as thin deal as possible, (*Plate 1. Music, fig. 1.*) of the exact length answering to the width of the window in which it is intended to be placed; five or six inches deep and seven or eight inches wide. Let there be glued upon it at *aa*, two pieces of wainscot about half an inch high, and a quarter of an inch thick, to serve as bridges for the strings; and within side, at each end, under *bb*, glue two pieces of beech, about an inch square, of length equal to the width of the box, which are to sustain the pegs. Into these fix as many pins, such as are used in a harpichord, as there are to be strings in the instrument, half at one end, and half at the other, at equal distances. It now remains to string it with small catgut, or blue first fiddle-strings, fixing one end to a small brass pin, as at *cc*, (*fig. 2*) and twisting the other round the opposite pin at *bb*.

When these strings are tuned unison, and the instrument placed with the strings outward, in the window to which it is fitted, it will, provided the air blows on that window, give a sound like a distant choir, increasing or decreasing, according to the strength of the wind.

The roses in the middle only represent sound-holes; the thinner the top is, the better will the instrument perform. Mr. Thompson, in a note to his celebrated Ode on this instrument, ascribes the invention of it to Mr. Oswald; whereas it was known to Kircher above a hundred years ago; and the method of constructing and using it is described by him in a book intitled *Magia Phonotactica & Phonurgia*.

An improved form of this instrument is represented in *fig.*

fig. 3. constructed by the late Rev. W. Jones. The strings, instead of being on the outside, are fixed to a sounding-board or belly within a wooden case, and the wind is admitted to them through an horizontal aperture. In this form the instrument is portable, and may be used any where in the open air.

Æolus's harp produces all the harmonies of a single string, divided in harmonic proportion. See HARMONICS. The tension of the strings must not be great; as the air, if gentle, has not sufficient power to make them vibrate; and, if it blows fresh, the instrument does not sing, but scream. Its crescendo and diminuendo, or the gradual advancing and retiring of its delicate tones, can only be described by the instrument itself.

Kircher has attempted to account for the phenomena of the Æolian harp, by supposing the current of air to strike on different portions of the string. But this is contrary to experience; for, if we suppose the Æolian note to be one-fifth above the original note of the string, that is, one third of the whole, then, according to Kircher, the remaining part would be at rest, which is not the fact; for an obstacle applied to any other point besides the quiescent points of division, will destroy the Æolian tone. The chords also that would arise on this theory are not such as really take place in nature; thus, where the chord consists of the notes F and A, the first note F is produced, according to Kircher, by the blasts striking on one fourth of the string: and in this case, the remaining part of the string must be at rest according to Kircher, which is contrary to experience; or, if it be agitated as one string, it must produce the note of three-fourths of the whole string, that is, a fourth above the bass note; whereas, the note really produced is the double octave to the third above the bass note.

Mr. Young, in order to ascertain the order of the notes in this instrument, took off all the strings but one; and, placing it in a proper situation, he was surprised to hear a great variety of notes, and frequently such as were not produced by any aliquot part of the string; and he often heard a chord of two or three notes from this single string. These complex and extraordinary phenomena at first perplexed him; and he almost despaired of being able to account for them on the principle of aliquot parts. On farther examination, however, he found that they all flowed naturally and easily from this principle. Having directed his attention to the effect of a current of air rushing against a stretched elastic string, he observed, that a blast against the middle point of the string moved the whole of it from its rectilineal position; and that the string by its elasticity, returned to its former position: so as thus to continue vibrating and exciting pulses in the air, which produced the tone of the entire string. If the current of air be too strong and rapid, when the string is bent, it will retain its curvature. But though the whole string cannot perform its vibrations in this case, the subordinate aliquot parts may; and these will be of different lengths according to the rapidity of the blast. Thus, when the velocity of the current increases so as to prevent the vibration of the whole string, those particles which strike against the middle points of the halves of the string agitate those halves, as in the case of sympathetic and secondary tones; and as these halves vibrate in half the time of the whole string, though the blast may be too rapid to admit of the vibration of the whole, yet it can have no more effect in preventing the motion of the halves than it would have on the whole string if its tension were quadruple: for the times of vibrations in strings of different lengths, and agreeing in other circumstances, are directly as the lengths; and in strings differing in tension, and agreeing in other circumstances, inversely as the square roots of

the tensions: and therefore, their vibrations may become strong enough to excite such pulses as will affect the drum of the ear: and the same may be said of other aliquot divisions of the string. Those particles which strike against such points of the string as are not in the middle of aliquot parts, will interrupt and counteract each other's vibrations, as in the case of sympathetic and secondary tones, and therefore will not produce a distinct effect. These principles are illustrated and applied by Mr. Young in his "Essay on the Principles of the Phenomena of Sound and Musical Strings," printed at London in 1784, 8vo.

ÆON, *ΑΙΩΝ*, *æg*, literally signifies the duration of a thing. But the word has been used by Greek writers in different senses. It was first applied to the age of man, or the duration of human life. In succeeding times it was used by philosophers to express the duration of spiritual and invisible beings.

Χρονος was used to denote the measure of corporeal and changing objects; and *αἰων* or *æon*, for the measure of things as were immutable and eternal. And, as God is the chief of spiritual and immutable beings, his eternal duration was expressed by this term, and thus it is now commonly understood. It was afterwards attributed to other spiritual and invisible beings; and the oriental philosophers, who lived about the time of Christ's appearance, and made use of the Greek language, understood by it the duration of eternal and immutable things, the space or period of time in which they exist. By a metonymy, the term was employed to signify the beings themselves. Thus, the Supreme Being was called *αἰων*, or *Æon*; and the angels also distinguished by the title of *Æons*. Accordingly, the Gnostics, who had formed the notion of an invisible and spiritual world, composed of entities or virtues, proceeding from the Supreme Being, and succeeding each other at certain intervals of time, so as to constitute an eternal chain, of which our world was the terminating link, assigned to the beings that formed this chain a certain term of duration, and a certain sphere of action. These terms of duration were at first called *αἰωνες*, *æons*, and they themselves were afterwards metonymically distinguished by that title. Mosheim's *Eccl. Hist.* by MacLaine, vol. i. p. 89. 8vo.

Some have affixed another idea to the word *æon*; in order to which they have made use of the philosophy of Plato, giving reality to the ideas which that philosopher had imagined in God; and even personifying them, and feigning them distinct from God, and to have been produced by him; some male, others female. See PLATONISM.

These ideas they call *æons*; of an assemblage of which they compose their deity, calling it *πατριμωσις*, a Greek word, signifying *fulness*.

Some say that Simon Magus was the first inventor of these *æons*, which seem, however, to have sprung from the oriental philosophy, and which were adopted by the Gnostics; afterwards brought to perfection by Valentinus; who, refining on those who preceded him in this way, produced a long genealogy of *æons*, to the number of 30. The first, and most perfect, he particularly denominates *Πρωτον*, *Proton*, that is, *pre-existent*; beside other names, the most usual whereof was that of *Bythos*, *Βυθος*, *depth*.

This *Bythos*, he says, continued long alone with *Ενοια*, *Ennaea*, *Thought*; whom Valentinus also called *Χαρις*, *Grace*, and *Συν*, *Silence*. At length *Bythos*, with *Sige*, produced *Nous*, *Νεϋ*, *Understanding*; and *Αληθεια*, *Truth*, her sister. *Nous* begat two *æons*; *Λογος*, *Λογος*, *Word*; and *Ζωε*, *Zoe*, *Life*; which begat two others; *Ανθρωπος*, *Ανθρωπος*, *Man*; and *Εκκλησια*, *Church*. And these eight *æons* were the chief of all the rest.

The *Wish*, *Asar*, and *Zeph*, *Zen*, begat ten other æons; *Men* and the *Church*, begat twelve more; among whom were, the *Parables*, *Evils*, *Hope*, *Charity*, the *Perfess*, *Tenors*, and *Angels*, &c. And thus were thirty æons made up; which, along with, made the *Placema*, *Hæreses*, or *spiritual* and *material* *placema*. See Gnostics, and VALENTINIANS.

Æon likewise, in the *Pæonician Theology*, was the first created woman.

ÆORA, in the *Medical Writings of the Ancients*, is used for gestation; which sort of exercise was often prescribed by the physicians of those days. Other exercises consisted principally in the motion of the body; but in the æora the limbs were at rest, while the body was carried about and moved from place to place, in such a manner as the physician prescribed. It had therefore the advantages of exercise; without the fatigue of it.

This exercise was promoted several ways: sometimes the patient was laid in a sort of hammock, supported by ropes, and moved backward and forward; sometimes his bed run nimbly on its feet. And beside these, the several ways of traveling were accounted species of the æora, whether in the litter, in a boat or ship, or on even ground in a chariot.

Æclepiades was the first who brought gestation into practice, which was used as a means to recover strength after a fever, &c.

ÆPEA, in *Ancient Geography*, a city of Laconica, according to Stephanus (de Urb. p. 46.), and of Messenia, according to Strabo (t. i. p. 553.), who calls it Thuria, and deduces its name from its situation on the top of a hill. It is one of the seven cities promised by Agamemnon to Achilles, and is mentioned by Homer, Il. ix. v. 152.

“Καὶ πόλιν τὴν Ἀντιόχου καὶ Πύλου ἀπὸ τῆς ἀπὸ τῆς πόλεως.”

Pulchramque Æpeam, Pedasumque vitiferam.”

Stephanus mentions another city of this name in Cyprus, built by Demophoon, the son of Theseus, on mount Clarius, which was afterwards called Solos in honour of Solon; and another in Crete.

ÆPOLIUM, a place situated, according to Pliny, between the Danube and Tyras.

ÆPY, a city of Messenia, so called, says Stephanus, from its being fortified; but more probably from its elevated situation, to which Statius refers (Theb. l. iv. p. 421. Ed. Varior.

“—Et fummis ingestum montibus Æpy.”

ÆQUABONA, a town of Lulitania, to the south of the Tagus, near its mouth, and in view of Olisipo or Lisbon.

ÆQUANA *juga*, mountains of Picenum, in Naples, now called *Montagna di Sorrento*, denominated from the town *Æqua*, which, being destroyed, was replaced by *Vicus*, now *Vico di Sorrento*, called also *Æquana*. Thus, Silius Italicus, Punic. l. v. p. 276. Ed. Drakenb.

“—Ac felicia Baccho

Æquana, et Zephyro Surrentum molle salubri.”

ÆQUATA *Superficies*, in *Batony*, denotes a surface devoid of all inequality; and differs from *planus* in not requiring the part to be level, or in a rectilinear direction, but often occurs in round bodies, as in the pedicles of *Isia*.

ÆQUI, ÆQUICOLI, or ÆQUICULI, in *Ancient History*, inhabitants of Italy, who were situated between the Sabines and Latins, and whose capital city was *Bola*. M. d'Anville places them on the banks of the Anio, with the Samnites to the north and the Marrucini to the east; but others apprehend that their territory extended farther south, so as to comprehend Algidum. They are mentioned under the different appellations above-stated, by the historians and poets; and are described as a hardy and valiant people, who were

much employed in agriculture, and also in military exercises. Thus Virgil, Æn. l. ix. v. 608.

“—Juventus

Aut rarus terram domat, aut quatit oppida bello.”

And Virgil's description seems to be borrowed by Silius Italicus, when speaking of these people, Punic. l. 8. 371, p. 419, he says—

“—Rastrique domant Æquicula rura.”

The etymology of their name has been ascribed by M. Gebelin to the word *aqua*, or *awa*, *water*, expressing their situation near the sources of the Anio, Tolumnius, &c. which was more aquatic than any part of Latium. Others have supposed, that the Equi, who were distinguished by their love of justice, furnished the epithet *equus*, *just*. Livy discriminates them from the Latins, when he represents them (l. ii. c. 30. t. i. p. 369. Ed. Drakenb.) as invading their territory. They had frequent wars with the Romans, as Livy has informed us (l. 2—10.) but were at length subdued by them. Their capital Bola was taken by Camillus in the year of Rome 369, and their country was soon after laid waste, in order to deprive them of the power to revolt. They still, however, retained their enmity against the Romans; and, when occasion offered, joined the other enemies of Rome. About the year U. C. 449, they united with the Samnites; but they were no more that formidable nation, which had often struck terror into the Roman legions; inaction had enervated them; and they were unable to maintain the field in their contest with the disciplined armies of Rome. At this time their country was overrun and laid waste. The conquerors took possession of forty-one towns in fifty days, most of which they razed or burnt, and thus they almost exterminated the whole nation of the Æqui. Anc. Un. Hist. vol. x. p. 304. The cities Cliternum, Carcoli or Carfula, Valeria, Sublaqueum, Algidum, Vicovaro, Treba, Vitellia, Corbio, and Subiaco belonged to the Æqui.

ÆQUIMÆLIUM, in *Roman Antiquity*, a name given to that part of the city of Rome on which stood the house of Sp. Mælius, who attempted to usurp the supreme power by bribing the people, and who, refusing to appear before the dictator Cincinnatus, was put to death by Servilius Ahala, master of the horse. His house was demolished, and the region of the city where it stood was called *Arca Æquimælii*. Livy, t. i. p. 919. Ed. Drakenb.

ÆQUINOCTIUM, in *Ancient Geography*, a town of Upper Pannonia, which is placed by M. d'Anville on the Danube, south-east of Vindobona.

ÆQUUM, a Roman colony of Dalmatia in Illyria, placed by M. d'Anville north-east of Scardona.

ÆQUUS *Tuticus*, a place of Italy in the Saturnium, north-east of Beneventum: the term *Tuticus* in Samnite being synonymous with *magnus*. A Roman way, called Æquotutican, passed by this place towards Canusium. The ruins of it may be seen near Buon-Albergo.

ÆRA, in *Chronology*, a fixed point of time, from whence to begin a computation of the years ensuing.

The word is also sometimes written in ancient authors, *era*. Its origin is contested, though it is generally allowed to have had its rise in Spain. Sepulveda supposes it formed from A. E. R. A. the notes or abbreviations of the words, *annus erat Augusti*, occasioned by the Spaniards beginning their computation from the time their country came under the dominion of Augustus, or that of their receiving the Roman calendar. This opinion, however ingenious, is rejected by Scaliger, not only on account that in the ancient abbreviations A never stood for *annus*, unless when preceded by V for *vixit*; and that it seems improbable they should put

put ER for *erat*, and the letter A, without any discrimination, both for *annus* and *Augustus*. Vossius nevertheless favours the conjecture, and judges it at least as probable as either that of Isidore, who derives *era* from *as*, the tribute-money, wherewith Augustus taxed the world: or that of Scaliger himself, who deduces it likewise from *as*, though in a different manner. *Æs*, he observes, was used among the ancients for an *article*, or *item*, in an account; and hence it came also to stand for a sum or number itself. From the plural *era*, came by corruption *ara*, *arum*, in the singular; much as *Ostia*, *Ostium*, the name of a place, from *Ostia*, the mouths of the Tiber.

ÆRA amounts to the same with *EPOCHÆ*; though some authors make a difference between them; but wherein it consists they do not agree. A late critic assigns this difference, that in strictness of speech, *epocha* is that fixed point where an *æra* made use of commences. Bibl. Germ. tom. v. p. 172. Vallemont makes another difference, viz. that an *epocha* is a point fixed by chronologers, and an *æra* a like point, only fixed by the popular usage of a country, or nation. Perhaps it might not be amiss if chronologers would keep to this difference, but it is certain most of them hitherto use the two words promiscuously. The proper idea of an *æra*, as it is now generally understood, is that of a series of years, reckoned from a fixed point of time, called an epoch or *epocha*. Thus we say, that the Christian *æra* began at the epoch of the birth of Christ, and any particular year is such a year, according to the date of it, of the Christian *æra*. The particular *æras* are mentioned under *EPOCHÆ*. See also *CHRONOLOGY*.

ÆRA is also used, in some writers of the barbarous age, for any year.

In which sense, we meet with *entering down the æra*, the eleven hundred and eighth *æra*, &c.

ÆRÆ, in *Ancient Geography*, a town of Macedonia, and another of Ionia in Asia Minor, according to Stephan. Byzant. and a people of Asia towards Gedrosia or Germania according to Ptolemy.

ÆRARIUM, the public treasury of the Roman state.

The temple of Saturn at Rome, being the great treasury of the state, was first called *ærarium*; from *as*, *aris*, *copper*; that being the only money in use before the year of Rome 485, when the silver began to be coined.

It was first erected under Augustus, and maintained by a yearly voluntary contribution; but that proving insufficient, the twentieth part of all legacies and inheritances except of such as fell to the next of kin, or to the poor, were consigned to this treasury.

For the custody hereof, three of the emperor's life-guards were constituted *præfeti ærarii*.

ÆRARIUM differs from *fiscus*, as the first contained the public money, the second that of the prince. Yet the two are sometimes used indiscriminately for each other. Calv. Lex. Jur.

ÆRARIUM sanctius, was an appendage to the former, added on occasion of the growth of the Roman state, when there was not room enough for lodging all the public monies, and the public acts, which were deposited with it.

It was called *sanctius*, because placed in an inner and safer part of the temple; or because in it was lodged the *aurum vicissimarium*, or twentieth, which was kept as a fund or reserve, for extreme necessity of the state. On which account it was also called *ærarium vicissimarium*.

ÆRARIUM Ilitæ, or of *Juno Lucina*, was erected by Servius Tullius, sixth king of the Roman, and composed of money paid in by parents for the birth of each child. The

ærarium Veneris, called *Libitine*, was for the custody of money paid into it for those who died: and the *ærarium juvenutis* for the money deposited on account of those who arrived at the age of manhood. By these means he was able to ascertain the population and wealth of the country. Dion. Hal. lib. iv. tom. i. p. 212. Ed. Oxon.

ÆRARIUM privatum, or the privy purse, contained the money and effects which the prince was master of before his accession to the empire. This was under the care of the *comes rerum privatarum*.—We meet also with other lesser treasuries, *æraria minora*, in the provinces.

ÆRARIUM Ecclesiæ, the treasury or bank of the church, was formed in the first century of the Christian *æra*, of free gifts, which were collected and preserved in churches, partly for the purpose of defraying the expence of divine service, and partly to relieve the poor. Such capitals, which were considered as ecclesiastical funds, were by Rudentius, (Hymn. ii. in honorem Laurentii) in the beginning of the fifth century, called *montes annonæ*, and *arca numinis*. Tertullian (Apolog. c. 39. oper. p. 35. Ed. Rigaltii.) calls them *deposita pietatis*; and hence were formed the *montes pietatis* of later times. See *MOUNTS of Piety*.

ÆRARIUS, in *Antiquity*, an officer instituted by Alexander Severus, for the distribution of the money given in largesses to the soldiery, or people. Pitisc. Lex. Ant.

ÆRARIUS was also used for a person whose name was struck out by the censors from the *album*, or list of his century, and was only considered as a citizen so far as to make him subject to pay taxes, *æra*, without being entitled to any privileges, or advantages, from the common-wealth.

Hence the phrases, *ærarium facere*, *inter ærarios referre*, *ærarii eximere*, &c.—Not only plebeians, to whom some have restrained it, but also knights and senators, were subject to this kind of degradation.

The *ærarii* were incapable of making a will, of inheriting, of voting in assemblies, of enjoying any post of honour or profit; in effect, were only subject to the burdens, without the benefits of society; yet they retained their freedom, and were not reduced to the condition of slaves. To be made an *ærarius* was a punishment inflicted for some offence, and reputed one degree more severe than to be expelled a tribe, *tribu moveri*. Concerning the precise meaning of these terms and the penalties denoted by them, which have been differently understood by critics, see a note to c. xviii. l. 24. Livy, tom. iii. p. 859. Ed. Drakenb.

ÆRARIUS is also used for a person employed in coining, or working brass.

These are sometimes called *ærarii fusores*: at other times *ærarius* is distinguished from *fusus*; the former answering to what we now call copper-smiths, the latter to founders.

ÆRARIUS is also applied to a soldier who receives pay.

ÆRATA aqua. See *ZEMENT water*.

AERATED water. See *PARMONT water*.

AERATION of soils, in *Agriculture*, denotes the impregnation of them with air, by ploughing, harrowing, and other means of *PULVERIZATION*, which serve to release the air in the interstices of the soils, and to form various kinds of new combinations.

ÆRDING, or *ERDING*, in *Geography*, a small town of Lower Bavaria, seven leagues south of Landshut, on the river Sempt, in a district which produces the best grain of that country. It was set on fire by the Swedes in 1632, and in 1648 reduced by them to ashes.

ÆREA, in *Ancient Geography*, a town of Thrace upon the Propontis, south of a small gulf, and north-west of Perinthus. It is also a surname of Diana, taken from a mountain of Argolis, where she was worshipped.

ÆRE collata, or conlata, in *Roman Antiquity*, are terms found in inscriptions, which denote that the charges of erecting a tomb or monument were defrayed either by the friends of the deceased or by the people.

Ære soluta, a phrase applied to soldiers, who were punished by being deprived of their pay.

ÆROLIUS, answering to the Greek *χαλκός*, was a vessel according to D. Ieros and Suidas equal to 1/10th, and according to others equal to 1/10th of the *OBOLUS*, which was 1/16th of a *DRACHM*.

ÆRIA, in *Ancient Geography*, a town in that part of Cyrenaica, which was inhabited by the Carines. It was so called, says Strabo (t. i. p. 83.), because it was situated on an eminence. M. d'Anville places it south-east of Valis, and north-east of Carpentorante. This name was also given to one of the islands of Thurae, called *Thasus*. Sicily, and also Egypt, were anciently called *Æria*. Apollon. Rhod. l. i. v. 580. p. 58. l. iv. 267. p. 400. Ed. Hædæm. This name is also given by Hesychius to Ethiopia.

ÆRIAL, something that consists of, or has relation to, air. The Esseni, the most refined and rational sect among the Jews, held, that the human soul consisted of an aerial substance; and the Rosicrucians, and other visionaries, fill the atmosphere with aerial inhabitants.

ÆRIAL Perspective is that which represents bodies weakened and diminished in proportion to their distance from the eye, and which judicious artists practise by diffusing a kind of thin vapour over them, that deceives the eye agreeably. Aerial perspective chiefly respects the colours of objects, whose force and lustre it takes off more or less, to make them appear as if more or less remote. It is founded on this, that the longer column of air an object is seen through, the more feebly do the visual rays emitted from it affect the eye. Objects seen in a camera obscura sensibly exhibit this effect.

ÆRIAL tribute, in *Antiquity*, was an annual gift of 120 thousand pounds, which the emperor Justinian accepted from his prætorian præfect; and the means of payment were abandoned to the discretion of that powerful magistrate.

ÆRIANS, in *Ecclesiastical History*, a religious sect denominated from Aërius, an Armenian priest of the fourth century. The Aërians had much the same sentiments in respect of the Trinity as the Arians: beside which, they condemned prayers and offerings for the dead, stated fasts and feasts, the celebration of Easter, and other rites of the same nature, in which the multitude think the life and soul of religion to consist; set fasts they considered as Jewish ordinances, and they conceived that to observe Easter was to give heed to Jewish fables (Titus, i. 14. 1 Tim. i. 4.). Though they sometimes fasted on the fourth day of the week, as others did, it was not from a regard to any religious obligation, but merely of their own free will. What Epiphanius says of their chusing to fast on the Lord's day must therefore be a calumny. They also held, that there is no difference between priests and bishops, but that the priesthood and episcopate are absolutely one and the same order, or dignity: an opinion, says Mosheim, which was agreeable to many good Christians, who were no longer able to bear the tyranny and arrogance of the bishops of that century, and which has been since strenuously asserted by many modern divines and others. Aërius built his doctrine chiefly on some passages in St. Paul's writings; and among others, on that in 1 Tim. iv. 14. where the apostle exhorts Timothy not to neglect "the gift he had received by the laying on of the hands of the presbytery." Here, observes Aërius, is no mention of bishops; but Timothy

evidently received his ordination from the presbyters or priests. Epiphanius zealously maintains the superiority of bishopric over the Aërians. The word *presbytery*, used by St. Paul, he observes, includes both bishops and priests; the whole senate, or assembly, of the ecclesiastics of the place. Aërius, and his followers, whose great purpose seems to have been that of reducing Christianity to its primitive simplicity, met with great difficulties. They were excluded from churches, and cities, and villages; and being obliged to wander abroad, they suffered great hardships. Being thus generally and violently opposed, they could not increase to any great number, and in time they were reduced to nothing. Tillemont considers them as Calvinists; and it is certain, that their ideas of church government were formed very much upon the Presbyterian plan. Mosh. Eccl. Hist. vol. i. 387. Lardner's Works, vol. iv. p. 306, &c.

ÆRICA, or *ERICA*, in *Ichthyology*, a name given by Gaza and others to the common herring.

ÆRII montes, in *Ancient Geography*, mountains of Sicily, called also *Hærei*, and considered by some as a branch of Ætna, extending to the north-west.

ÆRIRUSA, the ancient name for the sky-coloured JASPER.

ÆRITES, in *Botany*, a name given to *ANAGALLIS*.

ÆERNEN, *Aragnum*, in *Geography*, a large walled town of the Valais in Switzerland, which is the court town of the tithing, and which has a council-house where its meetings are held. With this town is incorporated another small place on the Deusch-hill, otherwise called *Mons Dei*, at the foot of which hill is a lofty stone bridge over the Rhone. N. lat. 46° 19'. E. long. 8°.

ÆERVE, a small river of Bæotia, rising in mount Cithæron, and discharging itself into Asopus.

AEROGRAPHY, from *αἰρ*, *air*, and *γραφω*, *I describe*, a description of the AIR, or ATMOSPHERE, its limits, dimensions, properties, &c.

This amounts to much the same with *aerology*, unless we suppose the latter to enter into the rational, and the former to confine itself to a description of the more obvious affections thereof.

AEROLOGY, from *αἰρ*, and *λογος*, *discourse*; the doctrine or science of the air, and its phenomena, its properties, good and bad qualities, &c. See AIR.

AEROLOGY, called also the *aerologica*, makes a part of the regimen of health, or the branch of medicine called by some *diatæctica*, or the NON-NATURALS, which treats of air, its properties and use in the animal œconomy, and its efficacy in preserving and restoring health. See AIR.

AEROMANCY, *AEROMANTIA*, compounded of *αἰρ*, *air*, and *μαντεία*, *divination*, an ancient species of divination performed by means of the air, and its phenomena. *Aeromancy* included the business of *AUCURY*, and *auspicia*; the rules of prediction from uncommon winds; storms, showers, and other prodigies. Modern authors speak of a more rational aeromancy, meaning by it the art of foretelling the changes and variations in the air and weather, winds, storms, and the like.

Morhof advances considerations for reducing aeromancy to a certainty, by means of a regular series of meteorological observations. But though many such have been instituted with great care in many parts, this art has hitherto made a very small progress. Of this kind is Huxham's book *De Aere*.

Barometers, thermometers, hygrometers, and anemometers, are of considerable use in this kind of aeromancy.

Mizoldus has published a body of rules for foretelling storms, &c. drawn partly from vulgar observations, and the

the experience of mariners, partly from astrological considerations; under the title of *AFROMANTIA*.

ÆROMELI, a name given to honey, and also to MANNA. See *DROMELI*.

ÆROMETRY, *ÆROMETRIA*, compounded of *αἴρ*, air, and *μετρέω*, to measure, the art of measuring the air, its powers, and properties; and including the laws of the motion, gravitation, pressure, elasticity, refraction, condensation, &c. of the atmospheric fluid.

The word aerometry is but little used: in lieu hereof, we commonly call this branch of philosophy, *PNEUMATICS*. C. Wolfius, professor of mathematics at Hall, having reduced many of the affection of this fluid to geometrical demonstration, first published *Elements of Aerometry*, at Leipzig, 1709, in high Dutch, and afterwards more largely in Latin, which have been twice inserted in his *Curfus Mathematicus*, in eight volumes 4to.

AERONAUTICA, from *αἴρ*, and *ναυτικός*, derived from *ναῦς*, ship, the art of sailing a vessel through the air, or atmosphere, sustained as a ship in the sea.

AEROPHOBIA, formed of *αἴρ*, air, and *φόβος*, fear, a term that has been sometimes used for the dread of fresh air. Dr. Franklin says, that he has been sometimes tormented with this aerophobia, considering fresh air as an enemy, and excluding it from the rooms which he has occupied. But experience convinced him of his error, and taught him to regard fresh air as eminently conducive to health. Any air, he says, is preferable to that of a close chamber, which has been again and again respired without any change. The same sagacious philosopher has occasionally rallied those valetudinarians, who, wrapping themselves in close garments, hurry from the noxious air of a close chamber with as much of it as they can carry with them into as close a carriage, from which the external air is carefully excluded, and thus proceed to take the air for the benefit of their health.

AEROPHYLACEA, in *Natural History*, denote subterraneous receptacles of air or wind.

The word is compounded of *αἴρ*, air, and *φυλάκω*, *custodia*, keeping.—In which sense aerophylacea stands contradistinguished from *hydrophylacea*, *pyrophylacea*, &c.

Kircher speaks much of aerophylacea, or huge caverns, replete with air, disposed under ground, from whence, through numerous occult passages, that element is conveyed either to subterraneous receptacles of water, which are hereby raised into springs or rivers, or into the funds of subterraneous fire, which are thus fed and kept alive for the reparation of metals, minerals, and the like.

ÆROPUS, in *Entomology*, a species of *PAPILIO*, having brown wings marked with a yellow band and a single ocellus at the base of the primores. It is found in India and South America.

ÆROPUS, in *Ancient Geography*, a mountain of Macedonia.

AEROSIS, among the *Ancient Physicians*, denotes the act whereby the blood is attenuated and converted into an *aura* for the support of the vital spirits, and the maintenance of the flame of life.

AEROSTATICA, from *αἴρ*, and *στατικός*, from *ἵστημι*, *statui*, is used by some authors for the science called by others *ÆROMETRY*. It is properly the doctrine of the weight, pressure and balance of the AIR and ATMOSPHERE.

AEROSTATION, formed of *αἴρ*, air, and *στάσις*, of *ἵστημι*, I weigh, the science of weights, in its primary and proper sense, denotes the science of weights, suspended in the air; but in the modern application of the term, it signifies the art of navigation through the air, both in the principles and the practice of it. Hence also the machines,

which are employed for this purpose, are called *aerostats*, or *aerostat machines*; and, on account of their round figure, *air-balloons*. The *aeronaut*, formed of *αἴρ* and *ναῦς*, *naῦς*, *navis*, is the person who navigates through the air by means of such machines.

AEROSTATION, principles of. The fundamental principles of this art have been long and generally known; although the application of them to practice seems to be altogether a modern discovery. They are particularly illustrated in this Dictionary under the articles *Height of AIR*, *Elasticity of AIR*, and *Specific GRAVITY*.

It will be sufficient, therefore, to observe in this place, that any body, which is specifically, or bulk for bulk, lighter than the atmospheric air encompassing the earth, will be buoyed up by it, and ascend; but as the density of the ATMOSPHERE decreases, on account of the diminished pressure of the superincumbent air, and the elastic property which it possesses, at different elevations above the earth, this body can rise only to a height in which the surrounding air will be of the same specific gravity with itself. In this situation it will either float, or be driven in the direction of the wind or current of air, to which it is exposed. An air-balloon is a body of this kind, the whole mass of which, including its covering and contents, and the several weights annexed to it, is of less specific gravity than that of the air in which it rises.

Heat is well known to rarefy and expand, and consequently to lessen the specific gravity of the air to which it is applied; and the diminution of its weight is proportional to the heat. To the observations that occur under *Elasticity of AIR* to this purpose, we shall here add, that one degree of heat, according to the scale of Fahrenheit's thermometer, seems to expand the air about one four hundredth part; and about 400, or rather 435, degrees of heat, will just double the bulk of a quantity of air. If, therefore, the air inclosed in any kind of covering be heated, and consequently dilated, to such a degree, as that the excess of the weight of an equal bulk of common air above the weight of the heated air, is greater than the weight of the covering and its appendages, this whole mass will ascend in the atmosphere, till, by the cooling and condensation of the included air, or the diminished density of the surrounding air, it becomes of the same specific gravity with the air in which it floats; and without renewed heat, it will gradually descend.

If, instead of heating common air inclosed in any covering, and thus diminishing its weight, the covering be filled with an elastic fluid, lighter than atmospheric air; so that the excess of the weight of an equal bulk of the latter above that of the inclosed elastic fluid be greater than the weight of the covering and its appendages, the whole mass will in this case ascend in the atmosphere, and continue to rise till it attains a height at which the surrounding air is of the same specific gravity with itself. Inflammable air is a fluid of this kind. For the knowledge of many of its properties, we are indebted to Mr. Henry Cavendish; who discovered, that if common air is eight hundred times lighter than water, inflammable air is seven times lighter than common air; but if common air is eight hundred and fifty times lighter than water, then inflammable air is 10,8 times lighter than common air. See Phil. Trans. vol. lvi. art. 19. and *Inflammable AIR* or *HYDROGEN*.

The construction of air-balloons depends upon the principles above stated; and they are of two kinds, as one or the other of the preceding methods of preparing them is adopted.

AEROSTATION, history of. In the various schemes that

have been proposed for navigating through the air, some have had recourse to artificial wings; which, being constructed like those of birds, and annexed to the human body, might bear it up, and by their motion, produced either by mechanical springs, or muscular exertion, effect its progress in any direction at pleasure. This is one of the methods of artificial flying suggested by bishop Wilkins, in the seventh chapter of his *Dædalus, or Treatise on Mechanical Motion*; but the success of it is doubtful, and experiments made in this way have been few and unsatisfactory. Borelli (*De Motu Animalium*, cap. 22, prop. 193 and 204, p. 166 and 208, ed. 1717), having compared the power of the muscles which act on the wings of a bird with that of the muscles of the breast and arms of a man, finds the latter altogether insufficient to produce, by means of any wings, that motion against the air, which is necessary to raise a man in the atmosphere.

Others, with greater probability of success, have proposed to attach the human body to some mass, which being lighter than air, might raise itself and the annexed weight into the regions of that element. This method has actually succeeded; though Borelli (*ubi supra*), as well as Leibnitz, denied the possibility of a man's flying by any of the means with which they were acquainted.

It is needless to recite any of the accounts relating to this subject, which have been transmitted to us by the ancients. Most, if not all of them, are fabulous. An ingenious writer, in a work cited at the close of this article, has given us the result of his enquiries into the records of antiquity; and he informs us, that the earliest account of any thing relating to flying, which has the appearance of authenticity, is that of the wooden pigeon, constructed by Archytas in the fourth century, before the Christian æra, and of which Aulus Gellius (*Noctes Atticæ*, lib. x. cap. 12.) relates, that it could fly by means of mechanical powers, and by an inclosed spirit. This spirit, or aura, our author apprehends, was nothing more than a sort of animation, which the machine appeared to be possessed of, in consequence of its extraordinary mechanism. Aeroëstion was, therefore, a subject either altogether unknown, or very imperfectly understood among the ancients; unless we suppose it to be one of those arts, of which the records are lost. In later times, the schemes which have been proposed by ingenious men seem to have terminated in speculation. The reader will find a brief account of some of them under the articles *ATMOSPHERE* and *Artificial FLYING*, and a more comprehensive history of the projects and achievements of different persons, in the work cited below. Upon the whole it appears, that the art of traversing the air is an invention of our own time; and the whole history of it is comprehended within a very short period.

Soon after Mr. Cavendish's discovery of the specific gravity of inflammable air, it occurred to the ingenious Dr. Black of Edinburgh, that if a bladder, sufficiently light and thin, were filled with this air, it would form a mass lighter than the same bulk of atmospheric air, and rise in it. This thought was suggested in his lectures in 1767 or 1768; and he proposed, by means of the allantois of a calf, to try the experiment. Other employments, however, prevented the execution of his design. The possibility of constructing a vessel, which, when filled with inflammable air, would ascend in the atmosphere, had occurred also to Mr. Cavallo about the same time; and to him belongs the honour of having first made experiments on this subject, in the beginning of the year 1782, of which an account was read to the Royal Society, on the 20th of

June in that year. He tried bladders; but the thinnest of these, however scraped and cleaned, were too heavy. In using China paper, he found that the inflammable air passed through its pores, like water through a sieve; and having failed of success by blowing this air into a thick solution of gum, thick varnishes, and oil paint, he was under a necessity of being furnished with soap-balls, which, being inflated with inflammable air, by dipping the end of a small glass tube, connected with a bladder containing the air, into a thick solution of soap, and gently compressing the bladder, ascended rapidly in the atmosphere; and these were the first sort of inflammable air-balloons that were ever made.

For balloons formed on a larger scale, and on the principle of rarefied air, we must direct our attention to France; where the two brothers, Stephen and Joseph Montgolfier, paper-manufacturers at Annonay, about 36 miles from Lyons, distinguished themselves by exhibiting the first of those ærostatic machines, which have since excited so much attention and astonishment. The first idea of such a machine was suggested to them by the natural ascent of the smoke and clouds in the atmosphere; and the first experiment was made at Avignon by Stephen, the eldest of the two brothers, towards the middle of November, 1782. Having prepared a bag of fine silk, in the shape of a parallelepipedon, and in capacity about forty cubic feet, he applied to its aperture burning paper, which rarefied the air, and thus formed a kind of cloud in the bag; and when it became sufficiently expanded, it ascended rapidly to the ceiling. Soon afterwards the experiment was repeated by the two brothers at Annonay, in the open air, when the machine ascended to the height of about seventy feet. Encouraged by their success, they constructed a machine, the capacity of which was about 650 cubic feet; which, in the experiment, broke the ropes that confined it, and after ascending rapidly to the height of about 600 feet, fell on the adjoining ground. With another machine, 35 feet in diameter, they repeated the experiment in April, 1783; when breaking loose from its confinement, it rose to the height of above 1000 feet, and being carried by the wind, it fell at the distance of about three quarters of a mile from the place where it ascended. The capacity of this machine was equal to about 23,430 cubic feet; and when inflated, it measured 117 English feet in circumference. The covering of it was formed of linen, lined with paper; its shape was nearly spherical; and its aperture was fixed to a wooden frame about 16 feet in surface. When filled with vapour, which was conjectured to be about half as heavy as common air, it was capable of lifting up about 490 pounds, besides its own weight, which, together with that of the wooden frame, was equal to 500 pounds. With this machine the next experiment was performed at Annonay, on the 5th of June, 1783, before a great multitude of spectators. The flaccid bag was suspended on a pole 35 feet high; straw and chopped wool were burnt under the opening at the bottom; the vapour, or rather smoke, soon inflated the bag, so as to distend it in all its parts; and this immense mass ascended in the air with such a velocity, that in less than 10 minutes it reached the height of about 6000 feet. A breeze carried it in an horizontal direction to the distance of 7668 feet; and it then fell gently on the ground. Mr. Montgolfier attributed the ascent of the machine, not to the rarefaction of the heated air, which is the true cause, but to a certain gas or æriform fluid, specifically lighter than common air, which was supposed to be disengaged from burning substances, and which

has

has been commonly called Montgolfier's gas, as balloons of this kind have been denominated *Montgolfiers*.

As soon as the news of this experiment reached Paris, the philosophers of the city, conceiving that a new sort of gas, half as heavy as common air, had been discovered by Messrs. Montgolfier, and knowing that the weight of inflammable air was not more than the eighth or tenth part of the weight of common air, justly concluded that inflammable air would answer the purpose of this experiment better than the gas of Montgolfier, and resolved to make trial of it. A subscription was opened by M. Faujas de St. Fond towards defraying the expence of the experiment. A sufficient sum of money having been soon raised, Messrs. Roberts were appointed to construct the machine; and M. Charles, professor of experimental philosophy, to superintend the work. After surmounting many difficulties in obtaining a sufficient quantity of inflammable air, and finding a substance light enough for the covering, they at length constructed a globe of luteffring, which was rendered impervious to the inclosed air by a varnish of elastic gum or *caoutchouc*, dissolved in some kind of spirit or essential oil. The diameter of this globe, which from its shape was denominated a balloon, was about thirteen feet, and it had only one aperture, like a bladder, to which a stop-cock was adapted: its weight, when empty, together with that of the stop-cock, was 25 pounds. On the 23d of August, 1783, they began to fill the globe with inflammable air; but this, being their first attempt, was attended with many hindrances and disappointments. At last, however, it was prepared for exhibition; and on the 27th it was carried to the Champ de Mars, where, being disengaged from the cords that held it down, it rose before a prodigious concourse of people, in less than two minutes, to the height of 3123 feet. It then entered a cloud, but soon appeared again; and at last it was lost among other clouds. This balloon, after having floated about three quarters of an hour, fell in a field about fifteen miles distant from the place of ascent; where, as we may naturally imagine, it occasioned much astonishment to the peasants. Its fall was owing to a rent, occasioned by the expansion of the inflammable air in that rare part of the atmosphere to which it ascended. When the balloon went up, its specific gravity was 35 pounds less than that of common air.

In consequence of this brilliant experiment, many balloons were made on a small scale; gold-beaters skin was used for the covering; and their size was from 9 to 18 inches in diameter.

Mr. Montgolfier repeated an experiment with a machine of his construction before the commissaries of the Academy of Sciences on the 11th and 12th of September. This machine was 74 feet high, and about 43 feet in diameter. When distended, it appeared spheroidical. It was made of canvas, covered with paper, both within and without; and it weighed 1000 pounds.

The operation of filling it with rarefied air, produced by means of the combustion of 50 pounds of dry straw, and 12 pounds of chopped wool, was performed in about nine minutes; and its force of ascension, when inflated, was so great that it raised eight men who held it some feet from the ground. This machine was so much damaged by the rain, that it was found necessary to prepare another for exhibition before the king and royal family on the 19th. This new machine consisted of cloth, made of linen and cotton thread, and was painted with water-colours both within and without. Its height was near 60 feet, and its diameter about 43 feet. Having made the necessary preparations for in-

flating it, the operation was begun about one o'clock on the 19th of September, before the king and queen, the court, and all the Parisians who could procure a conveyance to Versailles. In eleven minutes it was sufficiently distended, and the ropes being cut, it ascended, bearing up with it a wicker cage, in which were a sheep, a cock, and a duck. Its power of ascension, or the weight by which it was lighter than an equal bulk of common air, allowing for the cage and animals, was 696 pounds.

This balloon rose to the height of about 1440 feet; and being driven by the wind, it descended gradually and fell gently into a wood, at the distance of 10,200 feet from Versailles. After remaining in the atmosphere eight minutes, the animals in the cage were safely landed. The sheep was found feeding; the cock had received some hurt on one of his wings, probably from a kick of the sheep; the duck was perfectly well.

The success of this experiment induced M. Pilatre de Rozier, with a philosophical intrepidity which will be recorded with applause in the history of aeronautics, to offer himself as the first adventurer in this aerial navigation. Mr. Montgolfier constructed a new machine for this purpose in a garden in the Fauxbourg St. Antoine. Its shape was oval; its diameter being about 48 feet, and its height about 74 feet. To the aperture at the bottom was annexed a wicker gallery about three feet broad, with a balustrade about three feet high. From the middle of the aperture was suspended by chains, which came down from the sides of the machine, an iron grate or brazier, in which a fire was lighted for inflating the machine; and port-holes were opened in the gallery, towards the aperture, through which any person, who might venture to ascend, might feed the fire on the grate with fuel, and regulate the dilatation of the inclosed air of the machine at pleasure. The weight of this aerostat was upwards of 1600 pounds. On the 15th of October, the fire being lighted and the machine inflated, M. P. de Rozier placed himself in the gallery, and ascended, to the astonishment of a multitude of spectators, to the height of 84 feet from the ground, and there kept the machine afloat during 4' 25", by repeatedly throwing straw and wool upon the fire: the machine then descended gradually and gently, through a medium of increasing density, to the ground; and the intrepid adventurer assured the spectators that he had not experienced the least inconvenience in this aerial excursion. This experiment was repeated on the 17th, and on the 19th, when M. P. de Rozier, in his descent, and in order to avoid danger by reascending, evinced to a multitude of observers, that the machine may be made to ascend and descend at the pleasure of the aeronaut, by merely increasing or diminishing the fire in the grate. The balloon having been hauled down, M. Giraud de Villette placed himself in the gallery opposite to M. Rozier; and being suffered to ascend, it hovered for about nine minutes over Paris in the sight of all its inhabitants at the height of about 330 feet. In another experiment the marquis of Arlandes ascended with M. Rozier much in the same manner. In consequence of the report of the preceding experiment, signed by the commissaries of the Academy of Sciences, it was ordered that the annual prize of 600 livres should be given to Messrs. Montgolfier for the year 1783. In the experiments above recited the machine was secured by ropes: but they were soon succeeded by unconfined aerial navigation. Accordingly the balloon of 74 feet in height, above mentioned, was removed to La Muette, a royal palace in the Bois de Boulogne: and all things being ready, on the 21st of November M. P. de Rozier

Baron and the marquis d'Arlandes took their respective seats in the basket, and at 34 minutes after one the machine was launched to the ascent, and ascended with a rapidity not to be surpassed. The ascent, which reached the height of about 2000 feet, was performed by the aid of a valve, but not from the intention of being inflated, and the height of ascent was to a distance of about 3000 feet. They were at first driven by a north-west wind horizontally over the river Seine and over Paris, taking care to clear the steeples and high buildings by increasing the fire; and in rising met with a current of air, which carried them southward. Having passed the Boulevard, and desisting from supplying the fire with fuel, they descended very gently in a field beyond the new Boulevard, about 9000 yards distant from the palace de la Muette. They were in the air about 25 minutes. The weight of the whole apparatus, including that of the two travellers, was between 1600 and 1700 pounds.

Notwithstanding the rapid progress of aerostation in France, we have no authentic account of any aerostatic experiments performed in other countries till about the close of the year 1783. The first experiment of this kind, publicly exhibited in our own country, was performed in London on the 24th of November, by count Zambecari, an ingenious Italian, with a balloon of oil silk, 10 feet in diameter, and weighing 11 pounds. It was gilt, in order to render it more beautiful and more impermeable to the inflammable air. This balloon, three-fourths of which were filled with inflammable air, was launched from the Artillery-ground, in the presence of a vast concourse of spectators, at one o'clock in the afternoon, and at half past three was taken up near Petworth, in Sussex, 48 miles distant from London; so that it travelled at the rate of near 20 miles an hour. Its descent was occasioned by a rent, which must have been the effect of the rarefaction of the inflammable air, when the balloon ascended to the rarer part of the atmosphere.

The Parisian philosophers having concerted and executed the first aerial voyage with a balloon inflated by heated air, determined to attempt a similar voyage with a balloon filled with inflammable air, which seemed to be preferable to dilated air in every respect, the expence attending it excepted. A subscription was opened to defray the charges, which were estimated at about ten thousand livres; and the balloon was constructed by Messrs. Roberts, of gores of silk, varnished with a solution of elastic gum. Its form was spherical, and it measured $27\frac{1}{2}$ feet in diameter. The upper hemisphere was covered by a net, which was fastened to the hoop encircling its middle, and called its equator. To this equator was suspended by ropes a car or boat, covered with painted linen and beautifully ornamented, which swung a few feet below the balloon. In order to prevent the bursting of the machine by the expansion of the inflammable air in a rarefied medium, it was furnished with a valve, which might be opened by means of a string annexed to it, for the discharge of part of the internal air without admitting the external to enter. To this balloon was likewise annexed a long pipe through which it was filled. The apparatus for filling it consisted of several casks placed round a large tub of water, each of which had a long tin tube, terminating under a vessel or funnel, that was inverted into the water of the tub. A tube proceeding from this funnel, communicated with the balloon, which stood just over it. Iron filings and diluted vitriolic acid were put into the casks; and the inflammable air, produced from these materials, passed through the tin tubes, through the water of the tub, and through the funnel of the balloon. The car was ballasted with sand-bags; so that by letting

some of the air escape through the valve they might descend, and by shutting the valve of their ballast ascend. The specific gravity of the inflammable air, with which the balloon was filled, was to that of common air nearly as 1 to 54, and the balloon's power of ascension, when filled for the experiment, was nearly equal to that of a balloon of twenty pounds. The weight of the balloon and of its various appendages was $604\frac{1}{2}$ pounds, and therefore the weight sustained by the inflammable air was $624\frac{1}{2}$ pounds; and if from the weight of the common air displaced, which was found to be $771\frac{1}{2}$ pounds, the former be subtracted, there will remain 147 pounds for the real weight of the inflammable air contained in the balloon.

The 1st of December was fixed upon for the display of this grand experiment; and every precaution was made for conducting it with advantage. The garden of the Thuilleries was the scene of operation; and it was crowded and encompassed with an innumerable multitude of observers. Signals were given by the firing of cannon, waving of pendants, &c. A small *Montgolfier* was launched for shewing the direction of the wind, and for the amusement of the people, previously to the general display. At three quarters after one o'clock, M. Charles and one of the Roberts, having seated themselves in the basket attached to the balloon, and furnished with proper instruments, provisions, and cloathing, left the ground, and ascended with a moderately accelerated velocity to the height of about 600 yards; the surrounding multitude standing silent with fear and amazement. At this height the aerial navigators made signals of their safety. When they went up, the thermometer, according to Fahrenheit's scale, stood at 59° ; and the barometer at 30, 18 inches. At the height to which they ascended the barometer stood at 27 inches, whence they deduced their elevation to be nearly 600 yards. During the rest of the voyage the quicksilver in the barometer was generally between 27 and 27, 65 inches, rising and falling as part of the ballast was thrown out or some of the inflammable air escaped from the balloon. The thermometer generally stood between 53 and 57° . Soon after their ascent, they remained stationary for some time: they then moved horizontally in the direction of N. N. W. and having crossed the Seine, and passed over several towns and villages, to the great astonishment of the inhabitants, they descended in a field about 27 miles distant from Paris at a quarter past three o'clock; so that they had travelled at the rate of about fifteen miles an hour, without feeling the least inconvenience. The balloon still containing a considerable quantity of inflammable air, M. Charles re-ascended alone. In ten minutes he thought himself at the elevation of about 1500 toises. The globe, being now in a rarefied medium, swelled considerably; but when some of the inflammable air was discharged, it rose still higher. The barometer, which at his departure stood at 28 inches four lines, had now fallen to 18 inches ten lines. The thermometer, from about 47° of Fahrenheit's scale, had sunk to 21° . From these data the elevation of the globe was estimated at 1524 toises, or about 3,100 yards. M. de Meunier supposes that he ascended to the height of at least 3500 yards. He continued in the air about 33 minutes, and by occasionally pulling the string of the upper valve, and thus letting out the gas, he descended about three miles from the place of his ascent. All the inconvenience he experienced in his elevation was a dry sharp cold, with a pain in one of his ears and a part of his face, which he ascribed to the dilatation of the internal air. The small balloon, launched by M. Montgolfier, was found to have moved in a direction opposite to that of the aeronauts; whence it is inferred, that

that there were two currents of air at different heights above the earth.

In the month of December of this year, several experiments with balloons were made at Philadelphia in America, by Messrs. Rittenhouse and Hopkins. They contrived to connect several small balloons together, and thus they enabled a man to ascend to the height of 100 feet, and to float to a considerable distance. But fear induced him to cut open the balloons, and thus to descend. Small balloons were at this time very common, both in France and England.

In January 1784, Mr. J. Montgolfier, accompanied by six other persons, ascended at Lyons, with a large rarefied air-balloon, 131 feet high, and 104 feet diameter, to the height of about 1000 yards. This was the largest machine that had hitherto been made. It was formed of a double covering of linen, with three layers of paper between, and strengthened with strings and ribbons. It contained about 540,000 cubic feet of igneous gas; and its weight, including the gallery and passengers, was 1600 pounds. After remaining in the air about fifteen minutes, a rent in the machine occasioned its fall: and when it came within about 600 feet of the ground, it descended with a degree of celerity which very much alarmed the spectators; but they all landed without injury.

On the 22d of February an inflammable air-balloon about five feet in diameter, was launched from Sandwich in Kent, which, travelling at the rate of about 30 miles an hour, crossed the English Channel, and descended in a field about nine miles from Lille, in French Flanders.

The first person in Italy, who was at the expence of constructing an aerostatic machine for making an aerial voyage, was the chevalier Paul Andreani of Milan: his machine was spherical, about 68 feet in diameter, and formed upon the principle of those of Montgolfier. The chevalier, and two brothers of the name of Gerli, who had assisted in the construction of it, ascended, on the 25th of February, to the height of about 1200 feet; and they remained in the atmosphere about twenty minutes.

From the calculations made respecting the capacity of this machine, it appears, that the included air was not rarefied above one-third, or that the included warm air was not less than two-thirds of that which would have filled the machine, when of the same temperature with the external air; and this is the utmost degree of rarefaction that can be reasonably expected in balloons of this kind.

The next aerial voyage was performed by M. Jean Pierre Blanchard, who had for several years been employed, though without success, in attempts of flying by mechanical contrivances. This voyage was performed in March 1784, with a balloon 27 feet in diameter, to which a boat was suspended, with two wings and a rudder annexed to the boat, and a large umbrella or parachute spread horizontally between the boat and the balloon, designed to check the fall provided that the balloon should burst. The greatest altitude to which Mr. Blanchard ascended from the Champ de Mars at Paris, is supposed to be 9591 feet; and it appears from his own acknowledgment that the wings and rudder of his boat had little, if any, power in guiding the balloon from the direction of the wind. He was in the air an hour and a quarter, and descended at Billancourt, near Seve, after having experienced heat, cold, hunger, and an excessive drowsiness.

Aerostatic experiments and aerial voyages became so frequent in the course of the year 1784, that the limits of this article will not allow our particularly recording them. We

shall, therefore, merely mention those which were attended with any peculiar circumstances. Messrs. de Morveau and Bertrand ascended from Dijon in April, to the height of about 13000 feet, with an inflammable air balloon; the thermometer was observed to stand at 25 degrees. They were in the air during one hour and 25 minutes, and went to the distance of about 18 miles. Their ears were affected in the manner described by Mr. Charles. The clouds floated beneath them, and secluded them from the earth: and they jointly repeated the motto inscribed on their aerostat:—"Surgit nunc gallus ad æthera."

In May, four ladies and two gentlemen ascended with a Montgolfier at Paris above the highest buildings; the machine was confined by ropes. It was 74 feet high, and 72 in diameter.

In a second voyage performed by Mr. Blanchard from Rouen, in May, it was observed, that his wings and oars could not carry him in any other direction than that of the wind. The mercury in the barometer descended as low as 20.57 inches; but on the earth, before he ascended, it stood at 30.15 inches.

At Lyons, on the 4th of June, M. Fleurant and Madame Thible, the first lady that made an aerial voyage, ascended in the presence of Gustavus king of Sweden to the height of 8500 feet, and floated to the distance of about two miles in 45 minutes.

A balloon, 32½ feet in diameter, filled with inflammable air, extracted from zinc, was raised at Nantes on the 14th of June with two persons, viz. M. Coustard de Massi and M. Mouchet; which ascended to a great height, and in 58 minutes travelled to the distance of 27 miles.

On the 23d of June a large aerostat, on the principle of rarefied air, 91½ feet high and 79 feet in diameter, was elevated by Montgolfier at Versailles, in the presence of the royal family and the king of Sweden. M. Pilatre de Rozier and M. Proust, ascended with it, and continued for 28 minutes at the height of 11732 feet and observed the clouds below them, that reflected to the region which they occupied the rays of the sun; the temperature of the air being 5° below the freezing point; and in three quarters of an hour they travelled to the distance of 36 miles. In consequence of this experiment the king granted to M. Rozier a pension of 2000 livres.

On the 15th of July the duke of Chartres, the two brothers Roberts, and another person, ascended with an inflammable air-balloon of an oblong form, 55½ feet long and 34 feet in diameter, from the Park of St. Cloud: the machine remained in the atmosphere about 45 minutes. This machine contained an interior small balloon, filled with common air, by which means it was proposed to make it ascend or descend without any loss of inflammable air or ballast. The boat was furnished with a helm and oars, intended for guiding it. At the place of departure the barometer stood at 30.12 inches. Three minutes after ascending, the balloon was lost in the clouds and involved in a dense vapour. An agitation of the air, resembling a whirlwind, alarmed the aerial voyagers, and occasioned several shocks, which prevented their using any of the instruments and contrivances prepared for the direction of the balloon. Other circumstances concurred to increase their danger; and when the mercury, standing in the barometer at 24.36 inches, indicated their height to be about 5100 feet, they found it necessary to make holes in the bottom for discharging the inflammable air: and having made a rent of between seven and eight feet, they descended very rapidly, and at last came safely to the ground.

On the 18th of July M. Blanchard, accompanied by a Mr.

Mr. Boly made his third aerial voyage with the same inflammable machine, at Rouen; and ascended to high enough to make the mercury in the barometer fall 4, 76 inches, and the thermometer 4°. In two hours and a quarter they floated 45 miles, or at the rate of twenty miles an hour. In this voyage Mr. Blanchard conceived, that by adjusting the wings of his boat he could not only ascend and descend, but move sideways against the wind; but subsequent trial did not seem to have established this fact. The machine retained its air during the night, and several ladies amused themselves the next day, by ascending with it to the height of 80 feet, the length of the ropes to which it was attached.

In the course of this summer two persons, one in Spain, and another in America, were in danger of losing their lives by ascending with rarefied air-machines. The former was scorched by the machine's taking fire, and so hurt by his fall, that his life was long despaired of; and the latter was wafted against the wall of a house, and so entangled, that he fell from the height of about twenty feet, and the machine took fire, and was consumed.

In the month of August the Abbe Carnus, professor of philosophy, and M. Louchet, professor of belles lettres, ascended at Rodez, a town of Guienne in France, with an aerostatic machine of 57 feet in diameter. The air was calm, and the machine did not travel farther than about 14900 yards in 46 minutes; and the height to which it ascended was 3920 yards above the level of the town. The thermometer was 34 degrees lower than it was at the earth when they ascended. On examining the air in one of two bottles, which they had filled at their highest elevation, they found that it contained a quarter less air than if it had been filled at about the level of the sea; and the air, tried by the test of nitrous air, was found more pure than that near the surface of the earth.

The first aerial voyage in England was performed in London, on the 15th of September, by Vincent Lunardi, a native of Italy. His balloon was made of oiled silk, painted in alternate stripes of blue and red. Its diameter was 33 feet. From a net which went over about two-thirds of the balloon, descended 45 cords to a hoop hanging below the balloon, and to which the gallery was attached. The balloon had no valve; and its neck, which terminated in the form of a pear, was the aperture through which the inflammable air was introduced, and through which it might be let out. The air for filling the balloon was produced from zinc by means of diluted vitriolic acid. Mr. Lunardi departed from the Artillery-ground at two o'clock; and with him were a dog, a cat, and a pigeon. After throwing out some sand to clear the houses, he ascended to a great height. The direction of his motion at first was north-west by west, but as the balloon rose higher, it fell into another current of air, which carried it nearly north. About half after three he descended very near the ground, and landed the cat, which was almost dead with cold: then rising, he prosecuted his voyage. He ascribes his descent to the action of an oar; but as he was under the necessity of throwing out ballast in order to re-ascend, his descent was more probably occasioned by the loss of inflammable air. At ten minutes past four he descended on a meadow near Ware in Hertfordshire. The only philosophical instrument which he carried with him was a thermometer, which in the course of his voyage stood as low as 29°, and he observed that the drops of water which collected round the balloon were frozen.

The longest and the most interesting voyage, which was performed about this time, was that of Messrs. Roberts and

M. Collin Hullin, at Paris, on the 19th of September. Their aerostat was filled with inflammable air. Its diameter was 27½ feet, and its length 46½ feet, and it was made to float with its longest part parallel to the horizon, with a boat of nearly 17 feet long attached to a net that went over it as far as its middle. To the boat were annexed wings or oars, in the form of an umbrella. At 12 o'clock they ascended with 450 pounds of ballast, and after various manœuvres descended at 40 minutes past six o'clock near Arras, in Artois, having still 200 pounds of their ballast remaining in the boat. Having risen about 1400 feet, they perceived stormy clouds which they endeavoured to avoid; but the current of air was uniform from the height of 600 to 4200 feet. The barometer on the coast of the sea was 29,61 inches, and sunk to 23,94 inches. They found that by working with their oars, they accelerated their course. In the prosecution of their voyage, which was 150 miles, they heard two claps of thunder; and the cold occasioned by the approach of stormy clouds made the thermometer fall from 77° to 59°, and condensed the inflammable air in the balloon, so as to make it descend very low. From some experiments they concluded, that they were able by the use of two oars to deviate from the direction of the wind about 22°. But this experiment requires repetition, in order to ascertain with accuracy the effect here ascribed to oars.

The second aerial voyage in England was performed by Mr. Blanchard and M. Sheldon, professor of anatomy to the Royal Academy, the first Englishman who ascended with an aerostatic machine. This experiment was performed at Chelsea on the 16th of October. The wings used on this occasion seemed to have produced no deviation in the machine's tracks from the direction of the wind. Mr. Blanchard, having landed his friend about the distance of 14 miles from Chelsea, proceeded alone with different currents; and ascended so high as to experience great difficulty of breathing: a pigeon also, which flew away from the boat, laboured for some time with its wings, in order to sustain itself in the rarefied air, and after wandering for a good while returned and rested on one side of the boat. Mr. Blanchard perceiving the sea before him descended near Rumsey, about 75 miles from London, having travelled at the rate of nearly 20 miles an hour.

On the 12th of October, Mr. Sadler, of Oxford, made a voyage of 14 miles from that place in 17 minutes, with an inflammable air-balloon of his own contrivance and construction.

Mr. Blanchard's fifth aerial voyage was performed from London on the 30th of November, in company with Dr. J. Jefferies, a native of America. This voyage was about twenty-one miles. It does not appear that they derived any advantage from their oars in directing the course of the balloon.

On the 4th of January, 1785, Mr. Harper ascended with an inflammable air-balloon from Birmingham: he went to the distance of 50 miles in about an hour and a quarter, and found no inconveniences beside such as might be expected from the changes of wet and cold, and a temporary deafness. The thermometer descended from 40° to 28°.

On the 7th of January, Mr. Blanchard, accompanied by Dr. Jefferies, departed with the balloon, which had carried him five times through the air, from Dover-castle towards the French coast. In their passage they were under a necessity of throwing away every thing which they had with them in the boat, and to part even with their clothes, in order to prevent the balloon from falling into the sea: but

as they approached the land, it began to rise: and in two hours they reached the high grounds near Calus, and the balloon rising still higher over the land, they descended safely in the forest of Guicanes. In consequence of this voyage the king of France presented Mr. Blanchard with a gift of 12000 livres, and granted him a pension of 12000 livres a year. A bottle which was thrown out of the boat in the time of their danger, struck the water with such force, that the cork was forced at a considerable elevation, and security felt on the car and balloon.

On the 10th of January Mr. Crosbie ascended at Dublin with an inflammable air balloon to a great height, and rose so rapidly as to be out of sight in 34 minutes. By opening the valve he descended suddenly as he approached very near the sea. On the 23d of March Count Zambeccari and Admiral Sir Edward Vernon ascended at London, and sailed to Horsham in Suffex, at the distance of 35 miles, in less than an hour. At the height of about two miles, the barometer having fallen from 30.4 inches to 20.8 inches, an accident endangered them, and obliged them to descend. In their descent they passed through a dense cloud, which covered them with snow. They observed that the balloon revolved perpetually round its vertical axis, with such rapidity as to perform each revolution in four or five seconds; they also mention a kind of rustling noise, which they heard among the clouds, and that the balloon was greatly agitated in its descent. On the 5th of May, Mr. Sadler and Mr. Windham ascended at Moulsey Hurst; and were driven by a current of air towards the sea. They fortunately descended at the conflux of the Thames and Medway; but the cords of their machine being released, it instantly ascended and floated to a considerable distance, and was taken up by a trading vessel at sea, where it fell. On the 12th of May, Mr. Crosbie ascended at Dublin, but soon came down again with a velocity which alarmed the spectators. Upon his descent, Mr. McGuire, a college youth, sprung into the machine, and was carried off by the ascending balloon towards the Channel; he at length fell into the sea, and was taken up by a boat dispatched for his relief, just when his strength was exhausted with swimming, and thus his life was saved.

The fate of M. P. de Rozier, the first aerial navigator, and of his companion M. Romain, has been much lamented. They ascended at Boulogne on the 15th of June, with an intention of crossing the Channel to England. Their machine consisted of a spherical balloon 37 feet in diameter, filled with inflammable air; and under this balloon was suspended a small Montgolfier, or fire-balloon, ten feet in diameter. This Montgolfier was designed for rarefying the atmospheric air, and thus diminishing the specific gravity of the whole apparatus. For the first twenty minutes they seemed to pursue the proper course; but the balloon seemed to be much inflated, and the aeronauts appeared anxious to descend. Soon however, when they were at the height of about three quarters of a mile, the whole apparatus was in flames, and the unfortunate adventurers fell to the ground, and were killed on the spot.

On the 19th of July Mr. Crosbie ascended at Dublin, with a view of crossing the Channel to England. To a wicker basket of a circular form, which he had substituted for the boat, he had affixed a number of bladders, for the purpose of rendering his gallery buoyant, in case of a disaster at sea. The height to which he ascended at one time was such, that by the intense cold his ink was frozen, and the mercury sunk into the ball of the thermometer. He himself was sick, and he felt a strong impression on the tympanum of his ears. At his utmost elevation he thought

himself stationary: but on discharging some gas, he descended to a very rough current of a heavy fog and rain. He then entered a dense cloud, and experienced strong blasts of winds, with thunder and lightning, which brought him with rapidity towards the surface of the water. The water soon entered his car; the force of the wind plunged him into the ocean; and it was with difficulty that he got on his cork jacket. The bladders which he had prepared were now found of great use. The water, added to his own weight, served as ballast; and the balloon maintaining its poise, answered the purpose of a sail, by means of which, and a snatch-block to his car, he moved before the wind as regularly as a sailing vessel. He was at length overtaken by some vessels that were crowding sail after him, and conveyed to Dunleary, with the balloon towed after them. On the 22d of July, Major Money, who ascended at Norwich, was driven out to sea, and after having been blown about for about two hours, he dropped into the water. After much exertion for preserving his life, and when he was almost despairing of relief, he was taken up by a revenue cutter in a state of extreme weakness; having been struggling to keep himself above water for about seven hours. The longest voyage that had been hitherto made was performed by Mr. Blanchard towards the end of August. He ascended at Lisle, accompanied by the chevalier de L'Epineard, and traversed a distance of 300 miles before they descended. On this, as well as on other occasions, Mr. Blanchard made trial of a parachute, in the form of a large umbrella, which he contrived for breaking the fall in case of any accident. With this machine he let down a dog, which came to the ground gently, and unhurt.

On the 8th of September Mr. Baldwin ascended from the city of Chester, and performed an aerial voyage of 25 miles in two hours and a quarter. His greatest elevation was about a mile and an half, and he supposes that the velocity of his motion was sometimes at the rate of 30 miles an hour. He has published a circumstantial account of his voyage, described the appearances of the clouds as he passed through them, and annexed a variety of observations relating to aërostation, which render his treatise valuable and interesting to those who wish to acquaint themselves with this subject. It would be tedious to recount the aerial expeditions that were performed in various parts of our own country, as well as on the continent, in the whole course of the year 1785; more especially as they have afforded us no experiment or discovery of any peculiar importance. The most persevering aerial navigator has been Mr. Blanchard. In August 1788, he ascended at Brunswick for the thirty-second time. Within two years from the first discovery of this art of navigating the atmosphere, more than forty different persons performed the experiment without any material injury; and it may be justly questioned, says Mr. Cavallo, whether the first forty persons, who trusted themselves to the sea in boats, escaped so safely. The catastrophe that befel Rozier, and the unpleasant circumstances that have happened to some of the aeronauts in our own country, have been owing, not so much to the principle of the art, as to want of judgment, or imprudent management in the conduct of it.

We shall devote this article to the history of aërostation with the observations of aërostatics, not only on the respective advantages and disadvantages of the balloons made with inflammable air, and of those that are raised by means of hot air, to the former of which he gives the preference. The principal comparative advantages of the rarefied air-balloons are, their being filled with little or no expence; their not requiring to be made of so expensive materials; and the com-

has been necessary to fill them being found almost every where, and that the preparation of it is extended, the more it is used. It is not, however, in order to produce a new machine, but to improve the former balloons, which have been made up of the same weight, and the same quantity of inflammable air, and a considerable quantity of ballast, and many instances are recorded the same machine being used three days. On the other hand, the inflammable air balloon must be made of a fabric impervious to the fire, &c.; the present construction is not a perfect one, and it is necessary to find the materials and apparatus necessary for the production of it in every place. Improvements, however, daily occur in the preparation of the coverings of these balloons, so as to render them nearly impermeable to the inflammable air; and it has been found that an inflammable air-balloon, 30 feet in diameter, may be so made as to last two or three days, and a considerable quantity of ballast in the air for more than 24 hours, when properly managed; and one man might possibly be supported by the same machine for three days.

Of the shape of the balloon. The shape of the balloon is one of the first objects of consideration in the construction of the machine. As a sphere admits the greatest capacity under the least surface, the spherical figure, or that which approaches nearest to it, has been generally preferred. However, five bodies of this form oppose a greater surface to the air, and consequently a greater obstruction to the action of the oar or wings than those of some other form, and therefore cannot be so well guided in a calm, or in a course different from the direction of the wind, it has been proposed to construct balloons of a conical or oblong figure, and to make them proceed with their narrow end forward. Mr. Hooke, an ingenious writer, who is now publishing a translation of the works of Leeuwenhoek, in his *Thoughts on the further Improvement of Aerostation*, suggests the shape of a fish as the most proper: the sharp head, under such a form, will serve to divide the resisting fluid, and open a passage, and the tail will serve as a rudder to steer its course. He also proposes to fix a seat for the traveller in the lower part of the body of the fish, or in the centre of gravity of the whole mass, so that the machine may be always horizontal, and that the impulse of any force used there may actuate the whole body. And he farther suggests, that the traveller should be furnished with instruments of sufficient surface to take hold of the air, and of sufficient strength to bear the whole exertion of his muscular force, analogous in their form and situation to the fins of fishes. But by adopting the oblong shape, the surface, and consequently the weight of the cover, must be augmented, in order to obtain the same lifting power with that of a sphere, both because its capacity will be less under the same surface, and because its capacity must be made greater in order to compensate for the augmentation of weight. Besides, an oblong machine cannot easily be kept with the smallest part forward in the atmosphere; and if it should turn sideways, as it probably might, the proposed advantage would thereby be lost: not to add, that accidental circumstances might occur which would endanger its overturning.

In order to expedite the calculations that relate to the construction of a balloon of a spherical form, it should be remembered, that the circumferences of spheres are as their diameters; their surfaces as the squares; and their solid contents as the cubes of the diameters. The proportion of the diameter to the circumference of a circle, *i. e.* 7 to 22, or 1 to $3\frac{1}{7}$, should be recollected; so

also if the diameter of a balloon be 35 feet, its circumference will be 220 feet. If the diameter be multiplied by the circumference, the product will be the surface of the sphere; *i. e.* $35 \times 220 = 7700$ square feet. If this surface be divided by the breadth (in feet) of the stuff of which the balloon is made, the quotient will be the number of feet in length necessary for constructing the balloon: thus, if the stuff be 3 feet wide, $\frac{7700}{3} = 2566\frac{2}{3}$ feet, or 428 yards, nearly, which is the quantity for a balloon of 35 feet in diameter. By knowing the weight of a given piece of the stuff, as of a square yard or square foot, it is easy to find the weight of the whole bag, by multiplying the surface in square feet or yards by the weight of a square foot or yard: *e. g.* if each square yard weigh 16 ounces, or one pound, the whole bag will weigh 428 pounds. Again, the capacity, or solid content of the sphere, may be found by multiplying $\frac{1}{6}$ of the surface by the diameter, or by taking $\frac{1}{12}$ of the cube of the diameter: thus, in the present instance, we shall have 22458 cubic feet for the capacity of the balloon, or the number of cubic feet of air which it will displace. From the content and surface of the balloon, we may deduce its power of ascension or levity in the following manner:—a cubic foot of air weighs, at an average, about $1\frac{1}{2}$ ounce, and adding to the number 22458, its fifth part, we shall have 26950 ounces, or 1684 pounds, for the weight of the common air displaced by the balloon. From this weight, deducting the weight of the bag, or 428 pounds, there will remain 1256 pounds expressing the levity of the balloon, independently of the contained air. If this be inflammable air, its weight varies from $\frac{1}{4}$ to $\frac{1}{2}$ the weight of common air; if it be taken at $\frac{1}{6}$ of the weight of common air, then $\frac{1684}{6} = 280$ pounds will denote the weight of the air filling the balloon; and taking this from 1256, *i. e.* $1256 - 280$, will leave 976 pounds, the power of ascension of the balloon, or the weight which it will carry up, consisting of the car, ropes, passengers, ballast, and other necessities. If heated air be used, the density of this is diminished about one-third; and therefore, taking from 1684 one-third of itself, there will remain 1123 for the weight of the contained warm air, and this subtracted from 1256, leaves 133 pounds for the levity of the balloon; but as this is not sufficient for carrying up the car, passengers, &c. it is evident that a larger balloon, on Montgolfier's principle, is necessary for the same purpose that may be effected by a smaller one of inflammable air. To estimate the power of ascension corresponding to any given weight, *e. g.* 1000 pounds; since the levities are nearly as the cubes of the diameters, and consequently the diameters as the cube roots of the levities; and the levities being as 133 to 1000, *i. e.* nearly as 1 to 8, the cube-roots are as 1 to 2; consequently $1 : 2 :: 35 : 70$ feet, the diameter of a Montgolfier, made of the same thickness of stuff as the former, and capable of lifting 1000 pounds. Pursuing the same kind of calculation, it is easy to estimate the size of a balloon, made of stuff of a given thickness, and filled with air of a given density, that will just float in air. From the weight of a cubic foot of common air, subtract that of a cubic foot of the lighter or contained air; then divide 6 times the weight of a square foot of the stuff by the remainder, and the quotient will be the diameter, in feet, of the balloon that will just float at the surface of the earth. Suppose the stuff to be 1 pound to the square yard, or $\frac{16}{9}$ ounces to the square foot, and this multiplied by 6 gives $\frac{22}{3}$; then the cubic foot of common air weighing $1\frac{1}{2}$ ounce, and of heated air $\frac{1}{2}$ of the same, the difference being $\frac{1}{2}$ ounce.

consequently $\frac{12}{5}$ divided by $\frac{2}{5}$, gives 26 $\frac{2}{5}$ feet, which is the diameter of a Montgolfier that will just float: but if inflammable air, $\frac{1}{5}$ the weight of common air, be used, the difference between $1\frac{1}{5}$ and $\frac{1}{5}$ of it is one; by which dividing $\frac{12}{5}$ or $10\frac{2}{5}$, the quotient $10\frac{2}{5}$ feet will be the diameter of an inflammable air-balloon that will just float. If the diameter, in either of these cases be increased, the respective balloons will ascend in the atmosphere.

In order to determine the height to which a given balloon will rise, when the diameter of the balloon, and the weight that exactly balances it are given, proceed in the following manner:—compute the contents of the globe in cubic feet, and divide its restraining weight in ounces by this content, and the quotient will be the difference in density or specific gravity of the atmosphere at the surface of the earth, and that at the height to which the balloon will rise; subtract this difference or quotient from $1\frac{1}{5}$ or 1, 2, the density at the earth, and the remainder will be the density at that height; then the height corresponding to that density will be found with sufficient exactness in the annexed Table.

e. g. Let the diameter of the balloon be 35 feet, its capacity 22458, and the levity of the first 976 pounds, or 15616 ounces; the quotient of the latter number divided by the former, *i. e.* $\frac{15616}{22458}$, is .695, which is the density at the utmost height, and to which in the Table corresponds somewhat less than $2\frac{1}{2}$ miles, and this is the height to which the balloon will ascend. When the same balloon was filled with heated air, its levity was equal to 133 pounds, or 2128 ounces, which divided by 22458, the capacity, gives the quotient, .095; and this subtracted from 1.200, leaves 1.105 for the density; to which, in the Table corresponds half a mile, or more nearly $\frac{1}{2}$ of a mile. Such are the heights to which these balloons would nearly ascend, if they retained their figure, and lost none of the contained air: or, more precisely, these are the heights at which they would settle; for their acquired velocity would at first carry them above these heights, till their motion would be destroyed; and then they would descend below these heights, though not so much as they had gone above them: after which they would reascend, and pass these heights again, but not so far as they had gone below them; thus vibrating alternately above and below these heights, but every-time less and less. These calculations for finding the height to which the balloon will ascend, are formed independently of the different states of the thermometer at the highest point and at the surface of the earth; but the allowances to be made on this account will appear from what is delivered under the article ATMOSPHERE.

Next to the shape, it is necessary to consider the stuff that is most proper for forming the envelope of the inflammable or rarefied air. Silk stuff, especially that which is called lutestring, properly varnished, has been most commonly used for inflammable air-balloons: and common linen, lined within and without with paper, varnished, for those of rarefied air. Varnished paper, or gold beater's skin, will answer the purpose for making small inflammable air-bal-

loons; and the small rarefied air-balloons may be made of paper without any varnish or other preparation.

The stuff for large balloons of both kinds require some previous preparation. The best mode of preparing the cloth for a machine upon Montgolfier's principle, is first to soak it in a solution of sal ammoniac and lize, using one pound of each to every gallon of water; and when the cloth is quite dry, to paint it over with some earthy colour, and strong size or glue. It may be also varnished over, when perfectly dry, with some stiff oily varnish or simple drying linseed oil; which would dry before it penetrates quite through the cloth.

The varnish for the silk or linen of the inflammable air-balloons should be impermeable to the inflammable gas, pliable, and sufficiently dry to adhere firmly to the stuff. In France much has been said of the elastic gum varnish; but the composition of it is kept a secret. This gum is known to be soluble in divers essential oils, and also by vitriolic ether. The former solution forms a varnish which never perfectly dries: the latter dries readily, but the solution is too dear for common use. The following varnish has been recommended. To one pint of linseed oil, add two ounces of litharge, two ounces of white vitriol, and two ounces of gum sandarach; boil the whole for about an hour over a slow fire; then let it cool: separate it from the sediment, or strain it through a sieve, and dilute it with a sufficient quantity of spirits of turpentine. But the best varnish for an inflammable air-balloon is made with bird-lime. Mr. Cavallo directs to prepare it in the following manner, which, in his opinion, is preferable to that of M. Faujas de Saint Fond. In order to render linseed oil drying, boil it with two ounces of saccharum saturni and three ounces of litharge, for every pint of oil, till the oil hath dissolved them; then put a pound of bird-lime and half a pint of the drying oil into a pot of iron or copper, holding about a gallon; and let it boil gently over a slow charcoal fire till the bird-lime ceases to crackle; then pour upon it two pints and a half of drying oil, and boil it for about an hour longer, stirring it often with an iron or wooden spatula. As the varnish in boiling swells much, the pot should be removed from the fire and replaced when the varnish subsides. Whilst it is boiling, it should be occasionally examined, in order to determine whether it has boiled enough. For this purpose, take some of it upon the blade of a large knife, and after rubbing the blade of another knife upon it, separate the knives, and when on their separation the varnish begins to form threads between the two knives, it has boiled enough, and should be removed from the fire. When it is almost cold, add about an equal quantity of spirits of turpentine, mix both well together, and let the mass rest till the next day; then having warmed it a little, strain and bottle it. If it is too thick, add more spirits of turpentine. This varnish should be laid upon the stuff, when perfectly dry, in a luke-warm state; a thin coat of it upon one side, and about twelve hours after two other coats should be laid on, one on each side, and in twenty-four hours the silk may be used.

Mr. Blanchard's method of making elastic gum varnish for the silk of a balloon is as follows. Dissolve elastic gum, cut small, in five times its weight of spirits of turpentine, by keeping them some days together; then boil one ounce of this solution in eight ounces of drying linseed oil for a few minutes, and strain it. Use it warm.

The pieces of which an inflammable air-balloon is to be formed, must be cut of a proper size, according to the proposed dimensions of it, when the varnish is sufficiently dry. The pieces that compose the surface of the balloon are like

those gases that form the atmosphere of a globe: and the last method of construction is to describe a pattern of wood or stiff paper, and lay it the silk or stuff upon it. One of the pieces must serve as a pattern for others, is represented in *Pl. Tab. viii. fig. 2*. In this figure, figure A is the circumference of the balloon, perpendicular to each other. Then find the circumference answering to the given diameter of the balloon in feet and decimals of a foot; and make AD and DE each equal to a quarter of the circumference, so that AD may be equal to half the circumference. Divide AD into equal parts, and to the points of division apply the lines *fg, hi, kl*, &c. parallel to each other, and perpendicular to AD. Divide the whole circumference into twice the given number of pieces, and make DC and DB each equal to the quotient of this division; so that BC will be equal to the greatest breadth of one of those pieces. Multiply this quotient or DC by the decimals annexed to *fg*, viz. 0.99619, and the product expresses the length of *fg*; and multiply DC by the decimals annexed to *hi*, and the product expresses the length of *hi*, &c. Having thus found the lengths of all these lines, draw by hand a curve line, passing through their extremities, and this will be the edge of one quarter of the pattern. The other quarters AED, EBD, EDC may be easily described by applying to each of them a piece of paper equal to AEDC. Suppose the diameter of the balloon to be 20 feet, and that it is to be made of 12 pieces. In order to draw the pattern, find the circumference of the balloon, which is 62.83 feet, and dividing it by 4, the quotient is 15.7 feet: consequently AD and DE will be each equal to 15.7 feet. Divide the circumference 62.83 by 24, or double the number of pieces that are to form the balloon; and the quotient 2.618 feet will be the length of DC or BD; therefore BC is equal to 5.236 feet. Then dividing AD into 18 equal parts, and drawing the parallel lines from the points of division, find the length of these lines by multiplying 2.618 by the decimals annexed to that line: thus, 2.618 multiplied by 0.99619 gives 2.608 feet for the length of *fg*; and multiplying 2.618 by 0.98481, we shall have 2.578 feet for the length of *hi*, &c. The pieces cut after such a pattern should be left about one half or three quarters of an inch all round larger than the pattern, in order to allow for the seams. They may be joined by laying about half an inch of the edge of one piece over the edge of the other, and sewing them with a double stitching. Mr. Blanchard joins them very expeditiously in the following manner. He lays about half an inch of the edge of one piece flat over the edge of the other, and passes a hot iron over it; in doing which, a piece of paper ought to be laid both under and over the silk. The joining may be rendered more secure, by running it with a silk thread, and sticking a ribband over it. The ribbands laid over seams may be stuck with common glue, provided the varnish of the silk is properly dried. When the glue is quite dry, the ribbands should be varnished over, to prevent their being unglued by the rain.

To the upper part of the balloon there must be adapted a valve, opening inward, to which is annexed a string passing through a hole made in a small round piece of wood which is fastened to the lowest part of the balloon opposite to the valve, to the boat below it; so that the aeronaut may open it as occasion requires, and let the inflammable air out of the balloon. To the lower part of the balloon are fixed two pipes of the same stuff with the covering, six inches in diameter for a balloon of thirty feet, and much larger for balloons of greater size, and long enough to reach the boat. These pipes are the apertures through which the inflammable air is introduced into the balloon.

The boat may be made of wicker-work, and covered with leather, well painted or varnished over. The best method of suspending it is by means of ropes, proceeding from the net which goes over the balloon. This net should be formed to the shape of the balloon, and fall down to the middle of it, and have various cords proceeding from it to the circumference of a circle, about two feet below the balloon; and from that circle other ropes should go to the edge of the boat. This circle may be made of wood, or of several pieces of slender cane bound together. The meshes of the net may be small at top, against which part of the balloon the inflammable air exerts the greatest force, and increase in size as they recede from the top. A hoop has been sometimes put round the middle of the balloon for fastening the net. This is not absolutely necessary; but when used, it is best made of pieces of cane bound together, and covered with leather. When the balloon and its appendages are constructed, the next object of importance is to procure proper materials for filling it. With respect to those inflated by heated air, nothing need be said till the method of filling them is described.

Inflammable air for balloons of the other kind may be obtained in several ways; but the best methods are by applying acids to certain metals; by exposing animal, vegetable, and some mineral substances, in a close vessel, to a strong fire; or by transmitting the vapour of certain fluids through red-hot tubes.

In the first of these methods, iron, zinc, and vitriolic acid, are the materials most commonly used. The vitriolic acid must be diluted with five or six parts of water. Iron may be expected to yield in the common way about 1700 times its own bulk of gas; or $4\frac{1}{2}$ ounces of iron, the like weight of oil of vitriol, and $22\frac{1}{2}$ ounces of water will produce one cubic foot of inflammable air: six ounces of zinc, an equal weight of oil of vitriol, and 30 ounces of water, are necessary for producing the same quantity. It is more proper to use the turnings or chippings of great pieces of iron, as of cannon, &c. than the filings of that metal; because the heat attending the effervescence will be diminished, and the diluted acid will pass more readily through the interstices of the turnings, when they are heaped together, than through the filings which stick closer to one another. The weight of the inflammable air, thus obtained by means of acid of vitriol, is, in the common way of procuring it, generally one-seventh part of the weight of common air; and with the necessary precautions for philosophical experiments, less than one-tenth of the weight of common air. The other elastic fluids, which are generated with the inflammable air, may be separated from it by passing the inflammable air through water, in which quick-lime has been dissolved; the water will absorb these fluids, cool the inflammable air, and prevent its overheating the balloon, when it is introduced into it. As white vitriol is sold much dearer than the vitriol of iron, it will be a saving to make the inflammable air by means of zinc and vitriolic acid, rather than of this acid and iron: because the sale of the white vitriol arising from the former will, in a degree, be a compensation for the expence of the materials.

Inflammable air may also be obtained at a much cheaper rate by the action of fire on various substances; but the gas thus obtained is not so light as that produced by the effervescence of acids and metals. The substances proper to be used for this purpose are pit-coal, asphaltum, amber, rock-oil, and other minerals; wood, and especially oak, camphor oil, spirits of wine, æther, and animal substances, which yield air of different degrees and of various specific gravity. But pit-coal is the substance most proper to be used. A pound

of pit-coal, exposed to a red heat, yields about three cubic feet of inflammable air, which, whether it be passed through water or not, weighs about one-fourth of the weight of an equal bulk of common air.

Dr. Priestley observes, that animal or vegetable substances will yield six and even ten times more inflammable air, when the fire is suddenly increased than when it is gently raised, though it be afterwards made very strong. And Mr. Cavallo informs us, that the various substances above enumerated generally yield all their inflammable air in about an hour's time. The usual method is to inclose the substances in earthen or iron vessels, and thus to expose them to a strong fire sufficient to make the vessels red-hot; the inflammable air proceeding from the aperture of the vessel, is received into a tube or refrigerator, and passing through the tube or worm, is at last collected in a balloon or other vessel. A gun-barrel has been often used for essays of this kind. The manner of conducting this process is particularly described by Mr. Cavallo, *ubi infra*.

The last method of obtaining inflammable air was lately discovered by Mr. Lavoisier, and also by Dr. Priestley. Mr. Lavoisier made the steam of boiling water pass through the barrel of a gun, kept red-hot by burning coals. Dr. Priestley uses, instead of the gun-barrel, a tube of red-hot brass, upon which the steam of water has no effect, and which he fills with the pieces of iron which are separated in the boring of cannon. By this method he obtains an inflammable air, the specific gravity of which is to that of common air as 1 to 13. In this method, a tube about three quarters of an inch in diameter, and about three feet long, is filled with iron turnings; then the neck of a retort or close boiler is luted to one of its ends, and the worm of a refrigerator is adapted to its other extremity. The middle part of the tube is then surrounded with burning coals, so as to keep about one foot in length of it red-hot, and a fire is always made under the retort or boiler sufficient to make the water boil with vehemence. In this process a considerable quantity of inflammable air comes out of the worm of the refrigerator. It is said that iron yields one half more air by this means, than by the action of vitriolic acid. See HYDROGEN.

Balloons of the smaller size, such as those of two or three feet in diameter, and also bladders, may be filled with inflammable air, after passing it through water, by means of the following simple apparatus. See *Plate I. Pneumatics, fig. 3*. A is the bottle that contains the ingredients which produce the gas: BCD is a tube in form of a syphon, fastened by one extremity into the neck of this bottle, and passing through a hole of the stopper of another bottle E, it extends so far as almost to touch the bottom of this bottle, which is nearly full of water. To another hole made in the cork of the bottle E is adapted another tube, to the outward extremity of which a bladder, or the aperture of the balloon is tied. The inflammable air, coming out of the aperture D of the tube, passes through the water of the bottle E, and then enters into the bladder or balloon. Two small casks might be used instead of the bottles A and E.

Another apparatus for producing hydrogen and conveying it into a balloon is exhibited in *fig. 4*. ABC is a vessel made of clay, or of iron, in the form of a Florence flask; and the substance yielding gas is introduced into it, so as to occupy about $\frac{3}{4}$ ths, or less, of its cavity. If the substance swell much by the action of the fire applied to it, a tube of brass, or first a brass and then a leaden tube must be luted to the neck C of the vessel, and the extremity D of the tube is made to pass through the water of a tub H I, and to terminate under an inverted vessel E F, to the upper aperture

of which the balloon, or a tube going to the balloon is adapted. When the part, A B, of the vessel is put into the fire, and made red-hot, the inflammable air that is generated will come out of the tube C D, and passing through the water of the tub, it will at last enter into the balloon G. As a considerable quantity of common air remains in the inverted vessel E F, before the operation is begun, it should have a stop-cock, K, through which it may be drawn out by suction, and then the water will ascend as high as the stop-cock. The aperture of the vessel, E F, should be at least one foot below the surface of the water in H I; and the fire should be at a sufficient distance from the tub H I, that the inflammable air, if any of it should escape, may not take fire and do injury.

The method of filling large aerostatic machines with rarefied air is as follows. A scaffold ABCD (*Plate II. fig. 5*), the breadth of which is at least two-thirds of the diameter of the machine, is elevated about six or eight feet above the ground. From the middle of it descends a well E F, rising about two or three feet above it, and reaching to the ground, furnished with a door or two, through which the fire in the well is supplied with fuel. The well should be constructed of brick or of plastered wood; and its diameter should be somewhat less than that of the machine. On each side of the scaffold are erected two masts H I, K L, each of which has a pulley at the top, and rendered firm by means of ropes K G, K P, H P, H G. The machine to be filled is placed on the scaffold, with its neck round the aperture of the well. The rope passing over the pulleys of the two masts, serves, by pulling its two ends, to lift the balloon about fifteen feet or more above the scaffold; and the rest of the machine is represented by the dotted lines in the figure M N O. The machine is kept steady and held down, whilst filling, by ropes passing through loops or holes about its equator; and these ropes may be easily disengaged from the machine, by slipping them through the loops, when it is able to sustain itself. The proper combustibles to be lighted in the well are those which burn quick and clear, rather than such as produce much smoke; because it is hot air, and not smoke, that is required to be introduced into the machine. Small wood and straw have been found to be very fit for this purpose. Mr. Cavallo observes, as the result of many experiments with small machines, that spirits of wine are upon the whole the best combustible; but its price may prevent its being used for large machines. As the current of hot air ascends, the machine will soon dilate, and lift itself above the scaffold and gallery, which was covered by it. The passengers, fuel, instruments, &c. are then placed in the gallery. When the machine makes efforts to ascend, its aperture must be brought, by means of the ropes annexed to it, towards the side of the well, a little above the scaffold. The fire-place is then suspended in it; the fire lighted in the grate; and the lateral ropes being slipped off, the machine is abandoned to the air. It will appear in the atmosphere as it is represented in *fig. 6*. It has been determined by accurate experiments, that only one-third of the common air can be expelled from these large machines; and therefore, the ascending power of the rarefied air in them can be estimated as only equal to half an ounce avoirdupois for every cubic foot. The apparatus for filling an inflammable air balloon is represented in *fig. 7*. A, A are two tubs, about three feet in diameter, and nearly two feet deep, inverted in larger tubs, B, B, full of water. At the bottom of each of the inverted tubs there is a hole, to which is adapted a tin tube E, about seven inches in diameter, and seven or eight inches long. To these tubes the silken tubes of the balloon

balloon are tied. Each of the tubs, B, is surrounded by two cylindrical cases, regulated in number and capacity, as to be less than half full, when the materials are equally distributed. In the top of each of these cases are two holes; and one of the holes is adapted to a tube, formed for its purpose, and passing through the tub B, and then in the water, and terminating with a separate cork in the tub A. The other hole, which serves for supplying the case with materials, is stopped with a wooden plug. These tin tubes may be about three inches and a half in diameter, and the other holes may be smaller. Two masts, with a rope, &c. are used for this machine, as well as for the former, although they are not absolutely necessary; because the balloon, by means of a narrow scaffold, or other contrivance, may be elevated five or six feet above the level of the tubs A A. When the balloon is to be filled, the net is put over and suspended, as exhibited in C D E; and having collected all the common air from it, its silk tubes are fastened round the tin tubes E E, and the materials in the cases are properly proportioned; the iron being first put in, then the water, and lastly the vitriolic acid. The balloon will soon be inflated by this inflammable air, and support itself without the aid of the rope G H. As the filling advances, the net is adjusted round it, the cords, proceeding from the net, are fastened to the hoop M N; the boat I K is suspended from the hoop M N, and every thing necessary for the voyage is deposited in the boat. When the balloon is a little more than three quarters full, the silken tubes are separated from the tin tubes, and their extremities being tied, they are placed in the boat. Finally, when the aeronauts are seated in the boat, the lateral ropes are slipped off, and the machine ascends in the air, appearing as in *fig. 8*. In order to produce such a bulk of inflammable air as is necessary for a balloon of 30 feet in diameter, whose capacity is 14137 cubic feet, there will be required about 3900 pounds of iron turnings, 3900 pounds of vitriolic acid, and 19500 pounds of water. The balloon will not be above three quarters full.

These proportions, stated by Mr. Cavallo, are too great with respect to the metal and acid, and too small with regard to the water. Mr. Lunardi, who had considerable experience in the practice of aërostation, filled his balloons at Edinburgh and Glasgow with about 2000 pounds of the chippings of cannon procured from Carron, the same quantity of vitriolic acid, and 12,000 pounds of water. The iron was placed in layers in his vessels, with straw between them, in order to enlarge the surface exposed to the action of the acid. He used only two large casks, which were sunk in the ground, and conveyed the gas into the balloon without passing through water; and he contrived to fill his balloon in less than half an hour, which operation had on former occasions required at least two hours.

The inflammable air with which they fill their balloons at the Aërostatic Institute, not long since established in France, is obtained by the following method, which is simple and not very expensive. Six cylinders, or tubes of iron, are fixed by masonry in a furnace of easy and expeditious construction, in such a manner that the two ends of each cylinder project out of the furnace; and these are furnished with strong covers or lids of iron. Into these cylinders are introduced tubes of metal, one of which serves to convey warm water into the red-hot cylinder, and the other to convey the air which is produced through a reservoir filled with caustic ley, into the balloon. The cylinders are partly filled with the chippings or turnings of iron that are procured from the boring of cannon. The excessive heat of the furnace, which is maintained by a supply of char-

coal during the operation, is communicated to the cylinders and their contents. In this state, boiling water is conveyed by one of the tubes to each cylinder; and as soon as it communicates with the inflamed iron, the water is decomposed: the one part, called the oxygen, attaches itself to the iron and calcines it; but the other part, or the hydrogen, is combined with a quantity of the igneous substance, called caloric, and becomes hydrogenous gas, or inflammable air, which remains in a permanent state of elastic fluidity, and weighs seven or eight times less than the atmospheric air. As the water contains a small quantity of carbon or fixed air, which would add weight to the air of the balloon, it is made to pass through water in which caustic alkali has been dissolved. This fluid attaches the carbon to itself, and thus the pure inflammable air is conveyed into the balloon. The cylinders, in this operation, are sometimes fused; for preventing which accident, a pyrometer is annexed to the extremity of the cylinder which projects from the furnace; and the fire is regulated by a scale connected with the pyrometer. The operation of filling a balloon, 30 feet in diameter, in this way will occupy about four hours.

In estimating the ascending power of these machines, that of the inflammable air should be considered as equal to one ounce avoirdupois for every cubic foot, which is one sixth of the weight of common air; and therefore, if the capacity of a balloon is 12000 cubic feet, and three-fourths of it are filled with inflammable air, obtained from iron and diluted vitriolic acid, the ascending power of that gas may be estimated at 9000 ounces, or 562½ pounds; from which the weight of the covering, boat, and other appendages, must be subtracted.

The conduct of balloons, when constructed, filled, and actually ascending in the atmosphere, is an object of great importance in the practice of aërostation. The method generally used for elevating or lowering the balloons with rarefied air, has been the increase or diminution of the fire; and this is entirely at the command of the aeronaut, as long as he has any fuel in the gallery. The inflammable air-balloons have been generally raised or lowered by diminishing the weight in the boat, or by letting out some of the gas through the valve. But the alternate escape of the air in descending, and discharge of the ballast for ascending, will by degrees render the machine incapable of floating; for in the air it is impossible to supply the loss of ballast, and very difficult to supply that of inflammable air. These balloons will also rise or fall by means of the rarefaction or condensation of the inclosed air, occasioned by heat and cold. It has been proposed to aid a balloon in its alternate motion of ascent and descent, by annexing to it a vessel of common air, which might be condensed by lowering the machine, and rarefied again, by expelling part of it, for raising the machine. But a vessel adapted to this purpose must be very strong, and, after all, the assistance afforded by it would not be very considerable. M. Méunier, in order to attain this end, proposes to inclose one balloon filled with common air in another filled with inflammable air: as the balloon ascends, the inflammable air is dilated, and of course compresses the internal balloon containing common air; and by diminishing its quantity, lessens its weight. If it should be necessary to supply this loss, he says it may be easily done by a pair of bellows fixed in the gallery. Others have proposed to annex a small machine with rarefied air to an inflammable air-balloon by ropes, at such a distance that the fire of the former might not affect the inflammable air of the latter: the whole apparatus, thus combined, of balloons formed on the two principles of heated and inflammable air,

might

might be raised or lowered by merely increasing or diminishing the fire in the lower balloon. Wings or oars seem to have contributed little to the effect of either raising or lowering balloons.

Many schemes have been proposed for directing the horizontal motion of balloons. Some have thought of annexing sails to a balloon, in order to give it the advantage of the wind; but to this proposal it has been objected, that as the aerostatic machines are at rest with respect to the air that surrounds them, they feel no wind, and consequently can derive no benefit from the sails. An ingenious writer observes, that the case of vessels at sea is quite different from that of balloons; because the former move with a velocity incomparably less than that of the wind impelling them, on account of the resistance of the water; and therefore, the difference between the velocity of the wind, and that of ships, occasions that stream of air which acts upon the sails. But a balloon, finding no resistance, acquires the same velocity with the surrounding air, and therefore can feel no wind. The same author adds, that the most rational projects for directing an aerostatic machine are those which propose to exert a force against the ambient air on one side of the machine, so as to move it in the opposite direction. Oars and wings are the only instruments that have been used for this purpose with any measure of success; but farther experiments are necessary to ascertain their effect. If wings or oars be used, the best method of moving them is by the immediate application of human power, as in the case of the oars of boats on the water. However they should be as large and light as possible; and they may be made of silk stretched between wires, tubes, or sticks. If they are flat they must be turned edgeways when they are moved in the direction of the balloon's course, and flat in the opposite direction. One of the wings, used by Mr. Blanchard, is represented in *fig. 9*. That used by Mr. Lunardi consisted of many silk shutters or valves ABC D, DE C F, &c. (*fig. 10*.) each of which opens only on one side, viz. A D B C upon the line A B, D E C F upon the line D C, &c; and by this construction, it becomes unnecessary to turn these oars edgeways. One of the wings, constructed by Zambecari is exhibited in *fig. 11*, and is nothing more than a piece of silk stretched between two tin tubes set at an angle; and so contrived as to turn edgeways of themselves, when they go in one direction. *Fig. 12* represents one of the wings used by Messrs. Roberts, in the voyage of September 10th, 1784. The greatest effect produced by the wings of an aerostatic machine was that which occurred in this voyage. It is not difficult to determine what force is necessary to move a given machine in the air with any proposed velocity. Dr. Hutton found, from accurate experiments, that a globe of $6\frac{1}{2}$ inches in diameter, and moving with a velocity of 20 feet in a second, sustains a resistance from the air, which is equal to the weight or pressure of one ounce avoirdupois; and that with different surfaces and the same velocity, the resistances are directly proportional to the surfaces nearly; and also that, with different velocities, the resistances are proportional to the squares of the velocities nearly. By these data the resistance to move a given balloon with any velocity may be assigned. Let the balloon be 35 feet in diameter; then if it moved with the velocity of 20 feet per second, or almost 14 miles per hour, it would counteract a resistance equal to 271 pounds; with a motion of seven miles an hour, the resistance would be 68 pounds; and at three miles and an half in an hour, the resistance would be 17 pounds; and such is the force with which the aeronauts must act on the air in a contrary direction, in order to communicate such a degree

of motion to the machine. If the balloon move through a rarer part of the atmosphere than that at the surface of the earth, as 4d or 4th, &c. rarer, the resistance will be less in the same proportion; yet the force of the oars will be diminished as much; and therefore the same difficulty remains. It may be observed in general, that the aeronaut must strike the air, by means of his oars, with a force just equal to the resistance of the air on the balloon, and therefore he must strike that air with a velocity which must be greater as the surface of the oar is less than the resisted surface of the globe, but not in the same proportion, because the force is as the square of the velocity. Suppose, that the aeronaut acts with an oar equal to 100 square feet of surface to move the balloon above-mentioned at the rate of 20 feet per second, or 14 miles an hour, then he must move this oar with the great velocity of 62 feet per second, or nearly 43 miles an hour: and so in proportion for other velocities of the balloon. Hence it is highly probable, that it will never be in the power of man to guide such machines with any tolerable degree of success, especially when any considerable wind blows, which is generally the case. A helm seems to have no particular power in directing the course of a balloon, for the same reason that has been alledged to evince the inefficacy of sails. We have not in air, as in water, says count'de Mirabeau, in his Considerations on the Order of Cincinnati, the resource of a fixed point of action upon a fluid, which has also much greater resistance than air. He adds, that as there are different currents of air, sometimes in opposite directions, and balloons are capable of ascending and descending in search of these currents, this circumstance may favour the hope of directing aerostatic machines. Perhaps, an attention to the means by which birds fly against the wind, added to observations of comparative anatomy upon fishes and birds, which surmount the currents of the two fluids that are common to us and them, may also suggest new ideas with respect to the direction of balloons. Time alone, and numerous experiments, can bring these reflections to maturity, and realize the expectations suggested by them.

Several of the foreign journals have lately announced an invention of professor Danzel for directing an air-balloon through the atmosphere. With this view he has constructed two cylinders, or axles, to the ends of which are fixed, in the form of a cross, four sails, or oars, moveable at the point of their insertion in the cylinder, in such a manner, that when made to move round by means of a handle, the eight oars, like the cogs of a water-mill wheel, present successively to the air sometimes their flat side and sometimes their edge. To cause each oar to turn back on itself about the fourth part of a circle, M. Danzel has not only left sufficient play at the point where the stick of each oar is inserted in the cylinder, but has placed the stick in such a manner that the air itself makes the oar fall back, at each turn, with the necessary velocity and precision. Each of the two cylinders, armed with its four oars or sails, is destined to occupy one side of the balloon, with its four oars on each side. For a farther account of this apparatus and of its effect, see Philosophical Magazine, vol. iv. p. 108.

As parachutes, in the form of umbrellas, have been proposed in order to guard against accidents, and to break the fall in cases of sudden descent, we shall here annex a method of estimating the power of such defensive machines. A person, moving uniformly at the rate of ten feet per second, may descend with safety. For this uniform descent the resistance of the air must be equal to the whole descending weight. Suppose then that the weight of the aeronaut is 150 pounds, and that the parachute is flat and circular, and

made

lately discovered, have not yet been sufficiently ascertained ; but we may reasonably expect, considering the progress it has made, that in a short space of time, that many benefits may result from the farther prosecution of it. To say the least, it is unphilosophical to discourage future trials and improvements, because the merits of them are not immediately apparent. With regard to philosophical observations derived from aeronautics, it is acknowledged that very few have yet been made. The novelty of the discovery, and of the prospect, in the *Châliot*, has generally attracted the attention ; and besides, most of the aerial voyages have been made by persons who had pecuniary profit alone in view, or who were stimulated to ascend in the atmosphere for the sake of the prospect, or by the vanity of adding their names to the list of aerial adventurers. Aerial navigation, considered as a mode of travelling between distant places, independently of its furnishing means of conveyance to places otherwise inaccessible, is attended with many advantages and conveniences. The aeronaut has much less trouble with this machine than a sailor with a ship in the most favourable circumstances. With a moderate wind, aerial navigators have often gone at the rate of forty or fifty miles an hour, and very commonly at the rate of thirty miles without any agitation, or even feeling the wind, and without the danger of losing time by being often becalmed. Aërostatic machines may serve the purpose of escaping from ships that cannot safely land, from besieged places, and from other circumstances of danger. A small balloon six or seven feet in diameter, says an anonymous author in his proposal of various means for saving the crews of vessels stranded near the coast, would answer this purpose, by carrying to the shore a string capable of drawing a cord, with which several ropes might be afterwards conveyed to the vessel. They also expedite the communication of important events by signals, and serve for exploring, from a great elevation, adjacent coasts or regions, fleets and armies. To the latter of these purposes they have been actually applied by the French, in the course of the last war ; and to the elevation of a balloon, and the information obtained in consequence of thus reconnoitering the army of the enemy, they ascribe the signal victory obtained in the battle of Fleurus in 1794. The balloon employed on this occasion,

For a variety of other important and useful particulars relating to the subject of aerostation, we must refer to Mr. Cavallo's curious and comprehensive work, entitled, the History and Practice of Aerostation, 8vo. 1785; which will afford the reader ample information concerning the principles of this art, and the history of its progress, the method of constructing and managing balloons, the nature and preparation of the materials of which they are formed, the observations and uses to which they are adapted,

adapted, and rules for estimating the heights to which they ascend.

See also for an account of several publications on this subject and abstracts of their contents, Monthly Review, vol. lxi. p. 551.—vol. lxxi. p. 379.—vol. lxxiii. p. 99.—Meyer's *Fragments sur Paris*, tom. ii. p. 107, &c. Hutton's *Math. Dict. Art. Aeroftation*.

AERSCHOT, or **ARSCHOT**, in *Geography*, a town of the Austrian Netherlands in the duchy of Brabant, and capital of the district of the same name, which was raised to a marquisate in 1507, and to a duchy in 1533. The town is small, but fortified and well inhabited, seated on the river Demer, about ten miles east of Mechlin, and eight miles north of Louvain, and contains a collegiate church, two monasteries, and three nunneries. It belongs to the House of Arémburg. N. lat. 51°. E. long. 5° 44'.

AERTSEN, in *Biography*. See **AARSENS**.

ÆRVA, in *Botany*, a genus of the *monadelphia decandria* class and order. The characters of which are, that the flowers are polygamous; the calyx is five-leaved and patent; the stamina are five, and barren; the pistillum is a globulous ovary, having a filiform style terminated by a bifid stigma; the fruit is a capsule, which is oblong, single-seeded and encompassed by the calyx. There is one species, viz. *Æ. ægyptiaca* or *tomentosa*, which grows on sandy calcareous soil in Arabia. La Marche thinks it bears affinity to the **AMARANTUS**.

ÆRUGINOUS, something partaking of, or like to, the rust of copper.

Authors do not seem perfectly agreed about the colour to be expressed by this word, some expressing by it green, others brown.

ÆRUGO denotes **RUST**, especially that of copper.

Naturalists speak of two kinds of *æruo*, one *native*, and the other *fartitious*: the *native*, is only the superficial particles of the metal dissolved; and intimately mixed with acid salt; in which form it is ordinarily found in copper-mines, and other moist places: and the *artificial*, commonly called **VERDIGRISE**, or copper converted into a green calx by vinous acid.

One species of *natural æruo* is a greenish marcasite, like the drops of iron; it is found in copper-mines, but is of no use. Dioscorides (lib. v. c. 91, 92.) and Pliny (lib. xxxiv. c. 11. 12.) say expressly, that a substance of the nature of these stones, which yielded copper when melted, was scraped off in the mines of Cyprus, much in the manner now practised in Hungary; where the outer coat of the copper ore is thus collected, and afterwards purified by being washed in water. Another species, according to the account of Dioscorides, was procured from the water of a grotto in the same island; and the most saleable natural verdigrise is still obtained in the same way in Hungary. The clear water which runs from old copper works is put into large vessels, and after some time the green earth falls to the bottom as a sediment. There is also, on some mountains in Moravia, a sort of green grains, like sand, that is of a grass green, when used in painting. It is called the Hungarian *mountain*, or *sea verdigrise*. See *mountain GREEN*.

ÆRUGO rasilis, or *as viride*, is a rust formed on copper, by hanging a plate of it over the strongest vinegar for some time, without suffering the one to touch the other. It was only used externally by Dioscorides and the ancient physicians for cleansing ulcers, and destroying excrescences; but it has been more lately employed externally with essence of myrrh and honey of roses in fistulæ and apthæ, and also internally for malignant ulcers that have corroded the bones, and either with or without turbith mineral as a

remedy for men or beasts that have been bitten by mad dogs or wolves. The dose has been from three to six grains. Pills, formed of the *æruo*, in a manner however that has been concealed, have been recommended for a cancer of the breasts; but their beneficial effect has been disputed. Gmelin's *App. Med.* vol. i. p. 346.

Airugo folis, in *Natural History*, a name given by Pliny, and several other ancient authors, to a reddish slimy matter, separated from the Egyptian salt, called **NATRUM**, in purifying it. We find this matter remain in the filter, on dissolving and filtering the Egyptian nitre, at this time; it seems to be a mixture of bituminous matter, and a red earth, which had mixed themselves among the cakes of the salt, during the time of their concreting from the water.

ÆRUSCATORES, formed from *æruscari*, to beg, mump, &c. in *Antiquity*, a kind of sharpening strollers, who got their living by tricks, telling fortunes, and the like, much like modern gypsies. The term is also applied to oppressive tax-gatherers.

The *Galli*, or priests of Cybele, were called *æruscatores magnæ matris*, on account of their begging, or collecting alms in the streets. To which end they had little bells whereby to draw people's attention to them, much like some orders of mendicants abroad.

ÆERY, or **AIRY**, in speaking of hawks, eagles, or the like, answers to the **NEST** of other birds.

ÆS, in *Antiquity*, has various significations; but it properly denotes *brass* or *copper*. It was for a long time applied indiscriminately to either of these metals; and it was not till a late period that metallurgists, in order to distinguish them, gave the name *cuprum* to copper: as *copper* was the first metal used in coinage by the Romans, the word *æ* was used in their language to signify money in general. It likewise denoted a particular coin made of that metal.

Æs caldarium, or *cast brass*, otherwise called *as olarium*, or *pot brass*, is a species of *brass* mentioned by Pliny, which was not capable of being hammered. This is likewise a term used by the German *mineralists*, for a substance which sometimes occurs to those who work upon **COBALT**, and is used for making the fine blue colour called **SMALT**.

Æs candidum, among the *Ancients*, was different from that which we call white brass; it is a purer and whiter kind of metal found, it is said, under the veins of silver, somewhat analogous to Venetian **TALC**. They had probably a method of making **COPPER white** as well as *yellow*, equal, if not superior, to that now in use. The phrases of *orichalcum album* in Virgil, (*Æn.* xii. v. 87.) and λευκον κραμα among the Greeks, strictly signify *white BRASS*.

Æs Corinthium, a precious metallic composition, of a much finer colour than common brass, and for its beauty little inferior to gold. Pliny says, (*Hist. tom. ii. p. 640. Ed. Hard.*) that this was an accidental mixture of metals at the sack and conflagration of Corinth by L. Mummius, 146 years before Christ; when the gold, silver, and brass statues, and all metallic substances, melting and mingling together, formed this mass. He says, that there were three sorts of Corinthian brass, viz. the red, the white, and that which was of the colour of money, according to the different proportions of gold and silver that were in it. But some refiners, who have strictly examined this metal, find no gold in it; a circumstance which, if true, suggests one reason, among others, for concluding, that this account is fabulous. However, the fable has been interpreted by some to signify, that the art of making **COPPER** into **BRASS** was first discovered by the Corinthians, who found the **CALA-**

rusty stone on the plains of Peloponnesus, or at least that they had been so exposed.

Æs æmulum, is said by Pliny, (H. N. tom. ii. p. Cxxv.) to denote a lead which is cast in the place, and when broken, it is filled with the metal of gold, &c. called a lot of gold for the colour of silver. This was called *æs æmulum*, because it is said to be the *æs æmulum*, or *æs æmulum*. This was the lead which the Cyprians used.

Æs æmulum, was a kind of copper prepared in the island of Cyprus. This denomination was first given to copper in general; whence it was called *æmulum*, and at length *æmulum*. The property of the Cyprian copper gave occasion to this appellation.

Æs æmulum, *æmulum æmulum*. All the Roman authors have mentioned the method of making *æmulum* with *calamine* and *copper*; but their first kind, which they called *auriculæm*, or *auriculæm*, they distinguished from the inferior sorts, which had only the name of *æs æmulum*.

Æs grave denoted money among the Romans, which was paid by weight, and not by tale. In this sense it is used by Buddæus and Scaliger.

But others, by *æs grave* understand large pieces of copper coined, containing, for instance, an *as*, or pound of that metal, such as we find current in Sweden. These they assert bore the title *æs grave*, till the time in which they were reduced to a smaller standard.—Gronovius, on the contrary, maintains, that the *as*, or pound weight, did not acquire the appellation, *æs grave*, till after their reduction. Philof. Trans. N^o. 19.

Kuster rejects all these opinions, and asserts, that the expression is used to denote any kind of copper-money compared with gold or silver; which, with regard to the bulk and size of the pieces, was much lighter, though of greater value.

But this system, however plausible, is rejected by several learned men, particularly Perizonius, and Mr. Ward. The former has a dissertation on the subject, wherein the opinion of Gronovius is farther examined and defended.

Æs hepaticum was of a silverish colour, and probably what the moderns call BRONZE; though some confound it with the *æs Corinthiacum*.

Æs pauperum is a name given to *copper ore*, divested of its silver, when it contains any.

Æs rude, that unshaped, or not fashioned for any particular purpose.—Some will have this to be the same with *æs grave*.—The money, during the first ages of Rome, was all of this kind.

Others, by *æs rude*, understand metal unstamped; in opposition to *æsignatum*, that stamped, or coined.

Æs ustum, called also *æs Veneris*,—*æs crematum*,—*crocus Veneris*, and *cinis eris*, is a term which, like many others among the old chemists, has been applied to two or three different substances; it is, therefore, on this account deservedly rejected from the reformed nomenclature. Kunkel (Labor. Chym. p. iii. c. 39.) employs it as a general denomination for a perfect oxyd of copper prepared by heat; the expression is, however, more commonly employed to denote a pharmaceutical preparation once much in vogue as an escharotic, but now fallen into disuse. This *æs ustum* essentially consists of copper and sulphur; and the different varieties originate from the relative proportions of the ingredients, and the different states of oxydation of the copper. It is usually prepared by stratifying in a crucible copper clippings and powdered sulphur, and heating the crucible by degrees till it ceases to emit any vapours; it must then be raised to a dull red heat for an hour; there results a brittle mass which

when pulverized and washed is the substance in question. Becham's method is still more simple, consisting merely in heating a cup of copper to whiteness, and rubbing it with a roll of brimstone; as soon as it is taken out of the fire, the copper combines eagerly with the sulphur, and the compound runs down in drops, and is received in a basin of water; this is then pulverized and washed. In both these cases the compound is a slightly oxydated copper, saturated with sulphur; of an iron brown colour. In addition to these processes Lemery goes on to heat the sulphurated oxyd in a reverberatory nine times successively, quenching it in lincted oil after each roasting. He thus obtains a product of a high red colour, which in fact is a simple oxyd of copper, the sulphur being burnt out. Some recommend a mixture of nitre or common salt with the sulphur, and the substance resulting from this, if not washed, is certainly a very powerful escharotic on account of the sulphurated alkali which is thus combined with the oxyd of copper. As to the sal ammoniac and vinegar, in which some previously steep the copper, it is wholly useless, all its effect being destroyed by the subsequent heating. Dict. Method. Art. *Æs ustum*.—New Dispensatory, 1765, p. 498.—Beaumé's Chymie. Experiment. vol. ii. p. 651.—Gren's Chemistry, vol. ii. p. 269.

Æs ustum is very drying and deterfise, and has been, on that account, mixed with plasters and unguents, for drying up fistulous ulcers, and imbibing acrimonious humours, or fancies. It is also commended for disorders of the eyes; and joined with cardomoms and honey-water, it has been prescribed internally to epileptics, with whom, according to Dioscorides, it operates as an emetic, and according to Aretæus, as a laxative. See Gmelin's App. Med. vol. i. p. 344. It is likewise used for colouring glass.

Æs uxorium, in Antiquity, a sum paid, by bachelors, as a penalty for living single to old age.

This tax for not marrying seems to have been first imposed in the year of Rome 350, under the censorship of M. Furius Camillus, and M. Posthumus.

At the census, or review of the people, each person was asked, *Et tu ex anima sententia uxorem habes liberum quærendum causâ?* He who had no wife, was hereupon fined after a certain rate, called *æs uxorium*.

Æs; flos Æris, called by the Greeks, χρυσάειον αἰρίων (sometimes confounded by moderns with *chalcanthum*), is prepared of COPPER melted, and removed into other furnaces, wherein being exposed to a farther and greater heat, and vehemently agitated by bellows, it deposits an infinite number of small scales, like millet grains, which being separated by lotion, make the *flos æris*. The cold water is poured on the copper, as it runs out of the furnace into the receiver.

Æs; squama Æris properly denotes flakes of that metal struck off by the hammer, in the operations of the forge, &c. These, from the Cyprian copper-works, are called *Helitis*.

Æs; per Æs & libram was a formula in the Roman law, whereby purchases and sales were ratified.

Originally the phrase seems to have been only used in speaking of things sold by weight, or by the scales; but it afterwards was used on other occasions. Hence even in ADOPTION, as there was a kind of imaginary purchase, the formula thereof expressed, that the person adopted was bought per *æs & libram*.

ÆSA, in Ancient Geography, a town of Thrace, near Pallene. Steph. Byz.

ÆSALON, in Ornithology, a species of FALCON, called in English the MERLIN. *Æsalon carolinensis*, is the name given

given by Brisson to the *accipiter minor* of Catesby, and the *FALCO sparverius* of Linnaeus, which has a yellow cere, brown head, red vertex and abdomen, and bluish wings. The head of the female is encompassed by seven blackish spots.

ÆSANIS, in *Ancient Geography*, a town of Phrygia Major, according to Ptolemy.

ÆSAPUS, a river of Myria, in Asia Minor, according to Strabo, which rose south-west of Scepsis, and discharged itself into the Propontis, west of Cyzicus.

ÆSAR, *Sarchio*, a river of Etruria in Italy, which, says Strabo, joined the Arnus at Pisa, but its mouth is said to be ten miles north of that of this river.

ÆSAR, in *Mythology*, a deity of the Etruscans. It is said that the letter C being obliterated in the word *Cæsar*, annexed to a statue of Augustus, the augurs deduced from this accident on the part of the statuary, a sorrowful preface. As C was a numeral letter, denoting 100, they concluded that he had not 100 days to live: but as the word *Æsar* was the name of a deity, they thence inferred that he would be deified after his death.

ÆSARONENSII, in *Ancient Geography*, a people of the northern part of Sardinia.

ÆSARUS, *Esaro*, a small river of Brutium, which watered the town of Croton. Ovid (*Met.* l. 15. v. 23.) calls it *Æsaris*.

ÆSCH, in *Ichthyology*, a name by which some have called the GRAYLING, or tumbler, a fish of the truttaceous kind, called in Latin *thymallus*.

ÆSCHINES, in *Biography*, an Athenian philosopher of low extraction, said by some to be the son of Charinus, a sausage-maker, and by others, the son of Lysanias. He discovered an early desire of knowledge, and, though oppressed by poverty, was assiduous and persevering in the pursuit of it. With this view he placed himself under the tuition of Socrates, who was gratified by the respect which was paid to him by this young and studious, though mean disciple. Upon first offering himself to the notice of Socrates, he told the philosopher that the only thing which it was in his power to present him, in return for his kindness in giving him instruction, was *himself*. Socrates replied, that he accepted and esteemed the present, and hoped to render it more valuable by culture. He adhered to his master with unalterable fidelity and constancy, and enjoyed his particular friendship. Impelled by poverty, he determined to quit Athens; and after the example of Plato and others, to visit the court of Dionysius, the tyrant of Sicily, who was, at this time, either through vanity or jealousy, a general patron of philosophers. Upon his arrival in Syracuse, he was slighted by Plato on account of his poverty; but Aristippus introduced him to the prince, by whom he was liberally rewarded for his Socratic Dialogues. Plutarch, however, vindicates Plato from this charge, and says that when he was neglected at Syracuse, the philosopher recommended him to Dionysius, and engaged for him the protection and favour of the sovereign. See *Plut. Commentarius de Adulatoris et Amici discriminatione* apud *Oper.* tom. ii. p. 67. Ed. Xyland. Æschines remained in Sicily till the expulsion of the tyrant, and then returned to Athens. But fearing to become a rival of Plato or Aristippus, who were in high esteem, by any public exhibition, he taught philosophy in private, and maintained himself by the pecuniary recompence which he received for his instructions. Afterwards, in order to gain a more ample subsistence, he appeared as a public orator. Laetius says, that he wrote judicial orations for the vindication of the innocent. Besides orations and epistles, Æschines wrote seven Socratic

Dialogues in the true spirit of his master, on temperance, moderation, humanity, integrity, and other virtues: of which only three are extant, viz. one concerning Virtue, whether it can be taught; a second concerning Riches, whether they are good; and a third, concerning Death, whether it is to be feared; a fragment of a fourth, on the Duties of a State of Marriage, may be found in Cicero de *Inventionis Rhetorica*, l. i. c. 31. They are published by Le Clerc, with notes and several dissertations, in the "*Silva Philologica*." Amstæd. 1711. Fabricius (*Bibl. Græc.* tom. i. p. 829.) Suidas (in *Æschines*) and Lucian (de *Parasito.* Op. tom. ii. p. 860. Ed. Reitzii.) have given an account of them. Some have charged him with purloining the works of Antisthenes, and with publishing dialogues of Socrates, confided with him by Xantippe, as his own. This Æschines, who is a different person from Æschines the orator, is said by Diodorus Siculus (*Hist.* tom. ii. p. 62. Ed. Wesseling.) to have flourished about the 103d Olympiad.

ÆSCHINES, the *Orator*, was the son of Atrometus, a grammarian and schoolmaster, and Glaucothea, who is said to have been a timbrel-player. See Lucian (in *Somn.* tom. i. p. 17.) Philostratus (de *vit. Sophist.* ap. *Oper.* p. 506. Ed. Olearii.) He was distinguished, as Plutarch says (*X Orat. Vit.* ap. *Oper.* tom. ii. p. 840.) neither by his birth nor riches. In his youth, Æschines being of a robust constitution, devoted himself to the exercises of the gymnasium, and having a clear voice, he performed a part in the exhibition of tragedies. Some say that he attended the lectures of Isocrates and Plato; but according to others, he received instruction from Alcidas, the preceptor of Gorgias. His progress, however, was considerable, and he became a competitor with Demosthenes; and by his public conduct incurred his displeasure. When the Athenians negotiated a peace with Philip of Macedon, Æschines and Demosthenes were two of the ten ambassadors employed for this purpose. On this occasion, it is said that Æschines was bribed by Philip, and persuaded the Athenians, in opposition to the remonstrances of Demosthenes, to confide in the promises of the sovereign of Macedon. Thus deluded, they gave this prince an opportunity to possess himself of Thermopylæ, and to enter the territory of Phocis. Philip, aspiring to be a generalissimo of the Greeks, was anxious to be appointed to this office by the council of the Amphycions. With this view, he contrived, by intrigue and corruption, to engage the support of Æschines; who, in a studied oration, prevailed with the deputies of the Greek cities, assembled in the council of the Amphycions, to elect him for their general, and to invest him with full power to act as he should think proper. By this artifice Philip got possession of Elateæ, the chief city of Phocis, and thus established himself in a situation the most favourable for the execution of his farther designs. Demosthenes exerted all his powers of eloquence to rouse the Athenians, and to induce them to unite with the Thebans in disconcerting the machinations of Philip. His eloquence was effectual, and the two hostile armies encamped near Cheroneæ, a city of Bœotia. The wisdom and force of Philip prevailed, and Demosthenes, being less a warrior than a statesman, and being more capable of giving counsel in his harangues than of enforcing and supporting it by intrepid courage, threw down his arms, and fled with the other discomfited troops. The shock which Athens received at this time, the effect of which it was never able to recover, was ascribed to Demosthenes; and Æschines took the lead in criminating his rival: and he, accordingly, drew up an accusation against Ctesiphon, or rather against Demosthenes.

The conflict between these two orators excited very general attention, and the two orations that were delivered by them have been always considered as the masterpiece of oratory; especially that of Demosthenes, which is more powerful and sublime than that of Æschines. The latter lost his liberty, and was sentenced to banishment for his rash accusation, *Cont. Christ.* 33. Upon this, he settled at Rhodes, where he opened a school of eloquence, the reputation of which spread far and near. He is said to have commenced his studies in the rhetorical orations that had occasioned his banishment. That of Æschines himself was received with applause; but when he had heard that of Demosthenes, the pleasure was redoubled. On this occasion, Æschines declared, with a candour and liberality highly honourable to his own country and race, *What applause should you not have given me, if you had heard Demosthenes speak in behalf of Philip, and Philostrate, all together!* When Æschines left Athens, in order to embark for Rhodes, Demosthenes ran after him and obliged him to accept a purse of money; upon which Æschines exclaimed, *How will it be possible for me not to regret a country, in which I have an enemy more generous than I can hope to find friends in any other part of the world!* From Rhodes, Æschines removed to Samos, and there he died, at the age of 75 years. Some have said, that Æschines was the first who delivered extemporaneous orations, a practice which others have ascribed to Gorgias. Philostratus extols him for luminous perspicuity, decorous gravity, and distinguished energy; and he is denominated by Demosthenes *μεγαλοφώνος*. Quintilian, comparing him with Demosthenes, says of him, (*Inst. Orat.* l. x. c. i. tom. ii. p. 901. Ed. Burman.) *Plenior Æschines, et magis fufus, et grandiori similis, quo minus strictus est: carnis tamen plus habet, lacertarum minus.* Photius ascribes nine epistles (according to the number of the muses) to Æschines; but there are twelve, which were addressed to the Athenians when he was an exile at Rhodes, in Wolfius's edition of Demosthenes and Æschines, p. 205; and Taylor has added them to his edition. The ancients acknowledge only three genuine orations, viz. 1. *Adversus Timarchum* (Wolf. Ed. p. 259.) Timarchus was his accuser, and it is said that in consequence of the reproaches of Æschines he laid violent hands on himself. 2. *De falsa Legatione*, (*Ib.* p. 395.) This is an apology for himself against Demosthenes, who had accused him of perfidy in an embassy to Philip. 3. *Adversus Ctesiphontem*, (*Ib.* p. 425.) who decreed the golden crown to Demosthenes. Fabricius compares these orations to the three graces. Another oration, intitled *Δικαιολογία*, was formerly inscribed with the name of Æschines; but the ancients ascribe it to another person of the same name. See Plutarch and Philostratus, *ubi supra*. Demosthen. et Æschin. Opera, by Wolfius Francof. 1604. Fabricius. Bibl. Græc. tom. i. p. 412—928, &c. Laertius, (tom. i. p. 118. tom. ii. p. 107. Ed. Meib.) mentions several other persons, called Æschines; and this identity of name has occasioned no small confusion in the history of the persons, and particularly with regard to the Socratic philosopher and Athenian orator, who are the subjects of these articles.

ÆSCHNA, in *Entomology*, the name of a species of water-fly, of an ash-colour, with four wings, and a long body, hairy near the tail.

ÆSCHRION, in *Biography*, a fellow citizen, and one of the masters of Galen, by whom he is mentioned with respect. He had great faith in a medicine he invented against the effects of the bite of a mad dog. The following is the prescription, and it is, without doubt, as efficacious as the famous composition recommended by Dr. Mead. Take of the ashes

of lobsters, burnt alive in a copper vessel, ten parts; of gentian, in powder, five parts; of jucansa, one part; mix them, and let the patient take a spoonful in a glass of water every day, for forty days. There are some idle ceremonies directed to be observed in making the powder, which are here omitted.

ÆSCHIV, in *Geography*, a town of Switzerland in the Canton of Bern; two leagues south-east of Spick.

ÆSCHYLUS, in *Biography*, the famous tragic poet, was born at Athens, in the last year of the 63d Olympiad, or the 525th year before Christ, according to the Arundelian marbles, on which Stanley, in his notes on the life of this poet, relies. He was the son of Euphoriion, and distinguished by his military valour as well as by the exercise of those signal talents, which intitle him to the appellation of the *father of tragedy*.

At the battle of Marathon, his brother, Cynægryus, signalized himself; and, as Herodotus informs us (l. ii. p. 491. Ed. Wessell.) laid hold of the prow of one of the Persian ships with his hands, which were cut off by an axe, so that he died of his wounds: and his youngest brother Aminias, says Diodorus Siculus (l. xi. p. 426. Ed. Wessell.), who had the command of a squadron of ships, conducted himself with such skill and bravery, that he sunk the admiral of the Persian fleet, and gained distinguished honour. In these battles, as we learn from Pausanias (l. i. p. 35. Ed. Kuhnii), as well as in those of Platæa and Artemisium, he was present; and we are assured that he acquitted himself with honour. But his principal attention was directed to the composition of tragedies and the improvement of the stage. Pausanias informs us (l. i. p. 49.) that he was admonished by Bacchus, when a boy and asleep in the field, to write tragedies; and that when he awoke he made a trial and succeeded.

His mind was naturally strong and ardent; and the austerity of his character was manifested by his silence and gravity. From his youth he had been accustomed to the lessons of those poets, who, living near to the heroic times, conceived ideas corresponding in sublimity to the illustrious deeds that were then achieved. In the history of these remote ages he beheld every where the impress of grandeur, and frequently that of ferocity. In order to bring scenes of this kind to view, and to exhibit, as it were, before the eyes of the spectator the time and place, and various circumstances of events, Æschylus employed all the resources of theatrical representation: and thus the illusion became a reality. Sufarion and Theſpis, and Phrynichus, the disciple of the latter, had proceeded but a little way. Theſpis indeed had introduced a single actor, and Phrynichus selected that kind of verse which is most suitable to the drama, and made some other changes; nevertheless tragedy was in its infancy before the time of Æschylus. In his first tragedies he introduced a second actor; and, afterwards, copying the example of Sophocles, who had just entered on his theatrical career, he admitted a third, and sometimes even a fourth. By thus multiplying persons, one of his actors became the hero of the piece, and possessed the principal interest; and as the chorus now held only a subaltern station, Æschylus abridged its part. He is censured for having admitted mute characters into his drama; but it has been suggested that the veil which covered them and the silent grief which they manifested, produced a more sensible effect than any lamentations and tears. What he has said of his hero Hippomedon (Sept. contr. Theb. v. 506.) may be applied to himself:

“ — Before him strides
Gigantic terror, towering to the skies.”

And

And yet he knew how to set bounds to the emotions which he earnestly laboured to excite, and constantly avoided polluting the stage with blood; for he wished to produce scenes that should be terrible but not horrible. He rarely excites pity or tears, either because he was naturally destitute of a very delicate sensibility, or because he did not wish to render his auditors effeminate. An ingenious author (See Anacharist's Travels in Greece by the Abbé Barthélemi, vol. vi. p. 10, &c.) has examined the manner in which Æschylus has acquitted himself in the different parts of tragedy, viz. in the fable, manners, sentiments, diction, decoration, and music. His plots, says this writer, are extremely simple; and he sometimes interests us merely by the recital of facts and the vivacity of the dialogue (in Sept. contr. Theb.); and at other times (in Suppl. and Eumen.) by the vigour of his style, and the terror of his scenes. In his estimation the unities of action and of time were essential, but that of place less necessary. His chorus makes a part of the whole. It is the comforter of the wretched, the counsellor of kings, the terror of tyrants, and the confident of all. Sometimes it participates in the action during its whole continuance, as in Suppl. and Eumen. The character and manners of his personages rarely fail in suitableness and consistency. He usually wrote his models from the heroic times, and sustains his characters at the elevation to which Homer had raised his heroes; and it should be recollected that he wrote in the time of the Persian war. As he inclines more to excite terror than pity, he seeks only to render his characters more furious, but without injury to the theatrical interest. See the character of Clytemnestra, in Agamemnon; and particularly v. 1571, 1445, 1494, 1411, 1398, 1506.

In his time no other style was known for heroic composition, but that of the epopeia and that of the dithyrambic. As they suited the elevation of his ideas and sentiments, Æschylus, without enfeebling them, referred them to tragedy. Hurried away by an enthusiasm, which he was unable to govern, he lavishes epithets, metaphors, every figurative expression of the emotions of the soul, and whatever may give weight, strength, and magnificence to language, or animate and render it impassioned. Beneath his vigorous pencil, narrative, sentiments, and maxims, are changed into images, which are striking for their beauty or singularity. Of a man of consummate prudence, he says, (Sept. contr. Theb. v. 599.)—"He reaps those sage and generous resolutions, which spring in the deep furrows of his soul;" and he thus warns a free people early to watch over the conduct of a citizen dangerous from his abilities and his riches: "Beware how you nurse up a young lion, how you caress him while he yet fears you, or how you resist him when he is grown a stranger to fear." And yet these shining passages are sometimes accompanied by an obscurity, which arises not only from his extreme conciseness and the boldness of his figures, but also from new words with which he affected to enrich his style. The style of Æschylus is in general noble and sublime: in certain parts grand to excess, and pompous to inflation; but sometimes degraded and disgusting by ignoble comparisons, a puerile play on words, and other defects which are common to this author, with all those who possess more genius than taste. But notwithstanding his faults, he merits a distinguished rank among the most celebrated poets of Greece.

Æschylus adapted the dress of his characters, and the decorations of the theatre, to those impressions of grandeur which he wished to produce on the minds of the

auditors. As nature had given to heroes a lofty stature and impressed a majesty on their persons which commanded respect, Æschylus raised his actors on high stilts or buskins. He covered their features, which were often irregular and disagreeable, with a mask; he clothed them in flowing and magnificent robes, such as the priests of Ceres have not blushed to adopt. The inferior actors were also provided with masks and dresses suited to their parts. He also obtained a theatre, furnished with machines, and embellished with decorations. Here the sound of the trumpet was reverberated, the incense was seen to burn on the altars, the shades of the dead to arise from the tombs, and the furies to rush from the gulphs of Tartarus. At the sight of some of the dreadful spectres which he contrived, and the sound of their hideous howlings, it is said that terror seized on the whole assembly, women miscarried, and children expired with fear: and the magistrates were under a necessity of issuing orders, that the chorus should consist only of 15 actors instead of 50.

Æschylus paid particular attention to the performance of the actors, regulating their steps, and directing them to give additional force to the action, by appropriate and expressive gestures. He also instructed them more effectually by his example, as he performed with them in his pieces. Besides, he employed a person, called Telestes, who had brought the art of gesture to such perfection, that in the representation of the seven chiefs before Thebes, he performed with so much truth and expression, that his action might have supplied the place of words. See Athenæi Deipnosophist, l. i. p. 22. Ed. Casaub.

Æschylus also applied to tragedy the lofty modulations and impetuous rhythmus of certain airs calculated to excite courage, without adopting those innovations which began to disfigure the ancient music. His choral chant is full of grandeur and decorum, and constantly in the diatonic genus, which is the most simple and natural of all.

Quintilian (Inst. Orat. l. i. c. 1. tom. ii. p. 897) gives the following character of Æschylus, as a writer; "*Tragœdias primus in lucem Æschylus protulit, sublimis et gravis, & grandiloquus sæpe usque ad vitium, sed rudi in plerisque & incompositus, &c.*" Longinus (Ed. Pearce, p. 99.) says, that he had a noble boldness of expression, and that his imagination was elevated and heroic. Some have asserted that he never composed but when he had drunk freely; and by others he has been compared to Shakespeare for energy of sentiment and style, as well as for the expression of character and passion by the happy use of trivial circumstances. Horace describes the character of Æschylus in his Ars Poet, v. 282, &c.

"Post hunc personæ, pallæque repertor honestæ,
Æschylus, et modicis intravit pulpita tignis,
Et docuit magnunquē loqui nitique cothurno."

Æschylus, says a modern author, exhibits both the beauties and the defects of an early original writer. He is bold, nervous, and animated; but very obscure and difficult to be understood; partly by reason of the incorrect state in which his works have been transmitted to us, and partly on account of the nature of his style, which is crowded with metaphors, often harsh and tumid. He abounds with martial ideas and descriptions. He has much fire and elevation; less of tenderness than force. He delights in the marvellous. The ghost of Darius in the Persæ, the inspiration of Cassandra in Agamemnon, and the songs of the Furies in the Eumenides, are beautiful in their kind, and strongly expressive of his genius. Blair's Lect. vol. iii. p. 340.

Ælian informs us (Var. Hist. l. v. c. xviii. tom. i. p. 433. Ed.

Ed. Gronov.) that *Æschylus* was charged with impiety by the Athenians, and condemned to be stoned to death. The ground of the charge is not that which Hesiodus and Pausanias have supposed, viz. *Æschylus's* adopting the religion of the Egyptians rather than that of the Greeks, and pretending to say that *Dionysus* is the daughter of *Ceres*, and *Demeter* her mother; but more probably that when *Cleomenes Alex.* has stated (*Strom. l. ii. oper. tom. i. p. 467. Ed. Gronov.*) that *Æschylus*, being himself untried, profaned the theatre by expounding therein in one of his dramas on the issue of the trial, the Athenians were preparing to execute the sentence that was pronounced against *Æschylus*, when the teacher *Aristides* drew aside his cloak and presented his arm without a hand, which he had lost at the battle of *Salamis*, in defence of his country. This sight interested the compassion and honour of his judges, and induced them to revoke their decree and to pardon *Æschylus*.

Plutarch (in *Cimon. op. tom. i. p. 483.*) says, that *Æschylus*, being disgusted with the preference given to *Sophocles* in the contest for the prize of poetic merit, abandoned his country and went to reside in *Sicily*. There *Hiero* distinguished him with benefactions and honours; but he soon died, at the age of 69 years, ante *Christ.* 456. *Pliny* informs us, (*H. N. l. x. c. iii. tom. i. p. 547.*) that whilst he was walking in the field, in order to avoid a danger of which he was forewarned, with respect to the mode of his death, an eagle, hovering over him in the air, let fall a tortoise upon his head, for the purpose of breaking the shell, which instantly killed him. The following epitaph, composed by himself (for the original of which see *Pausanias, p. 35. Ed. Kuhnii.*) was engraved on his tomb:—"Here lies *Æschylus*, the son of *Euphron*, born in *Attica*. He died in the fertile country of *Gela*. The Persians and the woods of *Marathon* will for ever attest his valour." At the time when he wrote these lines, he was unquestionably disgusted with literary fame, and knew no glory more illustrious than that of arms.

The Athenians decreed honours to his memory; and authors who have intended to dedicate their talents to the theatre, have gone to offer libations, and to recite their works at his tomb. There are seven of his tragedies extant, of which the best edition is the folio of *Thomas Stanley*, published in 1663, with a Latin translation and learned Commentary. There have been many other editions, and also translations (See *Fabric. Bibl. Græc. tom. i. l. ii. c. xvi. p. 600—618.*) of these tragedies: *Potter's* translation, published in 4to. at London, 1777; and afterwards in 2 volumes, 8vo. deserves to be particularly mentioned. *Stanley*, in his *Life of Æschylus*, has mentioned several other persons of the same name.

ÆSCHYNOMENE, formed of *αἰσχνομεναι*, to be ashamed, because it retreats from the touch; bastard sensitive plant, in *Botany*, a genus of the *diadelphia decandria* class and order; and of the natural order of *papilionaceæ* or *leguminosæ*: the characters of which are, that the calyx is a one-leaved, bell-shaped, subbilabiate with equal lips, upper bifid, and lower three-toothed perianthium; the corolla papilionaceous, with subcordate, scarcely gaping, large banner, subovate, obtuse wings, shorter than the banner, and lunate, acuminate keel of the length of the wings: the stamina have 10 filaments, single and nine-cleft, and small anthers: the pistillum is an oblong, villous, columnar germen, the style subulate and rising, the stigmas simple, rather obtuse: the pericarpium is a long, flat, jointed, rough, one-celled legume, opening at the truncate joints; the seeds are solitary, between the joints, and kidney-shaped. *Martyn* enumerates

twelve species, viz. the *grandiflora*, *arborescens*, *coccinea*, *aspera*, *americana*, *indica*, *japonica* or *egyptiaca*, *pumila* or *dwarf*, *juncea*, *heterophylla*, *leguminaria*, and *cannabina*.

The 1st is a shrub, from 10 to 15 feet in height, a native of the East Indies, cultivated in *Jamaica*, and in *England* by *Miller*, in 1768. The seeds are agreeable to domestic birds.—The 2d grows to the height of six or seven feet, with a single stem, and bears large and copper-coloured flowers.—The 3d is a native of the East Indies, and of the islands *Otaheite* and *Huaheine* in the South Seas.—The 4th is a native of the East Indies.—The 5th is somewhat sensitive: during the night, and at the approach of rain, the leaves fold together. It is a native of *Jamaica*, and was cultivated in 1739 by *Miller*.—The 6th is a native of the East Indies.—The 7th is a native of *Egypt*, was cultivated in 1680, in the botanic garden of *Oxford*, and flowers in July and August.—The 8th is a native of the East Indies; and the 9th, of the West Indies.—The 10th and 11th are natives of *Cochinchina*.—And the 12th is a native of the East Indies, which may be treated as hemp and used for the same purposes. The first sort is with difficulty preserved through the winter in this country. The 2d, 3d, and 7th, may, like the first, be preserved through the winter in a warm stove, will flower early in the following summer, and their seeds will ripen in the autumn: they must be kept dry in winter, or else they are subject to rot. The 4th, 5th, 6th, and 8th species are annual, and must be brought forward early in the year, otherwise their seeds will not be perfected. All the sorts are propagated by seeds, which should be sown on a hot-bed early in the spring; and when the plants are strong enough to be removed, they should be put each into a separate small pot, filled with light earth, and plunged into a fresh hot-bed; and as they advance in growth, they should be shifted into larger pots; but care should be taken that the pots be not too large, which will prevent their thriving.

ÆSCHYNOMENOUS Plants, among *Botanists*, are those properly called *Sensitive plants*.

ÆSCULANUS, *Æres*, or *Æs*, in *Antiquity*, are different names given to the divinity who presided over the coinage of copper money. This *Æsculanus*, it is said, was the father of *Argentinus*, because copper was employed before silver; and *Argentinus*, the father of *Aurinus*, because gold money succeeded silver; and thus they had three divinities presiding over the coinage of the three principal metals. On some medals of the emperors there are found three goddesses, represented with balances, a cornucopie, and near them a piece of the different metals.

ÆSCULAPII Anguis, in *Zoology*, the name of a harmless species of serpent, common in *Spain* and *Italy*, called also *PARÆA*. The *coluber asculapii* of *Linnæus* has white and black bands, which are bisected by a white ring, and is found in both *Indies*.

ÆSCULAPIUS, in *Astronomy*, the ancient name for the constellation *OPHIUCUS*.

ÆSCULAPIUS, *Esculapius*, and as *Pausanias* calls him *Asclepius*, in *Mythology*, the god of medicine, was the son of *Apollo*, by the nymph *Coronis*, born at *Epidaurus*, and educated by *Chiron*, the preceptor of *Achilles*, who taught him to cure diseases of the most dangerous and desperate kind, and even to raise the dead. The history of *Esculapius*, like that of other deified heroes of antiquity, is involved in great obscurity, and many absurd and incredible stories are related concerning him. If we regard the reports of the people of *Epidaurus*, which is said to be the place of his nativity, as *Pausanias* has represented them; (*l. ii. c. 26. p. 170. Ed. Kuhnii.*) a shepherd, having

lost

lost his dog, and one of his she-goats, found them on a neighbouring mountain, near a child who shone with an extraordinary splendence, and whom the goat suckled, and the dog guarded. This child was Æsculapius. As he advanced in age and wisdom, he dedicated his days to the relief of the unhappy. The most dangerous wounds and maladies yielded to his operations, his remedies, his harmonious songs, and the magical words which he employed. The gods, it is said, pardoned him his excess; but as he dared to call the dead to life, Pluto complained, and Jupiter struck him dead with a thunder-bolt. See Pindar. Pyth. l. iii. v. 10. 92. p. 196. 201. Ed. West and Welfel. Diod. Sicul. l. iv. tom. i. p. 315. Ed. Welfel. Plin. H. N. l. 29. tom. ii. p. 493.

It is added, that Æsculapius was the disciple of Chiron, and having been entrusted with the secrets of his master, he communicated them to his sons Machaon and Podalirius, who after his death reigned over a small city in Thessaly. During the siege of Troy, they signalled themselves by their courage in the field of battle, and by their skill in the treatment of wounds (Homer Il. l. ii. v. 730. l. iv. v. 219. l. ix. v. 832.), the only part of the medical art that was much known in those remote ages. The children of Machaon, who was killed under the walls of Troy, followed the profession of their father, and settled in the country. They raised altars to their grandfather, and merited the same honours themselves by the services which they rendered to the human race. See Pausanias, l. ii. c. 11. p. 136. c. 23. p. 163. c. 26. p. 171. and 172. Ed. Kuhnii.

The founder of so respectable a family soon became the object of public veneration, though his advancement to the rank of gods must have been posterior to the time of Homer, who only speaks of him as a simple individual. In process of time divine honours were every where paid to him. At Epidaurus he had a famous temple, in which his statue, made of gold and ivory, by Thrasymedes of Paros, was placed on a throne of the same materials. It was crowned with rays with a knotty stick in one hand, and stretching out the other arm over a serpent, which seemed to raise itself up in order to reach it; and a dog lay at his feet. The Epidaurians instituted festivals and games, which were at first annually, (Plat. in Ion. tom. i. p. 530. Ed. Serrani.) and afterwards once in five years celebrated in honour of him. From Epidaurus his worship passed to the other cities of Greece, and even to distant countries. In all his temples votive tablets were hung up, on which were recorded the diseases cured by his assistance. This god was brought to Rome, by order of Apollo, when a pestilence raged in that city, in the times of the republic, under the consulate of Posthumus Megellus and C. Junius Brutus. About the year of Rome 462, the Sibylline books were consulted, and an embassy was appointed to bring the god from Epidaurus to Rome, who is said to have stolen away from his old worshippers under the form of a serpent; and on his arrival, to the great joy of the people, the plague soon ceased. On this occasion altars were erected along the banks of the Tiber, and numerous sacrifices were offered to the new deity. The Romans designed to erect a temple in honour of him, within the walls of the city; but the god who resided in the vicinity of Epidaurus, and not within the city, is said to have chosen his abode in the midst of the Tiber, on an island formed in the infancy of the republic by straw, trees, sand, and the rubbish of the city. Thither the serpent retired, and from that time the island was called the island of Æsculapius, and a temple was erected in the form of a ship, to which, as to the temple of

the god of health, the common people frequently repaired. The sick were restored to health, and in token of gratitude offered a cock to Æsculapius. Of this temple there were some remains in the 16th century, near the church of St. Bartholomew, in the island of the Tiber. From this time Æsculapius was honoured at Rome as one of the chief of their made gods. On coins, &c. he is crowned with laurel, in token of his descent from Apollo, and he is represented with a mild aspect, and with hair and beard not unlike those of the mild Jupiter: his right arm is bare, in order to denote his readiness for any operation; his left holds a stick, with a serpent twisted round it. He is sometimes seen accompanied by his wife Hygieia or health, with their son Telephorus, or convalescence, between them. The dog and cock have been reputed sacred to this deity on account of their vigilance; and the raven for his forecast. Statius, lib. iii. Sylv. iv. v. 25. Ovid. Met. l. xv. tom. ii. p. 1065. Ed. Burman. Sueton. in Claud. tom. i. p. 686. Ed. Pitisc. —Liv. Epitom. lib. xi. tom. iii. p. 197. Ed. Burman. —Plut. Quæst. Rom. tom. ii. p. 286. —Pausan. Corinth. l. ii. p. 171. Achaic. l. vii. p. 592, &c. Ed. Kuhnii. —Cicero, (de Nat. Deor. l. iii. c. 22. tom. ii. p. 635. Ed. Olivet.) mentions three deities called Æsculapius; the first the son of Apollo, worshipped in Arcadia, who invented the probe and bandages for wounds; the second, the brother of the second Mercury, killed by lightning; and the third, the son of Arisippus and Arinoe, who first discovered the art of tooth-drawing and purging.

Those who trace the origin of medicine, as well as the other arts and sciences, to the Egyptians, ascribe the invention of it to Toforthrus or Seforthrus, a king of Memphis, and the second of the third dynasty of Manetho, who was called Æsculapius on account of his great skill in that art. This prince was much more ancient than the Grecian Æsculapius, and though Africanus places him some years after Athothis, the successor of Menes, supposed to be the same with Thoth, or the first Hermes, yet others make them contemporaries, as they must have been if this Æsculapius was the same with the son of Sydye and the brother of the Cabiri.—Anc. Un. Hist. v. i. p. 246. 8vo.

ÆSCULUS, *Horse-Chestnut*, in Botany, a genus of the *heptandria monogynia* class and order, of the natural order of *tribulate*, and the *acera* of Jussieu. It is the *hippocastanum* of Tournefort, and the *pavia* of Boerhaave. The name æsculus is derived from *esca*, food; and the old names of *hippocastanum* and *castanea equina*, from the similitude of the fruit to that of the chestnut, and from its being given to horses. Its characters are, that the calyx is a one-leaved, ventricose, small and five-toothed perianthium: the corolla consists of five roundish petals, plaited and waving about the edge, flat, spreading, with narrow claws, inserted into the calyx, and irregularly coloured; the stamina have subulate, declining filaments, of the length of the corolla, and ascending anthers: the pistillum is a roundish germ, ending in a subulate style; the stigma acuminate: the pericarpium is a leathery, roundish, three-celled, three-valved capsule: the seeds are two and sub-globular. Van Royen de Necker and Miller observed both hermaphrodite and male flowers in this genus. There are three species, viz. the *Æ. hippocastanum*, or common horse chestnut; the leaves of which are digitate, with seven entire leaflets, and prickly capsules; the *Æ. flava* or yellow-flowered horse-chestnut, with leaves digitate with five leaflets, the laminae of the corolla cordate roundish, and the claws twice the length of the calyx; and the *Æ. pavia*, or scarlet horse-chestnut, which has flowers with eight stamina, digitate leaves with five or six serrate leaflets, smooth capsules,

pedicels, lobes of the corolla obsolete, and claws of the stamens slender; and the *M. parva*, with a long thick pedicel, and the calyx.

The *chestnut*, *Castanea sativa*, was brought from the south of France about the year 1538, and first cultivated in France about the year 1538. From America it was introduced into France about the year 1538, but it came to us from the East. It is distinguished by the beautiful pattern of its branches, the disposition and structure of its digitate leaves, and by the pyramidal bunches of its white flowers, variegated near the centre with yellow streaks. Although the tree is now left in esteem for its shade, and well thought formerly was, on account of the coldness of its leaves, it affords an excellent shade; and the spikes of flowers which appear in May, with the intermixture of large leaves, exhibit a noble appearance. The most eligible situation for these trees is in lawns and parks, where they may be planted singly, and where their fruit will be serviceable to the deer, who are fond of it. This tree is of quick growth; and in a few years it will afford a good shade in summer, and yield plenty of flowers. Trees, raised from nuts, have in 12 or 14 years become large enough to shade two or three chairs with their branches, and the foliage is covered with flowers. But the trees are of short duration, and the wood is of little value. It serves, however, for water-pipes, turner's ware, and fuel: and for these uses it is worth the charge of planting, and should be sown in November or December.

The *chestnut*, *Castanea sativa*, is propagated by sowing the nuts, after preserving them in sand during the winter, in order to prevent their rotting early in the spring. In this case the plants, in a proper soil, will shoot near a foot the first summer; and they may be transplanted, either in the following autumn, or in February and March, into the nursery, and set in rows at the distance of three feet, and one foot asunder, where they are to remain two years; and they will then be fit for planting where they are to continue. The most favourable soil for them is a sandy loam, inclining to moisture. The whole shoot of this tree is completed in less than three weeks after the buds are opened; and as soon as the flowers are fallen, the buds for the succeeding year are formed, which continue swelling till autumn, when they are overspread with a thick tenacious juice, that defends the tender buds from the winter frost; and on the return of warmth, the juice melts and runs off, and the buds are left at liberty to extend themselves. Of this tree there are varieties, with gold and silver striped leaves, which are increased by layers, and by budding or ingrafting them upon stocks of the common sort.

In Turkey the nuts of this tree are ground and mixed with the provender for their horses, especially those which are troubled with coughs, or are broken-winded; in both which disorders they are reckoned very good. M. Raimont, of Anjou, gave them, mixed with other food, to his cows; and they increased the quantity of milk, without injuring its quality; and he apprehends that if they were blanched and rased, or otherwise prepared, they might be given to hogs and poultry. Memoirs of the Royal Society of Agriculture at Tours, vol. i. p. 121.

Io. Jac. Zannichelli informs us, that after many trials he has found the bark to have the same effect as the Peruvian bark: and Dr. Fuchs, teacher of medicine at Iena, has prepared from the ripe fruit, divested of the husks, an extract, which, according to his experiments, may be used, perhaps, instead of the expensive *extractum chinae*. Its good effects, as a febrifuge, have been confirmed by many writers.

The *chestnut*, *Castanea sativa*, has been employed in France and Switzerland for the purpose of bleaching yarn: and it is recommended in the Mémoires of the Society of Bene, vol. ii. part 2, as capable of extensive use in whitening not only flax and hemp, but silk and wool. It contains an astringent saponaceous juice, which is obtained by peeling the nuts, and grinding or rasping them. They are then mixed with hot rain or running water, in the proportion of 20 nuts to 10 or 12 quarts of water. Wove caps and stockings were milled in this water, and took the dye extremely well; and successful trials were made of it in fulling stuffs and cloths. Linen washed in this water takes a pleasing light sky-blue colour; and the filaments of hemp, steeped in it some days, were easily separated. The Author of the memoir above referred to, imagines, that if the meal of the chestnuts could be made into cakes or balls, it would answer the purposes of soap, in washing and fulling. The sediment, after infusion, loses its bitter taste, and becomes good food for fowls when mixed with bran. The Edinburgh College have admitted the *horse-chestnut* into their Pharmacopœia of 1783, on the recommendation of Dr. Gardiner, who says, that three or four grains of the powder snuffed up the nostrils in the evening, operates next morning as an excellent sternutatory, and thereby proves very beneficial in obstinate inflammations of the eyes. A patent was granted in 1796, to Lord W. Murray, for his discovery of a method of extracting starch from horse-chestnuts. See STARCH.

The 2d species, or *yellow-flowered horse-chestnut*, is a native of North Carolina, was cultivated with us in 1764, and flowers in May and June.

The 3d species, or *scarlet horse-chestnut*, rises to the height of 20 feet, without much extending its branches; its bark is smooth, and the leaves, which are opposite, on long red petioles, are of a light green. The flowers, which are produced from the ends of the branches upon long naked peduncles, are much smaller than the common sort and wholly red: they appear in June, and are sometimes succeeded by fruit in England; but the seeds rarely ripen here. It grows naturally in Brasil, Carolina, Florida, Japan, and several parts of the east; and was cultivated with us in 1712. This tree may be propagated by the nuts, which must be procured from the countries where it grows naturally. They must be sown in pots early in the spring, and the pots should be plunged into a moderate hot-bed, and towards the end of May into the ground in a south-east border; and in dry weather the plants should be watered, and secured from early frosts. In the following spring they should be planted at the distance of a foot from each other, in a sheltered situation, and in the succeeding winter sheltered from cold by some light covering. The common method practised by the nurserymen, who propagate this tree for sale, is to graft or bud it upon stocks of the common horse-chestnut; but as the stocks greatly outgrow the bud or graft, the trees make a bad appearance, nor do they last long. Martyn.

ÆSEPIUS, in *Ancient Geography*, a river of Myfia, which Strabo (l. 12. t. ii. p. 847) on the authority of Homer, makes the boundary between Myfia and Troba. See ÆSAPUS.

ÆSERNIA, in *Ancient Geography*, *Ifernina*, a town of the Samnites, which was a Roman colony belonging to the Caracini between Aufidena north, and Bovianum south-east. It was not far from the river Vulturno. Silius Italicus (l. viii. v. 56) refers to it; and the appellation *Esernini* of Pliny (l. iii. c. 12.) is derived from it.

ÆSHNA, in *Entomology*, a sub-division of the UNOGATA, or fifth class of insects, by Fabricius, comprehending several species of the LIBELLULA of LINNÆUS, characterized by equal

equal lacinie or fringes of the lip. The species are,
 1. *L. or æ. minuta*, with a yellow abdomen, two black line, hinder wings yellow, and two black spots, found in China.
 2. *æ. clavata*, with a clavated abdomen, gibbous back, and body variegated with brown and green, found in China.
 3. *æ. maculata* or *variegata*, with two yellow lines on each side of the thorax, and a black spot at the base of the wings, found in Terra del Fuego.
 4. *æ. grandis*, with four yellow lines on the thorax and variegated body, found near the waters of Europe, and in the Sandwich islands.
 5. *æ. forcipata*, with a black thorax, various yellowish marks, and unguiculated tail, found in Europe.

ÆSICA, in *Ancient Geography*, is supposed to have been the present village of Netterby in Cumberland.

ÆSIS, *Æpis*, *Fiunice*, a small river of Italy, which separated the Senones from Picenum, and emptied itself into the Adriatic sea, near Ancona. See *Sil. Ital. lib. viii. v. 416*.

ÆSISIUM, a town of Italy, belonging to the Umbrians.

ÆSITÆ, a people of Arabia Deserta, placed by Ptolemy below the Cauchabeni.

ÆSIUM, called also Æsis, a town of Umbria in Italy, situate upon the western bank of the Æsis, which was the common boundary of Umbria and Picenum. In after-ages it received a Roman colony.

ÆSNECY, in *Law*, denotes priority of age among coparceners.

ÆSOLA, or ÆSULA, in *Ancient Geography*, a town of Italy, near the Tiber and not far from Pedom. It was situated upon a hill between the Tiber and Præneste; and according to Livy, who speaks of *Arx Æsulana* (l. xxvi. c. ix. t. iii. p. 1069. Ed. Burman.) it was a fortified place. It is mentioned by Horace (l. iii. od. 29.) and by Paterculus (l. i. c. 14.) as a colony; and Pliny also (l. iii. c. 9.) speaks of the Æsolani in his time, though no vestige of them now remains.

ÆSON, a town of Thessaly, founded by Æson, the father of Jason: and also a river of Thessaly towards Magnesia, near this town.

ÆSONA, or *Æfona*, a town of Spain, between the rivers Sicoris and Nuceria.

ÆSOP, in *Biography*, a native of Phrygia, who lived in the time of Solon, about the 51st or 52d olympiad, the first year of which coincides with the 572d before Christ, and during the reign of Cræsus the last king of Lydia. His condition was that of a slave, and his person was so deformed, that one of his masters found great difficulty in disposing of him, as every one who saw him was shocked at the unsightliness of his figure. He is also said to have been for a considerable time without the use of speech. His mental talents, however, compensated for his bodily defects, and commanded attention and respect notwithstanding the meanness of his condition. His first master was Demarchus, an Athenian, in whose service he is supposed to have acquired his purity in the Greek tongue. From him he was transferred to Xanthus, a Samian philosopher; and he was sold by Xanthus to Iadmon, who was likewise a Samian, and who granted him his freedom on account of his extraordinary abilities; others say that he became free by the favour of Rhodope, a celebrated courtesan. Having obtained his liberty, Æsop acquired very distinguished reputation, and was much esteemed by Cræsus, although in the first interview his deformity made an unfavourable impression on the mind of the king, who found the observation of Æsop, on another occasion, signally verified in his own case, *viz.* that we ought not to consider

the form of the vessel, but the quality of the liquor which it contains. Phædrus (l. i. fab. 2.) informs us that he made several voyages into Greece, either for his own pleasure, or upon the affairs of Cræsus; and being at Athens soon after Pisistratus had usurped the sovereignty and abolished the popular government, and observing the impatience of the Athenians under this new yoke, he repeated to them the fable of the frogs who demanded a king from Jupiter. In order to account for the miseries of human life, Æsop used to say, that when Prometheus formed man of clay, he tempered the materials with tears. As to the time of Æsop's death, Eusebius and Suidas refer it to the 54th olympiad, but this date is not consistent with the occasion to which Phædrus ascribes the fable of the frogs; for Pisistratus assumed the sovereignty of Athens in the first year of the 55th olympiad. In Blair's Tables, his death is fixed to about the year before Christ, 561. The manner of his death is thus related by Plutarch, in his treatise *de his qui sero à nomine puniuntur*, (apud Oper. tom. ii. p. 556. Ed. Xylandr.) Having gone to Delphos, by order of Cræsus, with a large quantity of gold and silver, to offer a costly sacrifice to Apollo, and to distribute a considerable sum amongst the inhabitants, a quarrel arose between him and the Delphians, which induced him to return the money, and to inform the king that the people were unworthy of the liberal benefaction which he intended for them. The inhabitants of Delphos, thus incensed, charged him with sacrilege, and having procured his condemnation, precipitated him from a rock and occasioned his death. Apollo punished them for this act of violence with pestilence and famine; and in order to avert these evils, it was proclaimed in all the assemblies of Greece, that if any one, for the honour of Æsop, would claim vengeance for his death, they would give him satisfaction. A relation of Iadmon, a former master of Æsop, presented himself, says Herodotus (l. ii. p. 168. Ed. Wesfeling.) and obtained satisfaction; and thus the Delphians were rescued from the pestilence and famine by which they were distressed. The Athenians afterwards erected a noble statue, executed by Lysippus, to the honour of this ingenious and learned slave, in order to let all the people know, as Phædrus (lib. ii.) observes, that the path of honour was alike accessible to all mankind; and that it was not to birth, but merit, they rendered this distinguishing honour.

“Æsopo ingentem statuam posuere Attici,
 Servumque collocarunt æterna in basi,
 Patre honoris scirent ut cunctis viam,
 Nec genere tribui, sed virtuti gloriam.”

Æsop, it is said, composed his fables, in order to alleviate the hardships of servitude; and it has been generally supposed that he was the first author or inventor of this species of composition: and thus Phædrus (Prol. ad lib. i.) represents him:

“Æsopus auctor quam materiam reperit,
 Hanc ego polivi versibus senariis.
 If any thoughts in these Iambics shine,
 Th' invention's Æsop's, and the verse is mine.”

But Quinctilian (Inst. Orat. l. v. c. 11. tom. i. p. 441.) ascribes the honour of the invention to Hesiod, who is known to have lived 130 years before the time of Æsop: and he speaks of them as admirably adapted to delight and captivate the minds, particularly, of the vulgar and uninformed. Æsop, however, improved this kind of writing, and adopted a variety of images, which combine the agreeable with the instructive, and communicate practical precepts in a familiar and impressive manner. To this purpose

[illegible][illegible]

Tab. Hist. Græc. tom. i. p. 491. has enumerated nine other poets under the name of *Alciph.* Of these, one was a Greek poetess, who wrote a romantic history of Alexander the Great; but it is not known at what time he lived.

Another of them was,

Ætæus (Ætæus) a celebrated tragic actor, who lived about the 670th year of Rome, and amassed great wealth by the exercise of his profession. Plutarch (in Cicero. Op. tom. i. p. 863.) informs us, that Cicero studied action under the instruction of Ætæus, as well as that of Rofcius, and in speaking of this performer, he says, that he entered into his part to such a degree as to be sometimes transported beyond the power of self-government. Accordingly, whilst he was representing the deliberation of Atreus, who wished to revenge himself on Thyestes, he smote one of the servants that happened to cross the stage, with his truncheon, and laid him dead at his feet. Ætæus lived in the most luxurious and extravagant manner; and Pliny (N.H. l. x. c. 51. tom. i. p. 571. Ed. Hard.) says, that at one entertainment he had a dish, which cost 100 sesterces, or about 872 pounds sterling, and the dish consisted of singing and speaking birds, some of which cost six sesterces, or about 52s. each. At the dedication of Pompey's theatre, U. C. 697, Ætæus, when he was attempting to amuse the spectator in his usual manner, was obliged to stop short in a sentence on account of the failure of his voice; so that he was, probably, then in the decline of life. The son of this Ætæus was more luxurious than his father; for he is said, on a particular occasion, to have dissolved pearls for his guests to swallow. See Val. Max. l. ix. c. i. num. 2. Pliny N. H. l. ix. c. lix. tom. i. p. 524. Ed. Hard. Horace (Sat. iii. lib. ii. v. 249, &c.) speaks only of one pearl of great value, which he dissolved in vinegar and drank :

“ Filius, Elégi detractam ex aune Metellæ,
Sed et ut decies solidum abfisteret, aceto
Dion insignem hancam: qui junior, ac si
Illud idem in rapidum flumen, iaceretis cloucam?”

Arg. reticulata, 10 lines in profundi, 1. said to have died
weight of 100 thousand and sixty thousand pounds. Macrob.
Saturn. l. ii. c. x.

TRITOPUS, in *E. n. 10*, a species of PAPILIO, with the wings black, and the upper part, a white spot, and underneath blue and variegated; the *Lepus Tritop* of Drury; found in India.

ASPING, in Zoology, the common chagla of Linnaeus,

: For the of viper, found in Sweden, resembling the Aspid, but smaller than that species. I cannot question whether it may not be the same. Its bite is venomous, and in some cases has proved fatal. *Conte de la Cepede*, in the second volume of his *Histoire Naturelle des Serpens*, &c. recommends the juice expressed from the leaves of the aloe as a specific against it.

ESUTH, in *Ancient Geography*, a people of Germany, near the borders of Prussia and Poland. They are represented by Tacitus (*De Mor. German. cap. x. lib. i. p. 68. Ed. Gronov.*) as resembling the Saxons in their customs and manners, and the Britons in their language.

ESTIMATIO *Cypri*, in our ancient law-books. See *WERT*, and *WERTLAGE*.

King Athelstan, in a great assembly held at Exeter, decided what penalties were to be paid *pro afflictione antike*, for offence committed against several persons according to their degrees: the *dimissio* of the king's head to be 5000 thrymde; of an archbishop, or satrapa, or prince, 1500; of a bishop, or a senator, 800; of a priest, or a thane, 2000, &c.

FESTIVAL, or **EsRIVAL**, of or belonging to summer.

Thus, we say, the *afflival* SOLSTICE, &c. in opposition to *lunival*.

Æstival point is that whereby the sun's ascent above the equator is determined.

Æstival signs are those extended from the summer solstitial point, *i. e.* the sun's greatest declination northward, to the intersection of the ecliptic and equinoctial southward, including Cancer, Leo, Virgo.

ÆSTIVATION, in *Botany*, a term expressing the state of the bud in summer, and used by Linnæus to denote one of those circumstances which constitute the HABIT of plants.

ÆSTRIANS, in *Ancient Geography*, the inhabitants of a district of Macedonia, the chief city of which was formerly called *Æstrum*.

ÆSTUARIUM, a town of Spain, between Noega and Salia.

ÆSTUARY, ÆSTUARIUM, in *Geography*, an ARM OF the SEA, running up a good way into the land.

Such is Bristol channel, many of the friths of Scotland, &c. See BAY.

ÆSTUARY is sometimes also used in *Pharmacy*, for a vapour bath, *balneum vaporosum*.

ÆSTUARY, in the *Ancient Baths*, was applied to the occult passages, or openings from the *hypocaustum*, or stove, penetrating into the chambers. Pitisc. Lex. Ant.

To such a passage in the house of Pompeia, Statius refers.
(Sylv. lib. i. c. 5. v. 58.)

—“Ubi languidus ignis inerrat

Ædibus, et tenuemvolvunt hypocaufta vaporem."

ASYMMETRIC *monarchy*, among *Ancient Writers on Government*, denotes a limited elective monarchy. *Arist.* *Pol.* c. 10. The word is formed from *ασυμμετρον*, *regno, I govern*.—An *asymmetric* state stands opposed to a barbaric, or hereditary one.

ÆSYMNIUM, in *Antiquity*, a monument erected to the memory of the deceased heroes, by Æsymnus the Megarean. Upon consulting the oracle at Delphos, how the country might prosper and enjoy the most auspicious government, he received for answer, that it would be most likely to prosper if it followed the counsel of the most numerous: and understanding the oracle to refer to the dead, he built this monument and encompassed it with a council-house; and thus the Megareans hoped to obtain wise and salutary counsel. See *Paulan. Attic.* l. i. p. 104. Kuhnii.

ÆTÆEI.

ÆTEEI, in *Ancient Geography*, a people, according to Ptolemy, of Arabia Felix.

ÆTARA, a town of Africa, placed by Ptolemy between the town of Tabraca and the river Neptages.

ÆTATE *probanda*, in *Law*, a suit that lay to inquire whether the king's tenant, holding in chief by knightly, were of full age to receive his lands into his own hands. It was directed to the escheator of the county; but is now disused, since wards and liveries are taken away by the Statute Car. II. Reg. Orig. 294.

ÆTH, or **ATH**, in *Geography*, a strong little town of the county of Hainault, in the Austrian Netherlands, situate on the river Dender, about 20 miles south-west of Brussels. It had formerly an abbey of nuns, and some good linen manufactures.

ÆTHIÆA, a town of Laconia.

ÆTHALE, in *Natural History*, a name given by some writers to the *calmia formicaria*, or **TUTTY**.

It had this name from its being the concreted foot, or vapour of the *lapis calaminaris*, and copper, melted together, in the making of brass.

ÆTHALLIA, or **ILVA**, now *Elva*, in *Ancient Geography*, an island on the coast of Etruria, about 100 miles in compass, and abounding with iron. It was so called from *αἴθων*, smoke, issuing from the shops of Vulcan.

ÆTHALIDÆ, a people of Attica, in the tribe of Leontides.

ÆTHALOEIS, a town of Myſia, east of mount Ida, and south of Scepsis.

ÆTHELING, in *British History*. See **ATHELING**.

ÆTHER, in *Physiology*, is usually understood of a thin, subtle matter, or medium, much finer and rarer than air; which, commencing from the limits of our atmosphere, possesses the whole heavenly space.

The word is supposed to be formed from the verb *αἶωω*, to burn, to flame; some of the ancients, particularly Anaxagoras, supposing it of the nature of fire.

The philosophers cannot conceive that the largest part of the creation should be perfectly void; and therefore fill it with a species of matter under the denomination of æther. —But they vary extremely as to the nature and character of this æther. —Some conceive it is a body *sui generis*, appointed only to fill up the vacuities between the heavenly bodies; and therefore confined to the regions above our atmosphere. —Others suppose it of so subtle and penetrating a nature, as to pervade the air, and other bodies; and posside the pores and intervals thereof. —Others deny the existence of any such specific matter; and think the air itself, by that immense tenuity and expansion of which it is found capable, may diffuse itself through the interstellar spaces, and be the only matter found in them.

In effect, æther being no object of our sense, but the mere product of imagination, introduced only for the sake of hypothesis, or to solve some phenomenon, real or imaginary; authors take the liberty to modify it how they please. —Some suppose it of an elementary nature, like other bodies, and only distinguished by its tenuity, and the other affections resulting from it; which is the philosophical æther. —Others will have it of another species, and not elementary; but rather a sort of fifth element, of a pure, more refined, and spirituous nature than the substances about our earth; and void of the common properties of matter, as gravity, &c. —Such is the ancient idea of æther or æthærial matter.

The term æther being thus embarrassed with a variety of ideas, and arbitrarily applied to so many different things, the later philosophers choose to set it aside; and accord-

ingly, the Cartesians use the term *matéria subtilis*, which is their æther; and Sir Isaac Newton sometimes a *subtile spirit*, as in the close of his Principia; (apud Oper. tom. iii. p. 174. Ed. Harl.) and sometimes a *subtile* or *æthærial medium*; as in his Optics. (Quæries 18—24, apud Oper. tom. iv. p. 223—226. See also his letter to Mr. Boyle, apud Oper. tom. iv. p. 385, &c.)

The truth is, there are numerous considerations, which seem to evince the existence of some matter in the air much finer than the air itself. There is an unknown something which remains behind when the air is taken away; as appears from certain effects which we see produced *in vacuo*. —Heat, Sir Isaac Newton observes, is communicated through a vacuum, almost as readily as through air; but such communication cannot be without some interjacent body, to act as a medium. And such body must be subtle enough to penetrate the pores of glass; and may be very well concluded to penetrate those of all other bodies, and consequently be diffused through all the parts of space; which answers to the full character of an æther. He supposes that it is rarer in the pores of bodies than in open spaces, and even rarer in small pores and dense bodies than in large pores and rare bodies; and also, that its density increases in receding from gross matter, so as to be greater, e.g. at the $\frac{1}{100}$ th of an inch from the surface of any body than at its surface; and so on.

The existence of such an æthærial medium being settled, that author proceeds to its properties; inferring it to be not only rarer and more fluid than air, but exceedingly more elastic and active: in virtue of which properties, he shews, that a great part of the phenomena of nature may be produced by it. The elastic force of this medium, in proportion to its density, according to his mode of estimating it, must be above 700000 $\times$ 700000 times greater than the elastic force of the air in proportion to its density. If, he says, any one should suppose that æther, like our air, may contain particles which endeavour to recede from one another, and that its particles are exceedingly smaller than those of air, or even than those of light; the exceeding smallness of its particles may contribute to the greatness of the force, by which those particles may recede from one another, and thereby make that medium exceedingly more rare and elastic than air, and by consequence exceedingly less able to resist the motions of projectiles, and exceedingly more able to press upon gross bodies by endeavouring to expand itself. The resistance of this medium, he supposes, to be very inconsiderable. If this æther should be supposed 700000 times more elastic than our air, and above 700000 times more rare, its resistance would be above 600000000 times less than that of water; and a resistance so small would scarcely make any sensible alteration in the motions of the planets in 10,000 years.

To the action of this medium he ascribes the attractions of gravitation and cohesion, the attractions and repulsions of electrical bodies, the elastic force of the air, and of nervous fibres, and the emission, refraction, reflection, and other phenomena of light, the effects and communication of heat; as also sensation, muscular motion, &c. In fine, this same matter seems the *primum mobile*, the first source or spring, of physical action in the modern system.

The Cartesian æther is supposed not only to pervade, but adequately to fill all the vacuities of bodies; and thus to make an absolute *plenum* in the universe. See **MATERIA subtilis**.

But Sir Isaac Newton overturns this opinion, from divers considerations; by shewing that the celestial spaces are void of all sensible resistance: for, hence it follows, that

ÆTHIOPS, in *Pharmacy*, a name given to certain metallic preparations of a dark colour; and though the term is at present superseded, it is yet too familiar to chemists to be wholly omitted. There are four pharmaceutical articles of this name, æthiops antimonialis, æthiops martialis, æthiops mercurii per se, and æthiops mineralis.

ÆTHIOPS antimonialis, is a combination of the sulphurets of antimony and mercury; the old way of preparing it is, to mix together equal parts of common salt and crude antimony, and flux the mass in a crucible; when cold there will be found a dusky scoria, resting upon a metallic looking substance, which is the crude antimony nearly in the same state as at first. The scoria being separated, the antimony is to be ground with an equal weight of mercury till they are well united. The first part of this process seems wholly unnecessary, and accordingly the antimonial æthiops is generally made by trituration of crude antimony with an equal weight of mercury. A still more expeditious and equally efficacious way of preparing this medicine, is to fuse some crude antimony in an earthenware crucible, and when it is upon the point of fixing, to add to it an equal weight of hot mercury; the mixture immediately becomes more fluid, and after a while becomes solid: when cold it must be levigated in a mortar, and washed. Sometimes, instead of crude antimony, the golden sulphur of this metal is made use of.

The medical effects of antimonial æthiops are chiefly as a sudorific in small doses, and as a purgative and emetic in larger ones. It has been exhibited with effect in old inveterate cases of hæs, scrophula, and glandular obstructions, but on account of the irregularity of its action, is now fallen much into disuse. The pilulæ æthiopicæ of the late Edinburgh pharmacopœia, were composed chiefly of mercury and golden sulphur of antimony, but in the last edition of this as well as of the London pharmacopœia the æthiops antimonii is wholly omitted. New Dispensatory, 1765. p. 545.—Lewis's Mat. Med. vol. i. p. 161.

ÆTHIOPS Martialis, *Jafan de Mars de Lemery*, is a pure magnetic oxyd of iron, and was first introduced into the materia medica by the younger Lemery; he directs it to be prepared in the following manner. Into a large glass basin put a few pounds of clean unruisted iron filings, then add a sufficient quantity of water to cover them to the depth of five or six inches: this mixture is to be stirred up with an iron spatula, two or three times a day, and fresh water to be supplied in proportion to the evaporation; at the end of five or six months almost the whole of the iron will be converted into a black fine powder which remains suspended in the water for some seconds after agitation. The water thus rendered turbid is to be decanted into a cucurbit or retort, and allowed to repose till the whole of the iron is deposited; the supernatant clear liquor must then be poured off, and the remaining moisture evaporated by the heat of a sand-bath, care being taken to prevent the access of air to the powder while drying; if the process has been well conducted, the result is a pure black pulverulent magnetic oxyd of iron; as however by moisture and contact with the atmosphere, it soon passes into the state of yellow oxyd, it is necessary to keep it in a dry well closed vial. M. Lemery, the inventor of this preparation, as is usual in similar cases, strongly maintained its superiority over all the other medicinal forms of iron; the tediousness of the process, however, has prevented its use from being very general: it certainly possesses in a high degree the tonic properties which characterize the salts and other preparations of iron, but is superseded in both the British pharmacopœias

by the *rubigo ferri*. *Beaumé Chymie. Experim. vol. ii. p. 547.* *Beaumé Elements de Pharmacie, p. 137.* *Macquer's Chem. Dictionary. Art. I. p. 110.*

ÆTHIOPS Mercurii per se, *Æthiops alba*; by this name is distinguished in the German pharmacopœias an imperfect oxyd of mercury prepared by triturating the metal with gum arabic, or any other simple mucilage, or by long continued agitation in contact with atmospheric air. Even when all possible care has been taken, this is a very imperfect mercurial oxyd, and in common the metal is merely reduced to a fine state of division. *Locke* recommends it in a dose from half a scruple to half a dram, either alone or united with jalap, in buboes, gonorrhœa and other cutaneous affections of a venereal kind, and also in inflammations of the liver; and it has been successfully administered in intermittent fevers. *Gmelin's App. Med. vol. ii. p. 145. vol. iii. p. 124.*

ÆTHIOPS Mineralis.—*Æthiops mineral*.—*Hydargyri sulphuratus niger*.—*Edin. Pharmac.* *Hydargyri cum sulphure*.—*Lond. Pharmac.* This is directed by the London and Edinburgh Dispensatories to be prepared by trituration in a glass or marble mortar equal parts of sulphur and mercury, or one part of the former, and two of the latter, till they have united into an uniform black powder. Notwithstanding, however, the directions of the college, the æthiops is in fact generally made by stirring mercury into melted sulphur, and then pulverizing the mass; by which manipulation much time is saved: a method equally expeditious, and perhaps upon the whole preferable to this, is to mix a solution of sulphurated alkali with the mercury and sulphur, in which case the two combine very readily by simple trituration, and by subsequent washing, the alkali is easily got rid of. *Æthiops mineral* is, therefore, mercury at its minimum of oxydation, saturated with sulphur: it is one of the least active of the mercurial medicines, and is used in conjunction with tin filings as a vermifuge, and in some cutaneous diseases. If the combination of the mercury and sulphur is perfect, it will not whiten the surface of gold when rubbed upon it. *Lond. and Edin. Pharmacop.*—*Lewis's Mat. Med. vol. i. p. 148.*—*Beaumé Chymie. Experim. vol. ii. p. 456.*

Authors are not agreed as to the merits of æthiops mineral. *Cheyne*, and many more, commend it highly. It has been prescribed for the worms, and for crudities and acrimony of the humours: and by some persons it has been reputed infallible against the itch and other cutaneous diseases. *Gmelin's App. Med. vol. ii. p. 129.* *Boerhaave*, on the contrary, and some others, reject it as useless. He says that it cannot enter the absorbent vessels, the lacteals, or lymphatics, but passes directly through the intestinal tube, where it may happen to destroy worms, if it operates luckily. Those are deceived who expect any other effects from it. He adds, that it is unwarily given, in large quantities, to children and persons of tender constitutions, as being a foreign mass, unconquerable by the body, and the more to be suspected, as it continues there for a long time sluggish and inactive.

The æthiops, as it is now prepared; with a double proportion of mercury, is more likely to produce effect than the inactive preparation formerly used.

ÆTHIOPS vegetabilis, is formed by burning the seaweed, or sea-oak, the *Fucus vesiculosus* of *Linnaeus*, in the open air, and then reducing it into a black powder. It is sometimes used to remove scrophulous swellings.

Dr. Russell recommends it as an useful assistant to seawater in the cure of disorders of the glands, when taken in the

the quantity of a dram; and he says, that, as an internal medicine, it is very proper to the Sticliall and Sticli; and, as an external one, it is beneficial for correcting the humors, and that its detergent virtue appeared in its use in cleaning the teeth. See Murray's App. Med. vol. v. p. 540.

Æthiops, in *Medicine*, formed of equal parts of mercury, and of *Mercurius*, is recommended in an occasional dose of half a dram, as an antidote to the tania. Gmelin's App. Med. vol. ii. p. 132.

Æthiops, is also a name given to several compositions, which are distinguished by epithets founded on the uses to which they are applied: as *Æ. antiphlogistica*, formed of mercury extinguished by balsam of Peru, of Canada or of Copaiva, and which is said by Astruc to afford relief in several species of phthisis: *Æ. antirheumaticus*, consisting of mercury ground and uniformly mixed with gum guaiacum, which is recommended in the rheumatism and gout: *Æ. antispasmodicus*, composed of quicksilver well mixed with juniper gum or sal ammoniac, which promotes the excretion of urine as well as the insensible perspiration: and *Æ. purgans* formed with manna or jalap into an uniform powder, and recommended as a laxative, and for destroying intestine worms. Gmelin's App. Med. vol. i. p. 115.

Æthiops, in *Entomology*, a species of the CERAMBYX, black, with a spinose thorax, and with the two bands of the elytræ, and the point of the apex yellow, and middle-sized antennæ, found at the Cape of Good Hope. *Æthiops* is also a species of the CARABUS, wholly black, found at Berlin, and a species of the CIMEX, black, with a ridge on the middle of the thorax, and black spinose tibiae, found at Capri. *Æthiops* is also a species of PAPILO, with black wings; the primores marked with three white bands, and cerulean spots on the upper part, and the posterior with two longitudinal pale furrows at the base, and a transverse ridge, with five cerulean points; found out of Europe. *Æthiops* is also a species of APIS, or the black bee, with the margin of the segments of the abdomen white; found in America. *Æthiops* is also the hairy black MUSCA, with black wings, white at the apex; two points, and a silvery anus; found in Italy.

Æthiops, in *Natural History*, a species of the TURBO, with the shell transversely furrowed and black; the first windings are nearly striated; the succeeding ones are of a silvery brightnefs, with the lip and limb brown; the aperture is dilated.

Æthiops fulica, in *Ornithology*, is the wholly black FULICA or coot of Sparman.

Æthiops Simia, in *Zoology*, the white eye-lid APE of PACHIT, and MANGABLY of Buffon.

Ætholices, in *Physic*, derived from *ætho*, to inflame, is a name given to superficial pustules, or boils in the skin, occasioned by heat.

Æthon, in *Mythology*, formed of *ætho*, to burn, one of the four horses of the sun, which caused the fall of Phaeton, according to Ovid. Claudian calls one of the horses of Pluto's chariot by the same name, from *ætho*, black.

Æthra, in *Geography*, a river of Sweden, called also *TAJENBERG*.

Æthria, a name formerly given to the island of RHODUS.

Æthusa, *Agrostis longior*, in *Botany*, a genus of the pentandria digynia class and order; and belonging to the natural order of *umbellata* or *umbellifera*: the characters are, that the calyx is an universal spreading umbel, with the rays gradually shortening towards the middle, and the par-

tid is also spreading but small; having no universal involucre, and the partial one placed on the outside, and consisting only of three very long, linear, pendulous leaflets; and the proper perianthium scarce observable: the universal corolla is nearly uniform, with all the floscules fertile, and the partial has the petals bent in, heart-shaped and unequal: the stamens are simple filaments with roundish anthers: the pistillum is an inferior germ, and the styles are reflex with obtuse stigmas: it has no pericarpium, and the fruit is roundish, streaked and bipartite: the seeds are two, roundish, streaked, except on a third part of the surface, which is plane. There are four species, viz. 1. *Æ. cynapium*, common fool's parsley, or *liffir hembel*, which is a common weed in fields and kitchen gardens, and in a slight degree poisonous. It is easily distinguished when in flower, or in July and August, from true parsley and chervil, by the three narrow pendent leaflets of the involucre, placed on the outer part only of the umbel, and by its being a much humbler plant than either of the others. The leaves also, in an earlier state, are of a different form and a darker hue, and when bruised emit in a slight degree a disagreeable venomous smell. The safest way to avoid doubt or danger is to cultivate the curled parsley. Most cattle eat it, but it is said to be noxious to geese. 2. *Æ. Bunius*, or *Montana*, coriander-leaved fool's parsley, which is a native of the Pyrenees. La Marck thinks this species should be joined to the SESSELI. 3. *Æ. Mium*, *Spiguel*, *Mium*, or *Baldmoney*, which grows wild in the mountains of Switzerland, Germany, Austria, Carniola, Italy and Spain, and also in the high pastures of Westmoreland, Cumberland, Lancashire, and Merionethshire. This is the *Mium umbellatum* in Dr. Smith's arrangement of British plants, vol. i. p. 308. The roots and seeds are aromatic and acrid, and recommended as carminative and stomachic in asthmas and obstructions of the lungs, in the stone, stoppage of urine, and all uterine disorders: and the infusion both of the roots and the seeds is sometimes given to cure intermittent fevers both in England and amongst the inhabitants of the Alps. *Spiguel* is also an ingredient in Theriaca and Mithridate, and appears to be of the same nature with lovage. The difference betwixt the roots is most considerable in the extracts by water, that of the spiguel being unpleasantly bitterish, with little or nothing of the sweetness of that of the roots of lovage. The spirituous extract of *Spiguel*, more aromatic than that of the lovage, is moderately warm, bitterish and pungent. Lewis's Mat. Med. Dioscorides and Galen tell us, that the too frequent use of this medicine, or too large doses of it, will occasion violent pains in the head. It may be given in substance from half a dram to two scruples, or from a dram to two drams in infusion. Geoffrey Mat. Med. vol. ii. p. 105. 4. *Æ. fatua*, fine-leaved fool's parsley, was introduced here in 1781, and flowers in August or September. Its native climate is not known. La Marck has joined to this genus the *PHYLLANDRIUM mutellina* of Linnæus. The first species is annual, and may easily be kept down in gardens, by not suffering it to seed; the second may be propagated by seeds, and flowers in July; the third and fourth are hardy perennial plants, and may be increased by parting the roots at Michaelmas, or sowing the seeds soon after they are ripe in July and August; and keeping the plants in a shady situation and moist soil. Martyn's Miller's Dict.

Æthusa. See *ÆGUSA*.

Æthya, in *Ornithology*, a name by which the old authors have called one of the web-footed fowl, seeming to be the UTAMANIA of Crete, or the common AUK or RAZOR-BILL.

ÆTHYSSEIS,

ÆTHYSSEIS, a people of Lebia near Marmarica.

ÆTIANS, **ÆTIANI**, in *Church History*, a sect or branch of **ARIANS**, so called from their leader **ÆTIUS**, in the fourth century.

The *Ætians* were of the stricter kind of Arians, who held that the Son and Holy Ghost are in every respect dissimilar to the Father. Whence also they are called *Antai* and *Heterotai*; sometimes *pure Arians*.

The profession of this doctrine was contrary to an established law of the emperor Constantius, who had decreed, "that no man should say, that the Son of God was of the same substance with God, or of a different substance, but that he was in all things like to him that begot him." By such nice distinctions were the consciences of mankind directed and guarded; and the freedom of religious inquiry restricted; and the slightest deviation from the prescribed rule exposed them to exile and other similar penalties.

ÆTINIUM, in *Ancient Geography*, a town, placed by Ptolemy, in Macedonia, and which, he says, belonged to the *Ætians*, but as they inhabited Thessaly, its situation is not well ascertained.

ÆTIOLOGICAL, something that assigns the cause of an effect, or appearance.

ÆTIOLOGY, in *Medicine*, a *rationale*, or discourse of the cause of a disease, or it is that part of **PATHOLOGY**, which is employed in exploring the causes of diseases. The word is compounded of *aitia*, *cause*, and *logos*, *discourse*. In this sense, we say, the *ætiology* of the small pox, of the *hydrophobia*, of the gout, the dropsy, &c.

ÆTIOLOGY is used for a figure in *Rhetoric*, whereby, in relating an event, we assign also the cause of it. In which sense, *ætiology* differs from *color*, as the former assigns the true cause, the latter only a feigned or specious one.

The sceptics were professed opponents of all *ætiology*, or argumentation from causes.

ÆTION, in *Biography*, an eminent painter, whose picture of Roxana and Alexander was exhibited at the Olympic games. It represents a magnificent chamber, in which Roxana is seated on a bed, with a modest and confused aspect, whilst Alexander is standing before her. Several Cupids are fluttering about her; some of whom hold up the curtain, others undress the lady, and others again present Alexander to his mistress, at whose feet he lays his crown, being accompanied by Ephefion with a torch in his hand, and leaning upon a youth who represents Hymen. Other Cupids appear in different attitudes and situations. This picture gained *Ætion* such a degree of reputation, that the president of the games gave him his daughter in marriage. *Ætion* is mentioned with distinguished respect by Cicero, *De claris orat. ap. op. tom. i. p. 395. ed. Olivet.*

ÆTITES, or *eagle-stone*, in *Natural History*, a flinty or crustated stone, hollow within, and containing a *nucleus*, which, on shaking, rattles within. It was formerly in repute for several extraordinary *magical*, as well as *medical* powers; such as preventing abortion, discovering thieves, and other ridiculous properties.

The word is formed from *aitis*, *eagle*; and by the Italians this stone is called *pietra d'aquila*: the popular tradition being, that it is found in the eagle's nest, whither it is supposed to be carried while the female sits, to prevent her eggs from being rotten. Matthioli says, that birds of prey could never hatch their young without it, and that they go in search of it as far as the East Indies. Bausch has written a Latin treatise on the subject.

The *lapis ætites* is found in several parts: near Trevoux in France, one can scarce dig a few feet, without finding

considerable strata or beds, of the coarse or ferruginous kind.—They are originally soft, and of the colour of yellow ochre.

But the finest and most valued of all the eagle-stones, are accidental flates of one or other of our common minerals. These are so far from being a peculiar species of fossil, though usually accounted such, that they are not determinately of any one species of pebble. That, however, which most usually furnishes them is the brown-centered pebble, with whitish, bluish, and brown crusts. The plain history of this remarkable fossil is this: the central nucleus of many species of pebbles, peculiarly of this, is coarser than the rest of the stone, that is, it is made up of more earth and less crystal: the natural consequence of which must be, that being of a more loose and rare texture, it is in drying more apt to shrink than such masses as are composed of a harder and purer matter. The central nucleus in this species is also surrounded with a whitish crust, of a more loose texture, and more subject to shrink in drying than even the nucleus itself; and being composed of more earth and less crystal, is also more friable and soft. The outer circles of this stone are of a much harder substance. Whenever the earthy matter in the nucleus, and first crust of this pebble, a little exceeds its just proportion, the consequence will be, that the stone will become an *ætites*: for the nucleus shrinking and contracting itself to a small size on the evaporation of its fluid matter, must separate itself from its first crust, and that also shrinking, must be drawn backward toward the other crusts; whence the cavity will become larger between that and the nucleus, and consequently, the nucleus will rattle in it when the stone is shaken. The pebble in this state having been afterwards rolled about by waters, the nucleus has by rolling broken to pieces all the inner crust, and is usually found in the hollow of the stone, buried in a large quantity of a whitish powder. These eagle-stones are not uncommon in our gravel-pits, but being by their hollowness rendered less strong than the solid pebbles, we frequently find them broken. Hill. The *Ætites* is classed by Chaptal (*Chem. v. ii. p. 340*) among the bog ores, or argillaceous ores of iron: and Kirwan (*Elem. Miner. vol. ii. p. 178*) describes it under the fourth variety of the first family of these ores; as, externally, yellowish brown, internally lighter, with a kernel, whose colour is mostly ochre yellow. The form is generally that of a rounded knob, or approaching more or less to the kidney form, seldom quadrangular; the surface is generally fouled with earth. The lustre of the external rind resembles that of silk or is somewhat less glossy, and metallic. The kernel, which is sometimes loose, has no lustre at all. The fracture of the former is even, or fine splintery; that of the interior fine earthy. Externally it presents one or more curved lamellar concentric concretions, the kernel none. Its hardness is between that which is one degree superior to that of chalk or yielding to the nail, and that which hardly yields to the knife; it is brittle and heavy. Its streak is light yellowish brown, commonly brighter.

The *ætites* is also known by the names *eutocium*, *echites*, *lapis aquile*, *cradialis*, *apuleius*, & *lapis prægnans*; some rank it under the class of precious stones, to which it has no title.

ÆTIUS, in *Biography*, one of the followers of Arius, was born at Antioch in Syria, and flourished, according to Cave (*Hist. Lit. tom. i. p. 218*) about the year 359, and died in, or soon after, the year 366. Having contended with difficulties in early life on account of the reduced condition of his parents, he applied with diligence and success

to the academy of literature at Alexandria in his maturity, and in this city he learned the art of physic, and the use of the pulse, the benefit of those who were afflicted with the plague, &c. but he returned to Alexandria, where he died, as some say, by a violent fever, and as others, according to Epiphanius, by George the Arian, bishop of Alexandria. He seems to have been a man of great and useful, and considerable talents, and his acquaintance with the more ancient physicians was very useful and imperfect. As he was a student of the works of Arius, and had acquired the talents of an able and invincible disputant; whom, says Gibbon, (Hist. vol. iii. p. 340) it was impossible either to overcome, or to convince, he was banished by Constantine, and retired to a remote part of the empire, where he died, according to Philologus (*ubi supra*). At Antioch, a laborer afflicted by sickness, and infected by war and pestilence; but he was restored by Julian, who honoured him with his patronage, and gave him a estate near Mytilene in Lesbos, where he sometimes resided; though he probably died at Constantinople, and was buried by Eutychius and his other friends in a very respectful manner. The displeasure of the Catholics against Ætius was so great, that they stigmatized him with the odious appellation of Atheist. Epiphanius has preserved a small book of Ætius concerning the faith, consisting of 47 propositions or short chapters, which he has answered; and he also says, from report, that Ætius had composed 300 such chapters. He is said to have held a public disputation with Athonius, the Manichean, of Alexandria, and to have obtained so complete a victory over him, that he died of grief seven days after. He was the founder of a sect called ÆTIANS. Lardner's Works, vol. iii. p. 396. vol. iv. p. 122.

ÆTIUS, called *Amidenus*, from *Amida* in *Mesopotamia*, the place of his birth, flourished at Alexandria, about the end of the fifth century, as Friend clearly demonstrates, from several passages in his works, in which reference is made to St. Cyril, who died in 444; and to Petrus Archiator, who was physician to Theodoric. He left sixteen books divided into four *tetrabiblia*, on the practice of physic and surgery, principally collected from Galen and other earlier writers, but with some original observations. "We find many passages, Friend observes, in this author, to convince us how much the actual and potential cautery were then in use; particularly in a palsy. He says from Archigeneas, that he should not at all hesitate to make an eschar either way, and this in several places; one in the nape, where the spinal marrow takes its rise; two on each side of it, &c. and if the ulcers continue running a good while, he should not doubt of a perfect recovery." The late Mr. Pott revived this practice in the palsy of the lower limbs, applying his caustics in those cases on each side of the spine, a little above the sacrum, induced to it we have no doubt, from reading this passage; and the practice is now general, and is frequently attended with complete success, so that it seems wonderful physicians do not use them in hemiplegia, and in other similar untractable diseases. Ætius is the earliest writer who ascribed medical efficacy to the external use of the magnet. But this he does upon report, and not from his own experience. "*Tradunt* (says he) *magnetem detentum manu chiragrorum ac podagricorum dolores ipsorum sedare. Æquè convulsis opitulatur*. It is reported that those who are afflicted with the gout in their hands or feet, or with convulsions, are relieved by holding a magnet in their hands." The works of Ætius were translated into

Latin by Jannus Cornarius, a physician of Frankfort, and published, accompanied with the Greek, at Basle, 1542, in folio. Henry Stephens has inserted them in his edition of *Medici principes*, printed at Geneva, 1567. The last and best edition is that of Piazzi at Leipzig in 1777.

ÆTICUS, whose father was *Constantinus*, an illustrious citizen of the province of Scythia, and master-general of the cavalry, and mother a rich and noble Italian, was one of the generals of Placidia, the mother of Valentinian III. who reigned 25 years in the name of her son.

Ætius served at first among the troops of the emperor's household, and after the battle of Polentia in 403, he was delivered as an hostage to Alaric, and afterwards to the Huns with whose chiefs he became intimately acquainted. His stature, which was tall and majestic, and his constitution, which was robust, fitted him for the duties and toils of a military life. He is also commended by the ancients for his prudence and address in the conduct of political business, as well as for his intrepidity and experience in war. His regard to justice was so strict, that no temptation could induce him to deviate from the exercise of it. On his return from the country of the Huns he married the daughter of Carpilio, the captain of the guards; and was employed in offices of high trust in the empire. When Marcellus was attacked by Ataulphus, Ætius and Count Boniface were united in its defence; and these two great commanders are said to have deserved the distinguishing appellation of the last Romans. They were unhappy rivals, and their mutual jealousy and discord terminated in the loss of Africa and the death of Boniface. After the death of Honorius, the empire was usurped by John his chief secretary, and Ætius connected himself with the usurper, and was employed to procure the assistance of the Huns. John, however, was soon cut off; and Ætius within three days entered Italy with 60,000 Huns, who served to secure to him a reconciliation with Placidia, and who, by a grant of the province of Pannonia, were prevailed upon to return into their own country. Having induced Placidia to recal Boniface from his government of Africa, and at the same time advised him not to comply, he was the cause of the revolt of his rival, and the loss of Africa; and the discovery of this fraud produced a civil war between these two commanders, which terminated in the death of Boniface, and in the exile of Ætius to the court of Rugilas, king of the Huns, in Pannonia. He soon returned, however, to his own country; and he was indebted to their alliance for his safety and restoration. Instead of the suppliant language of a guilty exile, he solicited his pardon at the head of a large army of barbarians; and the empress Placidia was under a necessity of forgetting his rebellion and his treachery, and of delivering herself, her son Valentinian and the Western empire, into the hands of an insolent subject. The fortunate Ætius, who was immediately promoted to the rank of patrician, and thrice invested with the honours of the consulship, assumed, with the title of Master of the cavalry and infantry, the whole military power of the state; and he is sometimes styled, by cotemporary writers, the duke or general of the Romans of the West. The Gothic historian, Jornandes, ingenuously confesses, that Ætius was born for the salvation of the Roman republic; and in the eulogium which a cotemporary historian bestows upon him, he says that his mind and body were alike capable of the most laborious efforts; that he possessed the genuine courage, that can despise not only dangers but injuries, and that it was impossible either to corrupt, or deceive, or intimidate the firm integrity of his soul. But these lavish praises are not very

very consistent with his conduct towards Boniface. Ætius assiduously cultivated the alliance of the Huns. Whilst he resided in their tents, as an hostage or an exile, he had familiarly conversed with Attila himself, and the two antagonists were connected by a personal and military friendship, which was afterwards confirmed by gifts and embassies. Thus a numerous army of Huns and Alani, whom Ætius had attached to his person, was employed in the defence of Gaul. He established a treaty with Genferic, which averted the Vandals from the plunder of Italy. He restored the authority of the empire in Spain and Gaul, and compelled the Franks and Suevi, after vanquishing them in the field, to become useful allies. He afterwards concluded a peace with Theodoric, king of the Visigoths, who inhabited the southern provinces of Gaul; after a signal defeat, in which 8000 Goths fell near the walls of Narbonne; and Ætius and Theodoric, in mutual alliance, gave battle to the innumerable host of Attila, encamped before Orleans, and compelled them to raise the siege. On the plains of Chalons, where the valiant Theodoric fell, Ætius, aided by the intrepid Torismond, obtained a victory over the Huns, and obliged Attila to retreat. When Attila invaded Italy, his prudence and courage served to harass and retard the march of the invader; nor did he ever appear more truly great, than at the time when his conduct was suspected by a timid and distrustful sovereign, and blamed by an ignorant and ungrateful people. At length the emperor jealous of his merit, and fearing his wealth, power, and popularity, put him to death in 454 with his own hand, under a pretence, encouraged by the malicious insinuations of Heraclius the eunuch, that he had permitted the invasion of the Huns, after Attila's defeat, and that he was aspiring to the empire; and thus plunged his sword in the breast of a general who had saved his empire. Thus fell the best general of his age, the terror of Attila, and the bulwark of the western provinces, says Sidonius, by the hand of the greatest coward in the whole empire. By this act he converted the public contempt into deep and universal abhorrence. Such sentiments, says Gibbon (Hist. vol. vi. p. 139), seldom pervade the walls of a palace; yet the emperor was confounded by the honest reply of a Roman, whose approbation he had not disdained to solicit: "I am ignorant, Sir, of your motives or provocations. I only know, that you have acted like a man who cuts off his right hand with his left." The memorable letter, entitled *the groans of the Britons*, was addressed to Ætius, A. D. 449, who was then consul the third time. "We know not, say they, even which way to flee: chased by the barbarians to the sea, and forced back by the sea upon the barbarians, we have only left us the choice of two deaths, either to perish by the sword, or to be swallowed up by the waves." Rome was then threatened by Attila, and the Britons received no assistance. Anc. Un. Hist. v. xiv. p. 417. Gibbon's Hist. vol. vi.

ÆTNA, in *Geography*, the highest mountain in Sicily. In the *Itineraries* it is called *Æthana*, and supposed to be derived from *αἶθω*, to burn. Bochart (Geog. Sac. l. i. c. xxviii. apud oper. tom. i. p. 526. Ed. Villem.) deduces the name from *אֶתְנָא*, *Æthna*, signifying either a *furnace*, or *darkness*; and he cites several authorities from the poets that favour both the one and the other of these etymologies. The inhabitants of the island call it *Monte Gibello*, or by contraction *Mongibello*, i.e. *Mount of Mounts*. This mountain, which has been famous for both its bulk and volcanic eruptions for many ages, is situated in the eastern part of Sicily, called *Val di Demoni*, or *Demonia*, from a notion that the numerous caverns of Ætna are inhabited by demons, and

other wicked and miserable beings. N. lat. 37° 40'. E. long. 15°.

The fire, which is continually burning in the bowels of this mountain, led the poets to place here the forges of the Cyclops, under the direction of Vulcan, and the prison of the giants who rebelled against Jupiter. Upon this supposition they erected a temple to Vulcan upon the hill, in which was kept, as we are informed by Ælian (de Animal. l. xi. c. iii. tom. ii. p. 608.), a perpetual fire, as in the temple of Vesta; this element being a symbol of that deity.

The *apex* of this mountain is a kind of obtuse, truncated cone, extended at the base, and terminating in a bifurcated vertex, which consists of two eminences at a considerable distance from each other.

With regard to the *formation* of Ætna, M. De Buffon is of opinion that, on account of its height and immense bulk, it ought to be considered as one of the primitive mountains, coeval with the earth itself; and that it vomited flames soon after the creation; but that, on the subsiding of the waters which covered the face of the earth, it ceased to burn, because there was not a sufficient quantity of fluid for producing an effervescence with its mineral contents. After a long lapse of ages, the Straits of Gibraltar were burst open, and the ocean mixed with the Mediterranean Sea; and a similar rupture of the Bosphorus furnished an additional supply of water, and thus it deluged the land between Sicily and Italy, and approached the basis of Ætna. In consequence of this event, the mountain began to emit flames anew, which at different intervals, and with various degrees of force, it has continued to do until the present time. From Homer's silence with respect to the eruption of this mountain, we may justly infer, that it did not burn in his days; and therefore the first known eruptions of Ætna must be dated after his age. Other writers, who have not adopted the whole of Buffon's hypothesis, maintain, that Ætna existed as a mountain before it became a volcano. Dolomieu, cited by Mr. Kirwan (Irish Transf. vol. vi. p. 306), found immense heaps of sea-shells in the north-east flanks of this mountain, at the height of near 2000 feet above the surface of the sea. Hence he concludes, that this volcano existed as a mountain before it was uncovered by the sea. He adds, that at the height of about 2400 feet, there are regular strata of grey clay filled with marine shells; and these strata must have been deposited while the mountain was progressively formed under the sea. He further affirms, that in some parts of this mountain, the calcareous strata exist under the lava. Count Borch also, in his Letters on Sicily and Malta, informs us, that the original stone of which Ætna consists, is granite mixed with jasper, neither of which is lava; and he says, that it abounds in mines of lead and copper, which are never found entire in lava. This geologist pretends, that Ætna is at least 8000 years old; and this high antiquity he infers from the layers of vegetable earth, which he discovered betwixt different beds of lava. Canon Recupero, who had been employed in writing the history of Mount Ætna, has also discovered a stratum of lava, which, in his opinion, flowed from the mountain in the time of the second Punic war, or about 2000 years ago. This stratum, he says, is not yet covered with soil sufficient for producing either corn or vines. It requires, then, about 2000 years to convert a stratum of lava into a fertile field. But in digging a pit near Jaci, in the neighbourhood of Ætna, he discovered seven distinct layers of lava, most of which were covered with a thick bed of rich earth; and as the eruption which formed the lowest of these lavas, flowed from the mountain at least 14000

years ago, he deduces from this circumstance a correspondence for the situation of the mountain. Mr. Bydane, (See his *Tour through Sicily and Malta*, vol. i. p. 115, 116) informs us, that Recupero was much embarrassed by this difficulty and the influence it afforded, because they contradicted the history of Moses. For the relief of the canon and the satisfaction of the traveller, we might add, that the Mosaic history contains nothing that is repugnant to the notions here suggested concerning the antiquity of the earth. Although man has not existed longer on the earth than the period assigned in this history, the earth itself must have existed, and probably did exist, in some other form and for other purposes, for ages before this period. Besides, we might ask, is the lava to which the canon alludes, our action, the same which flowed from *Ætna* in the second Carthaginian war; and is not the time required for converting lavas into fertile fields very different, according to the different consistency of the lavas and their different situations with respect to elevation or depression, and to their being exposed to wind, rain, &c. just as the time, in which heaps of iron slag which resembles lava, are covered with verdure, is very different at different furnaces, according to the nature of the slag, and the situation of the furnace? But there is an argument deducible from fact, which invalidates and totally overthrows the canon's objection. *Ætna* and *Vesuvius* resemble each other with regard to the various circumstances that pertain to this subject; but the eruption of *Vesuvius*, which destroyed *Herculaneum*, happened A.D. 79, or about 1700 years ago. The matter which overwhelmed this ancient town, is covered by the produce of six other subsequent eruptions: and these several strata of lava are separated by veins of good soil. See *Phil. Trans.* vol. lxi. p. 7. and *Bishop Waton's Apology for Christianity*, in sermons and tracts, p. 383, &c.

Further, *Dolomieu* (Ponces, 472.) informs us, that vegetable earth does not exist between beds of lava; and he observes, that if this were the case, no conclusion relative to their age could fairly be deduced from this circumstance, as some lavas become fertile much sooner than others. To this purpose, *Chevalier Gioeni*, in 1787, found lavas, that were projected in 1766, in a state of vegetation, while other lavas, much more ancient, remained barren. It is also well known, that beds of volcanic ashes and pumice vegetate sooner than any other. Mr. *Dolomieu* adds, that canon *Recupero* denied his ever having expressed any doubt with regard to the Mosaic history; and could not conceive why a late celebrated traveller should endeavour to render suspicious the orthodoxy of his belief. So far from having been persecuted on that account, he had a pension from the court of Naples to his death, with many testimonies of esteem. The abbé *Spallanzani* (See *Travels into the two Sicilies*, vol. i. p. 205, &c.) has stated and examined the argument of Count *Borch*, deduced from the decomposition and vegetation of different strata of lava, in proof of the antiquity of the world. A lava, says the Count, that was produced by an eruption in 1157, had a coating of earth in December, 1776, that was 12 inches thick; another which had flowed in 1329, had one of 8 inches; on that of 1660, was found more than one inch; whilst the most recent, that of 1766, was entirely destitute of such earth. The abbé allows that lavas, after a series of years, are invested with a stratum of earth proper for vegetation; and that the earth is originally produced by the decomposition of the lava and that of the plants which have taken root upon it. But lavas are very different in their consistency and other qualities; and these differences must render the argument of

Count *Borch* and such reasoners very inconclusive. The lava, which flowed in 1329, and which was examined by the Count 447 years after its eruption, was covered with eight inches of earth; and yet the lava of the *Arfo* in *Lichia*, which rushed into the sea in 1302, appeared in 1788 to have preserved its hardness and fertility. Another current of lava, near *Catania*, which has been employed for 2000 years for the purpose of building, retains such a degree of hardness, that where the art and labour of cultivation have not been applied to it, it still continues altogether sterile. He concludes upon the whole, that all calculations on the greater or less quantity of earth which may cover lavas are very uncertain and fallacious.

But to return from this digression, with regard to the antiquity of *Ætna*, we observe, that naturalists have generally maintained, that *Ætna*, like other insulated mountains, is the gradual production of volcanic eruptions. It is certain, that every great eruption produces a new mountain; and that *Ætna* consists of a number of hills and declivities, more nearly or more remotely connected, which have been occasioned by the commotions and changes, to which it has been subject in the course of many past centuries. *Ætna* may therefore be regarded, not as a single volcano, but as an assemblage of volcanos, many of which are extinguished or burn with a gentle fire, and of which some few are still acting imperceptibly or visibly, with violence.

M. *Houel*, one of the latest and most accurate inspectors of this mountain, observes, (in his *Voyage Pittoresque*), that *Ætna* is entirely composed of substances that have been discharged from the volcano in its various eruptions. From the quantities of marine bodies that are deposited over its lower part, he infers, as others have done, that it must have been once covered by the sea, to at least one half of its present height; and he supposes that, in this state, the currents of the ocean would gradually accumulate upon it large masses, not only of its own productions, such as shells and bones of fishes, but of several other substances intermixed with the matters discharged from the focus of the burning mountain. These masses, he conceives, would, in process of time, so increase as to form those various mountains which now surround the volcano. The currents of the ocean would likewise convey some part of the discharged matter of the volcano to a greater distance; and thus form those mountains that are separated from it, and that are found farther removed. The base of this mountain, according to this ingenious author's observations, consists of alternate layers of lava and marine substances, successively deposited upon one another, and reaching to a considerable, but unknown depth. These must descend to the level of the stratum of lava, which was discharged by the volcano at its first origin. The last layer, deposited by the sea, is a range of calcareous eminences of considerable height, placed on a basis of lava. Beneath this, there is another stratum of sea-pebbles, rounded by their mutual attrition in the conflict of the waves. This, again, lies upon a yellowish rock, consisting of a species of indurated sand. The river *Sineto* flows over this rock; and the base of the river is much higher than that of *Ætna*, which is on a level with the sea; but the primary base of the volcano is unknown.

From the mountains of calcareous matter that are scattered over the lower part of *Ætna*, the inhabitants provide themselves with limestone, and they apply fragments of lava, instead of stones, of which they have none, to the purposes of building. The mountains that surround *Ætna*, and that are observed to great advantage from its summit, evidently indicate, by their conical figure and the cavity at their top, their

their being the productions of fire. They bear unequivocal marks of the effects of this destructive agent in an accumulation of lava, scoriz and volcanic sand. Whether the origin of these mountains is to be traced to the expansive effort of the ignited matter contained within the great abyss of Ætna, and which, incapable of ascending to the upper crater, bursts forth at the sides; or whether they are to be ascribed to particular conflagrations and eruptions, which have no communication with the immense furnace within the crater, has been a subject of inquiry and discussion. The former alternative has been generally allowed; and it must be acknowledged that this is frequently the fact. Instances, however, may be cited, which afford strong reasons for believing that the production of the lateral mountains is owing to partial eruptions, which have no communication with the principal crater. Of this kind is *Monte Rosso*, of which an account will be given in the sequel of this article. Sir W. Hamilton reckons 44 mountains of this kind on the side of Catania, with their distinct craters, most of which are now in a state of fertility.

From the consideration of the constituent parts of Ætna, and the mode of its formation, we shall proceed to state its dimensions. These have not yet been satisfactorily ascertained. Its stupendous height and bulk were noticed so long ago as the time of Pindar, more than 435 years before Christ, in a passage which we shall cite in the progress of our account. He represents it not only as the eternal abode of snows, but as the pillar of heaven. The ancients in general, as well as the moderns, have been accustomed to consider Ætna as one of the highest mountains on the globe. There are many passages in their writings, says Mr. Brydone, that shew this; though, perhaps, none more strongly than their making Deucalion and Pyrrha take refuge on the top of this mountain, in order to save themselves from the universal deluge. These ideas, however, appear to be very erroneous; for Sir George Shuckburgh observes, (Phil. Trans. vol. lxvii. p. 595.) that Vesuvius, placed upon Mount Ætna, would not be equal to the height of Mont Blanc. The accounts of those who have visited Ætna in later times have been very various. The following measures have been given by different authors.

Height above the surface of the sea,	Faujas de S. Fond in
10,036 feet.	his Volcans du Vi-
Circumference at the base, 180 miles.	varais.
Height, 4000 French toises.	Kircher.
----- 3 miles 264 paces.	Italian Mathemati-
----- 4 ----- 6 and 8 miles.	cians.
----- 12000 feet -----	Brydone.
----- 2500 toises; circumference	Recupero.
183 miles.	
----- 1950 toises; diameter	Mentelle Geogr.
30 miles.	Comp.
----- 2000 fathoms; circumference	Buffon's Nat. Hist.
60 leagues; and superficies	by Smellie, v. ix.
300 square leagues.	147.
----- summit above the Mediterra-	
nean 10954 feet.	
----- circumference of the visible	Sir George Shuck-
horizon on the top of Mount	burgh, Phil. Trans.
Ætna, 6' being allowed for	vol. lxvii. p. 595.
refraction, is 1093 English	
miles.	

Others make its height only 2000 toises, and its superficies 300 square miles. By the following heights of the thermometer and barometer, at different stations, extracted from Brydone's Tour, v. i. p. 211, their respective elevations

might be ascertained, if the altitudes by the instruments were accurately taken.

Height of Fahrenheit's Thermometer.

At Catania, May 26, at noon,	- - -	76
Ditto, ----- 27, at 5 in the morning	- - -	72
At Nicolosi, 12 miles up the mountain, at noon	- - -	73
At the cave, called Spelonca del Capriolo, in the		
second region, where there was a considerable		
quantity of snow, at 7 at night	- - -	61
In the same cave, at half an hour past 11	- - -	52
At the Torre del Filosofo, in the third region, at		
three in the morning	- - -	34½
At the foot of the crater of Ætna	- - -	33
About half way up the crater	- - -	29
On the summit of Ætna, a little before sun-rise	- - -	27

Height of the Barometer in inches and lines.

At the sea-side at Catania	- - -	29.8½
At the village of Piedmonti, in the first region of		
Ætna	- - -	27.8
At Nicolosi, ditto	- - -	27.1½
At the Castagno di Cento Cavalli, in the second		
region	- - -	24.2
At the Torre del Filosofo, in the third region	- - -	20.5
At the foot of the crater	- - -	20.4½
Within about 300 yards of the summit	- - -	19.6½
At the summit of Ætna, where the wind prevented		
an exact observation, supposed to be	- - -	19.4

M. Houel (*ubi supra*) states the circumference of the base at 40 miles; and though he had no opportunity of measuring the altitude, he observes, that it had been done by M. de Saussure, who found it to be 10,036 feet, or, as we learn from Senebier, 10,963 English feet. This was ascertained on the 5th of June, 1773, at 20' after seven in the morning. The height of the barometer, on the most elevated part, at the brink of the crater, was 18 inches 11½ lines; which, by the necessary corrections, is reduced to 18 inches 10½ lines. At the same time, the mercury at Catania, placed only one foot above the level of the sea, stood at 28 inches 2½ lines, which must be reduced to 28 inches 1½ line, on account of the requisite corrections for the thermometer.

Some have supposed, that volcanic mountains always increase in height by the products of successive eruptions, till they are extinguished. However, it is generally conceived that the height and bulk of Ætna are much the same now as they were in former times. The dilapidations, occasioned by the falling in, and absorption of the summit, have produced, for time immemorial, no sensible diminution; as the losses resulting from some eruptions are repaired by others which succeed. In proof of this, it is alledged, that if any considerable decrease of the mountain had taken place, ice and snow would not have continued, in a climate so mild, to envelope the top of the mountain, as they now do, even during the greatest heats of summer. On the contrary, it is a very old opinion (vide Seneca, Epist. 179, and Ælian Var. Hist. l. viii. c. xi. tom. i. p. 548.) and adopted by M. Houel, that Ætna is in a state of decay and diminution, so that it cannot be observed at so great a distance as formerly. It is full of excavations; and he considers the torrents of lava, which overspread its sides from time to time, as insufficient for repairing the waste occasioned by rains, rivulets, and torrents flowing down from the summit. Hence he concludes that, unless the eruptions become more frequent than they have been for some time past, the height of the mountain will be gradually reduced to that of the surrounding beds of lava. Over the sides of Ætna there are fea-

tered no fewer than 77 cities, towns, and villages; and allowing 1000 or 1500 persons to each of these, the whole number of the inhabitants of Mount Ætna, will be 92,400 or 115,500.

In our further description of this mountain, and of its volcanic production, and appearances, we shall avail ourselves of the accounts that have been given by those who have visited it, selecting from each these circumstances that are most deserving of notice, and combining them together to form a connected and continued narrative. The circumstances of climate, we shall principally refer to Borelli, Hist. Incend. Ætnæ, An. 1669; M. Jac. d'Orville's Sicula, Mr. Brydone's Tour through Sicily, vol. I. Sir William Hamilton's Campaign in Sicily, and Plin. Trans. Rom. Hist. Nat. Strabo's Travels in the Two Sicilies, vol. I. Addison's Travels in the Two Sicilies, &c. vol. I. M. DeLorion, and M. Houel, Voyage Pittoresque.

The ascent of Mount Ætna is tedious, difficult, and perilous; and few have had resolution to undertake it. From Catania, where the journey usually commences, to the summit, the distance is about 30 miles: and the traveller, in the progress of his journey, passes through three distinct climates, which might be justly denominated, on account of the variety of their temperature, the torrid, the temperate, and the frigid zones. Accordingly the whole mountain is divided into three distinct regions, called *La Regione della Campagna*, the fertile region; *Il Regione Scoria*, or *Nuvola*, the woody region; and *Il Regione Di Neve*, or *Serena*, the barren region. Count Borch has added a fourth, which he calls the region of snow; and he has subdivided these four regions into several districts.

The *first or lowest region*, extends through an interval of ascent from 12 to 18 miles, according to the statements of different writers. Its whole circumference is estimated by Recupero at 183 miles, and its surface is supposed by Buffon to exceed 220 square leagues. It is bounded by the sea to the south and south-east, and on all its other sides by the rivers Semetus and Alcantara, which almost run round it. The city of Catania and several villages are situated in this first zone; and it abounds in pastures, orchards, and various kinds of fruit trees. The fertility of this region has been recorded by Strabo, Fazello, Peter Bembo, and most of the travellers who have visited Ætna; and it is justly ascribed to the decomposition of the lava, and of those vegetables, which have been introduced by the arts of agriculture, and the exertions of human industry. In some parts, however, the lava appears in craggy eminences above the soil. Where the earth is shallow, the roots of trees, unable to penetrate the hard lava, extend themselves horizontally near the surface: but where there is a greater depth of earth, the soil is more fertile and productive. The first station in the ascent of the mountain is *Nicolesi*, (see Pl. I. NAT. HIST. fig. 2. let. H.) which, according to Brydone's statement, is 12 miles up the mountain, and by Houel's account 2496 feet above the level of the sea. The road from Catania to this station lies over old lavas and the mouths of extinguished volcanoes, which are now converted into corn fields, vineyards, and orchards. The figs of this region, and the fruit in general, are reckoned the finest in Sicily. When the harvest was finished at Catania and the heat extreme, Mr. Brydone found the corn green at *Nicolesi*, and the heat moderate. The lava of this region flows from a number of small mountains, which are deposited over the immense declivity of Ætna. These mountains, which are of a conical or hemispherical figure, are formed by eruptions; and they are generally about two or three miles in

circuit, and about 300 or 400 feet high. They are covered with a rich verdure, and beautiful trees. Not far from *Nicolesi* is *Monte Rosso*, which was formerly a plain; but in 1669 a new vertex was opened in it, and discharged a dreadful torrent of lava, which flowed as far as the sea, and formed a kind of promontory (as Y.) It is surrounded to the extent of two miles with a black sand, which was thrown out in that eruption, and which then covered a space of 15 miles, to such a depth as to bury the vines and shrubs that were scattered over the soil. Some of the finer particles of it were wafted by the wind as far as Catabria. The sand is very deep as you approach the mountain; and the mountain is forked at the vertex. By Borelli's account its circumference at the base does not exceed two miles, and its perpendicular height is not more than 150 paces; whereas, Sir William Hamilton estimates its height at a mile, and its circuit at three miles. Spallanzani prefers the former estimate. Amongst 100 or more mountains, which rear their heads on the sides of Mount Ætna, this is the only one with the history of the formation of which we are acquainted. The base of the lava of this mountain is horn-stone, of a grey colour, rough to the touch, and of a moderately fine grain. It gives sparks with steel, and sounds when it is struck. It serves as a matrix to a great number of felt-spathose or shoerlaceous crystallizations. The scoriz, of which the mountain is principally composed, have the same kind of base, containing shoerls and felt-spars; but they are more light and friable than the lava, and have a kind of vitreous appearance. These and other differences are produced by the mutual collision and pulverization of these scoriz. The number of detached shoerls that are found on and near *Monte Rosso* is very great. Dolomieu thought, that they first entered into the body of the lava, and that they were separated from it by means of the sulphur, which had scorified the lava, but had not produced the same effect on the shoerls, because of the small quantity of iron which they contain; and consequently they remained free and detached. Spallanzani rejects this hypothesis; as upon experiments with the magnetic needle he found that the martial principle was more abundant in the shoerls than in their base; and he therefore accounts for their separation from the lava in another way. The volcanic fire, which melted the lava, was incapable of melting these shoerls, which are not only refractory to the fire, but of a different specific gravity from the lava. When this was melted, elevated to a great height, and separated into small particles in the progress of the eruption, a number of shoerls were detached from it, and fell, isolated, partly within the crater, and partly around it. Accordingly he found, that the shoerls detached from the lava are infusible in the furnace; but those which are incorporated with the lava sustain a perfect fusion. These shoerls are not peculiar to the lava of *Monte Rosso*; but they are found in many other mountains of Ætna. Spallanzani analysed them, and from 100 decimatic pounds, he obtained the following result: viz.

	Pounds
Silex - - -	34,5
Lime - - -	18,7
Iron - - -	7,6
Alum - - -	12,4
Magnesia - -	11,
Sum -	84,2

The mountain derives its name *Monte Rosso*, or red mountain, from the tinge of this colour which some parts of

of it exhibit; though other parts are white, and others yellow, blue, and green, with different shades and mixtures. All these parts, says the Abbé, are found in a state more or less decomposed; and in general, they are only scorific; the colours are produced by iron, changed or modified by acids. Of these scorifics, some have not been affected by acids; and they are covered with a thin pellucid coat of glass, just as if a sheet of water had been thrown over them, and suddenly frozen. This phenomenon is remarkable at Ætna, because we there meet with no vitrifications.

M. Houel went down into one of the openings of this mountain with torches, but could not reach the bottom, and was obliged soon to return on account of the extreme cold. The crater is of an oval form, and the opening through which he descended was in one extremity; but he inclined to think that the crater which rises above it had been formed of matter discharged by another mouth; or perhaps it might have had a more central opening, through which the stones, sand, &c. that form the crater, were discharged. This mountain is one of the mouths of Ætna, through which it discharges, from time to time, great quantities of lava, sand, ashes, &c. The sides of the craters are not all of the same height; those to the east and west are considerably higher than the intermediate summits, because the currents of the ashes passed alternately from east to west, and fell upon these sides in greater quantities than upon the others; which circumstance has given to this volcano the appearance of two summits.

St. Niccolò dell' Arena, in the neighbourhood of this mountain, is an agreeable resting-place for travellers who visit Ætna. This is an ancient edifice, founded on the lava, and was formerly the habitation of a number of Benedictine monks, who, about 200 years ago were obliged, on account of the devastations occasioned by the lava to abandon it, and retire to Catania. Here are many inscriptions, which record the ruinous earthquakes, torrents of lava, and showers of sand and ashes by which it has been damaged and even destroyed, together with the dates of their different repairs. The black sand, thrown up in 1669, is more easily changed into vegetable earth than the lava; and has for many years been planted with extensive vineyards: whilst there are many beds of ancient lava that remain in an unproductive state, and destitute of every kind of vegetable.

At a small distance there is another mountain, called *Montpelieri*, or *Monpileri* (see letter G.). This is of a spherical form, and its perpendicular height does not exceed 300 feet, and its circuit is about a mile. It is perfectly regular on every side, and richly overspread with fruits and flowers. Its crater is large in proportion to the mountain itself, and is as exactly hollowed out as the best made bowl. This mountain was formed by the first eruption that destroyed the ancient *HYBLA*, which was celebrated for its fertility, and particularly for its honey, and thence called *Mal Passi*; thus, in consequence of being reduced by several eruptions, and more particularly by that of 1669, to a state of wretched sterility, it obtained the contemptuous appellation of *Mal Passi*. The lava, however, in its course over this beautiful country, has left several little islands or hillocks, which exhibit a singular appearance, with all the bloom of the most luxuriant vegetation, encompassed and rendered almost inaccessible by large fields of black and rugged lava.

About three miles above *San Niccolò dell' Arena*, the lower region of Ætna terminates, and the middle region begins. This is called the *Regione Sylvosa*, the woody region, or the temperate zone; and extends from eight to ten miles in a direct line towards the top of the mountain. Its circumference is estimated by Recupero at 70 or 80 miles;

and it comprehends a surface of about 40 or 45 square leagues. It forms a zone of the brightest green all around the mountain; which exhibits a pleasing contrast to the white and hoary head of this venerable mountain, and it is called the woody region, because it abounds with oaks, beeches, firs, and pines. The soil is a vegetable earth, generated by the decomposition of the lava, and similar to that in the lower region. "As soon as we entered these delightful forests, says Mr. Brydone, we seemed to have got into another world. The air, which was before sultry and hot, was now cool and refreshing; and every breeze was loaded with a thousand perfumes; the whole ground being covered over with the richest aromatic plants. Many parts of this region are really the most heavenly spots upon earth; and if Ætna resembles hell within, it may with equal justice be said to resemble Paradise without. Here, he says, you gather the most delicious fruit, rising from what was lately a black and barren rock. Here the ground is covered with every flower, and we wander over these beauties and contemplate this wilderness of sweets, without considering that hell, with all its terrors, is immediately under our feet; and that a few yards separate us from lakes of liquid fire and brimstone." "These majestic forests of Ætna, says Mr. Houel, afford a singular spectacle, and bear no resemblance to those of other countries. Their verdure is more lively, and the trees of which they consist are of greater height." These advantages they owe to the soil on which they grow, which is peculiarly favourable to luxuriant vegetation. The hawthorn trees are of an immense size. The beeches appear like so many ramified pillars, and the tufted branches of the oak, like close bushes, impenetrable to the rays of the sun. The appearance of the woods in general is exceedingly picturesque, not only on account of the number and variety of the trees, but from the inequality of the ground, which exhibits them like the ranges of an amphitheatre one above another. The east side of the woody region abounds with chestnut trees of an extraordinary size. These are cultivated by the inhabitants with particular attention; and as they are wrought into hoops for casks, they yield a profitable article of trade. But the most remarkable of these trees is the *Castagno di cento Cavalli*, or the chestnut tree of an hundred horse; so called, because it is supposed to be capable of sheltering an hundred horses under the canopy of its boughs. Fabulous report deduces its name from the following circumstance. Jean of Arragon, during her stay in Sicily, whilst she was travelling from Spain to Naples, visited Mount Ætna, and was attended by her principal nobility: but being overtaken by a storm, all of them found shelter under this tree. It stands upon a rising ground, and is surrounded by an open pasture, which is bounded by woods and vineyards. Its height has of late been much diminished by lopping its branches, partly under a notion of increasing its fruitfulness, but principally, perhaps, for obtaining a supply of fuel. Some have supposed that it was merely a bush or clump of several trees united. But Recupero, and Swinburne inform us, that upon digging round it they found all the stems united in one root, or body, at a very small depth under ground. Of this trunk five divisions are formed, each of which sends forth enormous branches. The exterior surface of these divisions is covered with bark, but on the inside there is none; the subsistence and verdure of the tree depending upon the external bark. The intervals are of different extent: one of them is wide enough for two coaches to drive abreast. In the middle cavity, or the part that is denominated the hollow of the tree, a hut is built for the habitation and use of those who collect and preserve its fruit, and who dry the nuts in an oven, and

prepare

prepare themselves of them for sale. Mr. Saurbure says, that the white trunks, and the red and yellow, were accommodated to their colour, by the different degrees of heat : and that the three different measurements, he found the outer circumference at one inch above the ground, to be 176 English feet. This tree formerly belonged to St. Anthony, but has lately been declared the property of the crown. There are other trees of a similar kind at a small distance, which are more worthy of admiration than this, as their trunk is entire. One of them, which was clear of branches to the height of 15 feet, and perfectly sound, measured, in the girth, at three feet above the ground, 57 feet. The forest of pines, as it is called, is almost inaccessible, on account of the rocks and precipices that surround it. It is chiefly worthy of notice, as it leads the traveller to the *snow grotto*. This cavity has been lately formed by the action of the waters under the beds of lava, and removing the stratum of pozzolana below them. It is situated on a mount named *Franchi*. This grotto has been repaired at the expence of the Knight of Malta, who have hired this and other caverns in the mountain for the purpose of holding snow, which is more wanted in their island than in Sicily, and which forms a very considerable article of commerce. The snow is thrown in at two openings above ; and they have access to these as well as to the internal parts by flights of steps. A considerable extent of ground is enclosed by high walls above the grotto ; so that when the wind drives down the snow from the higher parts of the mountain, it is stopped by the walls of this inclosure. It is then thrown into the grotto, where the thickness of the beds of lava, which cover it, prevents any injury from the summer heat. At the season of exportation, it is pressed close in large bags, and lumps of it are wrapped up in leaves, and conveyed to the shore on mules. Pieces of snow, preserved in this manner, have appeared like the most transparent crystal.

Spallanzani detracts from the commendation which has been given by other writers to the luxuriance of vegetation in this region. The oaks, he says, are low and stunted in their growth ; and the beeches which grow only in the upper extremity of the zone, would appear mere pigmies, if they were placed beside those which rear their lofty heads on the Apennines and the Alps. This he attributes to the little depth of earth proper for vegetation.

The woods and verdure of the regions, now described, viz. the inferior and the middle, have been recorded by most of the ancient writers ; and therefore the commencement of this vegetation must be lost in the obscurity of time. What is still more remarkable with respect to this woody region, is the circumstance, that the surface of it is so unequal, that it every where presents hills, or rather mountains ; all of which have been produced by different eruptions from the summit of Ætna, and other craters below the summit, several of which have formerly laid waste this zone, which is now converted into luxuriant forests. Most of the travellers in this region have sought shelter on the night preceding their farther ascent, in the cave called *La Spelonca del Capriolo*, or *La Grotta delle Capre*, or the grotto of the goats, because these animals take refuge here in bad weather. This cave has been formed, from time immemorial, by the lava, when in a fluid state, and seems to have been enlarged by the torrents of water that have passed through it, and carried away some of the sand and stones of which it consists. The lava is of a horn-stone base ; and though its texture is earthy and porous, it possesses a considerable degree of hardness. It contains some shoerls, and two kinds of felt-spars, some of which are of a flat figure, and brilliant appearance, and others irregular in their

form, with little lustre, and manifesting a degree of calcination without any fusion. There are some other stones interperfed, which are thought, from their hardness and green colour, to be chrysolites. This grotto is situated about 5054 feet above the level of the sea, according to the calculations of M. de Saussure. It is surrounded by stately and majestic oaks, the dry leaves of which supply the travellers who shelter in it with beds, as the wood does with fuel. In the neighbourhood of this cave there are two beautiful mountains, the craters of which are larger than that of Vesuvius. They are now filled with oaks, and covered to a great depth with the richest soil.

The upper region of Ætna, called its *frigid zone*, or the *Regione Deserta*, is marked out by a circle of snow and ice, extending, as some state, to the distance of about eight miles ; but according to Fazello, nearly twelve, and having the great crater in its centre. The surface of this zone is for the most part flat and even ; and the approach to it is indicated by the decline of vegetation, by uncovered rocks of lava, and heaps of sand, by near views of an expanse of snow and ice, and of the torrents of smoke issuing from the crater of the mountain, and by the difficulty and danger of advancing amidst streams of melted snow, sheets of ice, and gusts of chilling wind. The curious traveller, however, thinks himself amply recompensed, upon gaining the summit, for the perils with which he has encountered. His fatigue is alleviated by the reflection that the emperor Adrian, and the philosopher Plato, underwent the same : for the purpose of exploring the summit of the mountain, and of gratifying themselves with a view of the rising sun from this eminence. Most of the travellers who have visited Ætna, have been anxious to reach its summit at the dawn of the morning, before the vapours that are raised by the sun obscure surrounding objects ; and they all agree in describing the extent and beauty of the prospect. When Mr. Brydone and his companions ascended this eminence, elevated above the common region of vapour, in the night, they observed that the number of the stars seemed to be much increased, and that their light appeared brighter than usual. The lustre of the milky way was like a pure flame, that shot across the heavens ; and with the naked eye they could observe clusters of stars which were totally invisible in the lower regions. Below them on the mountain they perceived a moving light among the forests, which might probably have been an ignis fatuus, and they took notice of several of those meteors that are called falling stars, which appeared to be as much above them, as when they were seen from the plain ; and from this circumstance Mr. Brydone infers, that these meteors move in regions much more remote than the bounds which some philosophers have ascribed to our atmosphere. Before dawn they arrived at the ruins of an ancient structure, called *La Torre del Filosofo*, which some suppose to have been built by Empedocles, for his convenience in observing the conflagrations, and studying the nature of Mount Ætna. By others it is supposed to be the ruins of a temple of Vulcan. Others again imagine it to be a watch-tower, built by the Normans, for the purpose of observing the motions of their enemies, and giving notice of them by signals, to the different bodies of troops scattered over the island. M. Houel thinks it is not very ancient ; neither the materials of which it consists, nor the mode of architecture, bearing any resemblance to those of the Greeks or Romans. Some have asserted, that they have found in this ruin, fragments of brick and marble ; but no such fragments now exist. The materials were examined by Spallanzani, who discovered that they consisted of a cement of lime, which by length of time is become carbonate

bonate of lime, and two kinds of lava, which exhaled an argillaceous odour in their fractures, and whose base was the horn-stone. These materials were collected upon the spot, and rendered compact and united by a cement of lime.

The prospect from the summit of Ætna has been described in very animated and glowing colours, by many writers. The gradations of the morning dawn appear with singular advantage from this elevated station. At the rising of the sun, says M. Houel, the horizon was serene, without a single cloud. The coast of Calabria could not be distinguished from the adjoining sea; but a fiery radiance soon began to appear behind the Italian hills, which bounded the prospect to the east. The fleecy clouds, which usually appear in the morning, were tinged with purple; the atmosphere became strongly illuminated; and, reflecting the rays of the rising sun, glowed with a bright effulgence of flame. The immense elevation of the summit of Ætna caught the first rays of light, and yielded a dazzling, but animating splendour. The sea still retained its dark hue, nor did the fields and forests yet reflect the solar rays. As the sun gradually advanced above the horizon, his light was diffused over the hills which lie below the peak of Ætna. This huge mountain stood like an island in the midst of the ocean, presenting to view a multitude of luminous points, the number and lustre of which rapidly increased. The scene, says this author, was as if the universe had been observed suddenly springing from the night of non-existence. The tall forests, the lofty hills, and extensive plains of Ætna, now presented themselves to view. The base, the vast tracts of adjacent level ground, the cities of Sicily, its parched shores, with the dashing waves and wide expanse of the ocean gradually appeared, whilst some fleeting vapours, driven by the wind, occasionally interrupted part of this grand and magnificent prospect. In a little while the display was so distinct, that places before known were easily recognized. On the south were seen the hills of Camerata and Trapani; on the north, the mounts Pelegrino and Thermini, with the celebrated Enna, once crowned with the temples of Ceres and Proserpine. Among these mountains appeared many rivers, like lines of glittering silver, winding their course through rich and fertile fields, and washing the walls of twenty cities, while their banks were crowded with villages, hamlets, &c. that rose among the ruins of the most illustrious republics of antiquity. On the south and north were observed the rivers whose course bounds the immense base of Ætna; and at a much greater distance were seen the isles of Lipari, Alicudi, Felicicide, Parinacia and Stromboli.

On the sun's first rising, says Mr. Brydone, the shadow of the mountain extends across the whole island, and makes a large tract visible even in the sea and in the air. This shadow is gradually shortened, and, in a little time, is confined only to the neighbourhood of Ætna. Between the body of the sun, as it is seen rising from the ocean, and the spectator, immense tracts of sea and land intervene; the islands of Lipari, Paraci, Alicudi, Stromboli, and Volcano, with their smoky summits appear under your feet; and you look down on the whole of Sicily as on a map, and can trace every river through all its windings from its source to its mouth. The extent of the horizon is no less than 200 miles in diameter; and Massa, a Sicilian author, observes, that the African coast, as well as that of Naples, with many of its islands, have often been discovered from the top of Ætna. But the most beautiful parts of the scene, in the judgment of Mr. Brydone, are the mountain itself, the island of Sicily, and the numerous islands lying around it; all which seem as if they were brought close round the skirts

of Ætna, the distances appearing reduced to nothing. The same scene is described in similar language by Spallanzani. No elevated region in the whole globe, says this author, offers at one view so ample an extent of land and sea, as the summit of Ætna. The first of the sublime objects which it presents is the immense mass of its own colossal body. The first part, and that which is nearest the observer, is the *upper region*, commonly covered with snow and ice, and occasionally exhibiting rough and craggy cliffs, either piled on each other or separate, and rising perpendicularly, towards the middle of this zone; an assemblage of fugitive clouds, irradiated by the sun, and all in motion, increased the wild variety of the scene. Lower down appeared the *middle region*, with its numerous woods and multitude of mountains, originating from fiery eruptions; and beyond this the eye discerns, with admiration, the *lower region*, the most spacious of the three, adorned with elegant villas and castles, verdant hills and flowery fields, and terminated by the extensive coast, where, to the south, stands the beautiful city of Catania, to which the neighbouring sea serves as a mirror. The observer, at this elevation, discovers not only the entire massy body of Ætna itself, but the whole of the island of Sicily, with all its noble cities, lofty hills, extensive plains, and meandering rivers. Malta is also perceived at an indistinct distance; the eye commands the environs of Messina, and the greater part of Calabria; while Lipari and the Æolian isles appear so near as to be under the feet of the observer, and as if by stooping down he might touch them with his finger. The far stretching surface of the adjacent and surrounding sea presented an object no less majestic, and led the eye to an immense distance, bounded only by the heavens. "Seated," says Spallanzani, "in the midst of this theatre of the wonders of nature, I felt an indescribable pleasure from the multiplicity and beauty of the objects I surveyed; and a kind of internal satisfaction and exultation of heart. The sun was advancing to the meridian, unobscured by the smallest cloud, and Reaumur's thermometer stood at the 10th degree above the freezing point; I was therefore in that temperature which is most friendly to man, and the refined air I breathed, as if it had been entirely vital, communicated a vigour and agility to my limbs, and an activity and life to my ideas, which appeared to be of a celestial nature."

The access to the principal crater of Ætna is rendered both inconvenient and perilous, for a distance of near four miles, by a variety of circumstances which different travellers have described. The summit of the mountain is a plain covered with scorix, ashes, and sand, which have been thrown out of the volcano at its successive eruptions, and which are so loose as to endanger the traveller's being swallowed up at every step of his progress. It is also covered with snow and ice, and obscured with clouds, excepting at times when these clouds are low and range along the sides of the mountain, so as to present an object of terror. The winds, likewise, blow with such violence that persons can scarce stand securely, nor endure the cold which benumbs their limbs. The south wind is, on the top of Ætna, the most prevalent, and the cold is so intense, that travellers have often found their clothes insufficient to protect them. But the most formidable impediments to the progress of the adventurers in this perilous journey are the streams of mephitic vapour which rise on the sides, and the thick clouds of sulphureous smoke which burst from the mouth of the volcano, even when it is not in a state of agitation. The sounds that issue from the crater are also singularly terrifying, and have discouraged some persons from approaching the spot whence they proceed. M. Houel compares them

to a discharge of cannon in the wide abyfs, which being reflected from the various caverns produces reverberations of the most alarming kind. By means of these, found, which in the open air would be considered as light explosions, become more tremendous than the loudest thunder.

When Spallanzani visited this mountain, he observed, when he was at the distance of two miles and a half from the foot of his journey, two white columns of smoke, which arose from its summit; one, towards the north-east side of the mountain, and another towards the north-west: several other columns of smoke, which arose from inferior parts towards the west, pursued the direction of these two larger columns. As he proceeded, he met with a torrent of lava, which he was obliged to cross in order to arrive at the smoking summit. This torrent was covered with scorix, which projected in some places in a variety of prominent points, and in others sunk in hollows, which rendered his passage extremely difficult; and the lava itself, though the material from its discharge was 11 months, was in many parts of it red-hot. His difficulties increased as he passed that track, which may properly be called the cone of Ætna, and which, in a right line, is about a mile in length. Having arrived, after much labour and fatigue, within 150 paces from the vertex of the cone, he found himself enveloped by the vapours of the several streams of smoke that issued from the top and sides of the mountain; and his progress was rendered extremely hazardous by the effect which these noxious vapours produced on his respiration. He soon, however, recovered his strength and resolution, and arrived at the utmost summit of the mountain, where he began to discover the edges of the crater. Here he viewed with astonishment the configuration of the borders, the internal sides, the form of the immense cavern, its bottom, and an aperture which appeared in it, the melted matter which boiled within, and the smoke which ascended from it; and he has minutely described the several appearances from his own attentive and accurate observation. The upper edges of the crater, which are broken and indented in several places, are, as he judged by the eye, about a mile and a half in circuit, and form an oval, the longest diameter of which extends from east to west. Its internal sides, which are inclined at different angles in its several parts, form a kind of funnel of a conical figure, and abound with concretions, which he found to be the muriate of ammoniac. The bottom was nearly an horizontal plane, about two-thirds of a mile in circumference; in which plane was visible a circular aperture, about five poles in diameter, from which proceeded the largest of the two columns of smoke, observed before he arrived at the summit of Ætna. This column appeared at its origin to be about 20 feet in diameter, and whilst it remained within the crater, ascended in a perpendicular direction; but when it arose above the edges, it was made to incline towards the west by a light wind; and afterwards it dilated into an extended and rare volume. The smoke was of a white colour. Within the crater Spallanzani observed a liquid and ignited matter, which continually undulated and boiled, alternately rising and falling, without spreading over the bottom. This, he says, was the melted lava, which had arisen to that aperture from the bottom of the Ætnean gulf. Several large stones were thrown into the crater, some of which struck the liquid lava and produced a sound similar to that which would have been occasioned by their falling into a thick tenacious paste; but the stones which fell on the bottom rebounded, and their sound was different from that of the others. Hence our author infers, that the bottom must be thick and solid,

which, if this were not the case, would have been broken by heavy stones falling from so great a height.

The summit of Ætna, surrounded with large masses of lava, is exhibited in Plate 1. NAT. HIST. fig. 2. A. A. A. represents one edge of the lava of 1787, which issued from the upper crater. B. B. is the circumference of the crater, with its cleft. C. C. through which the internal part is discernible. D. is the flat bottom of the crater; and E. the aperture in the bottom, from which the larger column of smoke F. F. arose; which aperture, though it was at one side of the bottom, is, for the greater distinctness of view, represented in the middle. G. G. is that part of the edge of the crater from which its internal part is best seen, and where the design of it might be most conveniently taken. H. H. is the smaller column of smoke to the north-east.

Spallanzani informs us, that beside the eminence on which he stood, there is another to the north, a quarter of a mile higher, which renders the summit of Ætna properly bifurcated. The crater on this second pre-eminence, and from which the lesser column of smoke ascends, is about one half smaller than the other, and is separated from it by a partition of scorix and accumulated lava, which lies in a direction from east to west. The Abbè has compared his own observations with those of others who have described the crater of Ætna in the course of 20 years, or from the time when it was visited by Baron Riedesel in 1767, to that of his own journey in 1788. At the time of the Baron's observation, the crater was enlarged towards the east with an aperture which does not now exist; and as the stones which were then thrown in did not return the smallest found, the bottom of the crater could not be formed with the hard and flat surface which the Abbè has described. Within the gulf itself was heard a noise similar to that of the waves of the sea, when agitated by a tempest; and this must probably have proceeded from the lava within the bounds of the mountain, in a liquified and perturbed state. Sir William Hamilton arrived at the summit of Ætna on the 26th of October, 1769; but was prevented from distinctly viewing the lower parts of the crater by the smoke that issued from it. From what he was able to observe he concludes, that its figure resembled that of a funnel, diminishing till it ended in a point, and that this funnel was crusted over with salt and sulphur. The crater was then two miles and a half in circumference; and must have undergone great changes in the interval that elapsed between these observations and those of Riedesel, in whose time there must have been an abyfs as well as a funnel; nor does the point in which the funnel terminated admit of the flat bottom described by Spallanzani. The dimensions of the crater, stated by Sir William Hamilton, the Abbè accounts for by supposing, that the partition which now separates the great crater into two parts has been produced since the time of his observation; for the sum of the two circumferences which the Abbè has noticed would not much differ from the other measure. Mr. Brydone, who observed the crater on the 29th of May 1770, says, that it was then a circle of about three miles and a half in circumference, that it shelved down on each side, and that it formed a regular hollow, like a vast amphitheatre, and that a great mouth opened near the center. Count Borch arrived at the mountain on the 16th of October 1776, and merely observes, that the crater is formed like a funnel, and that the summit is bifurcated; a circumstance unnoticed by Sir W. Hamilton, who affirms, on the contrary, that the summit is single; and the Abbè therefore concludes, that one of these summits has been produced since the journey of Brydone in 1770. M. D'Orville,

D'Orville, who ascended Ætna in 1727, remarked two craters, one larger than the other, and in circumference somewhat more than four miles, from which issued clouds of smoke and reddish flames. On looking into this crater, he and his companions were unable to discern the bottom on account of the flames and smoke. They only observed that a conical hill, formed of lava, rose in the middle of the crater, the top of which they estimated to be 60 feet below them; and as they were probably able to see about 60 feet lower, they conjectured that the circuit of this hill might be from 600 to 800 feet.

M. Houel, whose account of this mountain was published in 1782, and who made a drawing of the crater, represents its environs as consisting of three eminences, forming an equilateral triangle, though when viewed at a distance, only two of them can be seen; for which reason the Sicilians have denominated the mountain *bicorne*, or double horned. The situation of the principal mouth is in the midst of these three eminences. Its diameter was only about 60 feet; but it was so filled with smoke that nothing remarkable could be discovered. This author observes, that the cone is not exactly in the middle of the plain, but that it lies somewhat more to the north than the south. Every observation, therefore, tends to evince the inconstancy of the internal configuration and dimensions of this volcano. Beside the changes which have taken place on the summit of Ætna, with respect to the number, form and size of its craters, Fazello and Borelli describe another alteration occasioned by the falling in and absorption of the extreme summit of the mountain within its crater. The former author relates, that in his time there arose in the mouth of the crater a little hill, isolated on every side, which formed the vertex of the mountain, and which, in a terrible eruption, fell into the gulf, and thus enlarged the crater and diminished the height of the mountain. The hill itself had been produced by a former eruption in 1444. Borelli likewise informs us, that in the conflagration of 1669 the summit of Ætna which rose, like a tower, to a great height above the part which is level, was swallowed up in the deep gulf. Strabo (tom. i. p. 420, &c.) relying on the account of those who had visited Ætna in his time, describes the summit as a level plain, about 20 stadia in circumference, surrounded by a brow, or ridge, of the height of a wall; and he adds, that in the middle of the plain arose a smoky hill, the smoke of which ascended in a direct line to the height of 20 feet. Solinus (cap. 11) informs us, that there were two craters, from which the vapours issued. Cardinal Bembo likewise found two craters, one higher than the other, and about as far distant as a stone might be thrown from a sling. The extreme violence of the wind and the exhaled fumes prevented his approaching the upper crater; but he describes it from the information of others, as situated on the highest part of the summit of Ætna, about three miles in circumference, formed like a funnel, and having in its middle a spacious cavity. In the time of Fazello, who visited Ætna after Bembo, there was only one crater about four miles in circumference. Its form was that of a funnel; it emitted fire and thick smoke; and a subterraneous noise was heard, which resembled the boiling of an immense caldron on a very fierce fire.

As for the difference that occurred with regard to the appearance of the smoke, noticed by different writers, some of whom represent it as rolling down the sides of the mountain, and others, as ascending perpendicularly to a great height, and afterwards falling, like white flowers on the top of the mountain; it was owing, without doubt, not only to the different density of the air on Ætna at different times, but also to the diversity of the smoke, which would sometimes be lighter and sometimes heavier than the air itself.

according to the qualities of the substances from which it is produced.

The effects of the air at the summit of Ætna, recited by different writers, have also been very different. Some have complained of the difficulty of respiration which they experienced, whilst others felt no such difficulty, and assert that respiration is performed with equal ease on the top of the mountain, as in the country below. It appears from the observations of M. Baudouin in his travels on the Alps, that, although at the height of Mount Blanc, about 2450 poles above the level of the sea, a considerable difficulty of respiration was occasioned by the rarefaction of the air, no such inconvenience was experienced at the less elevation of 1900 poles. The height of Ætna being less than the last measure, it is natural to infer that the respiration of many persons would not be incommode, whilst the contrary happens to others, according to the different strength and habit of body of different individuals. The observed difference of the barometer indicated in these various circumstances a considerable difference in the weight and rarity of the air.

Spallanzani observes, that Ætna has at all times been very deficient in springs; and when he visited this mountain, water was so extremely scarce, that a single drop of rain had not fallen for nine months. As the rain water which the peasants, who inhabit different parts of it, had collected in cisterns was exhausted, they were obliged to go in search of it to those parts of the mountain at considerable distances, where a scanty spring might still be found. This author has observed a similar scarcity of springs in the Æolian or Lipari islands; and he apprehends, that other volcanic countries are subject to the same inconvenience. The rains, he says, which descend on mountains of this kind, fall on tufas or scoriz, in which they sink deep and do not again appear, because they meet with no argillaceous or stony strata capable of detaining them; whereas such strata are frequent in other mountains, and produce numerous springs, as we find to be the case in the Alps and Apennines. When the rains fall on compact and solid lavas, they do not sink into them, but run down their declivities, forming rivers and torrents in the rainy season, and not true springs. In several parts of Ætna, and especially near the *Grotta delle Capre*, he observed large furrows hollowed in the lavas, by the action of the rain water. Other writers, however, have given a very different account. They state, that Ætna abounds with fountains and with rivers of considerable magnitude.* See ACIS and ALCANTARA. Mr. Brydone informs us, that there are several periodical springs on Ætna, that flow during the day and stop at night, which he attributes to the alternate melting and freezing of the snow. There are also poisonous springs, which emit a very noxious vapour; and others which afford fine salt; and others again, whose water serves for dyeing particular colours. On the north side of the snowy region, there are several small lakes which never freeze. M. Houel estimates the quantity of water which flows down the sides of the mountain to be such, that if it were collected it would fill the channel of a river 36 feet broad and six feet deep; and he adds, that streams of water are seen to issue at all different degrees of height from the base to the summit of the mountain; and that these continue to flow even during the drought of summer. The supply of these streams, he thinks, cannot be accounted for by the water deposited by the clouds, nor by the melting of the snow; but the source of it must be more regular and permanent. This he conceives to be the evaporation of those aqueous particles that arise from the constant ebullition at the bottom of the volcanic focus, and which, in his opinion, are necessary to the subsistence of volcanoes. These vapours, issuing from the

great crater, and from innumerable fissures in the sides of the mountain, are condensed by the cold of that elevated region of the atmosphere, and percolating through the earth, furnish the numerous fountains of Ætna with water.

The numerous caverns that are met with in different parts of Ætna deserve notice. The grotto of the goats, the snow grotto, and those of mount Rosso, have been already mentioned. Kircher speaks of one, which he saw, capable of containing 30,000 persons. One of these caverns still retains the name of Proserpine, from its being supposed by the ancients, that it was by this entry Pluto descended her into his dominion; on which occasion Ovid describes Ceres searching for her daughter with two trees, one of which she had plucked from the mountain, for serving the purpose of torches. These trees he calls *Teda*; and they produce great quantities of a kind of resin, called Catalana, and esteemed a cure for sores. Ovid. Fast. l. iv. tom. iii. p. 221. Ed. Burn. Diod. Sic. tom. i. p. 333. Ed. Weisking.

Ætna produces a great variety of plants and flowers, as well as trees of a larger size, such as the chestnut, oak and cork tree, &c. Mr. Brydone enumerates the cinnamon, satiparilla, fufafra, rhubarb and palma Christi: and he adds, that it was celebrated by the ancients for its odoriferous productions. See Diod. Sic. tom. i. p. 322. Plutarch and Aristotle intimate that the smell of the plants was so strong on many parts of the mountain, that it was impossible to hunt. There was formerly a great variety of wild beasts in the woody region of Ætna; but the number of them is now much reduced. There are still wild boars, roebucks and wild goats; but the race of stags is thought to be extinct. The horses and cattle of mount Ætna were once esteemed the best in Sicily. The cattle are still of a large size, but the horses have degenerated. Spallanzani informs us, that partridges (*Tetrao rufus*, Linn.) were shot at the upper extremity of the middle region, and in this region he met with several birds of the titmouse species (*Parus caeruleus*, Linn.) a kite (*Falco milvus*), three jays (*corvus glandularius*), two thrushes (*Turdus viscivorus*), and several ravens and crows (*corvus corax*; *corvus corone*.) But in the middle of the higher region he saw no other animals, except some lion-ants (*Myrmecoleon formicarum*, Linn.) which made their pitfalls in the dust of the lavas.

We shall close this article, already extended to a considerable length, and comprising every kind of information which we have met with concerning Ætna, with an account of its principal eruptions. The first symptom of an approaching eruption is an increase of the smoke, in fair weather; and after some time, a puff of black smoke is seen to shoot up to a considerable height in the midst of the white. These puffs are attended with considerable explosions; and the ascending column of black smoke is followed by a reddish flame. The smoke appears black in the day, and in the night resembles flame. Showers of ashes precede; earthquakes frequently accompany them; and red hot stones are projected to a great height in the air. The crater and smoke, at the time of an eruption, are so highly electrical, that they throw off spontaneous flashes into the air; and the smoke has sometimes extended, says Mr. Brydone, for upwards of 100 miles, and produced dreadful effects, killing shepherds and flocks on the mountains, blasting trees, and setting fire to houses which occupied an elevated situation. From the column of ascending smoke continual flashes of forked or zig-zag lightning proceed, and this is sometimes attended with thunder. When these appearances have continued for three or four months, the lava, or stream of melted mineral matter, boils over the top of the crater, or bursts through some weak place in the side. Upon the appearance of the lava, the violent eruptions of the moun-

tain generally, though not always, cease; but without a vent for the lava, the commotion is very much increased. In the night this lava appears like a stream of fire, and flows to a great distance; but in the day its progress is marked by a white smoke. It has been a subject of discussion among philosophers, whether the eruptions of volcanoes are now less frequent than they were formerly. This is probably the case, as the matter in the volcanic focus was then greater in quantity than it is at present; and the cavities being smaller were sooner filled with vapour, and the center of the focus was nearer the surface than it is now, in consequence of repeated eruptions and discharges. The whole number of the eruptions of this mountain, of which we have any record, says Spallanzani, before and after the Christian era, is 31; and 10 only, according to Gioeni, have issued immediately from the highest crater; but it is not easy to make an exact estimate, as the same eruption has continued with or without intermissions, for some time; and has been taken singly by some writers, whilst others have reckoned every renewal of it separately. The eruptions of Ætna have been reported and described by several of the ancient poets. The first of these, by whom they are mentioned, is Pindar, in the following passage, the fifth decade of an ode which was composed in the 78th olympiad, about four or five years after the second eruption mentioned by Thucydides.

Κίον,
Δ' ἑρπύνη συνίχεται
Νιφόςσ' Ἀἴτνα, πάντες
Χιονος ὄξυς ἰδὼντα &c.

Pythia. Od. i. v. 36. &c. p. 168.
Ed. West and Weisking.

Now under sulph'rous Cuma's sea-bound coast,
And vast Sicilia lies his shaggy breast;
By snowy Ætna, nurse of endless frost,
The pillar'd prop of Heav'n, for ever press'd:
Forth from whose nitrous caverns issuing rise
Pure liquid fountains of tempestuous fire,
And veil in ruddy mists the noon-day skies,
While wrapt in smoke the eddying flames aspire;
Or gleaming thro' the night with hideous roar,
Far o'er the red'ning main huge rocky fragments pour.

G. West's translation, Odes of Pindar, vol. i. p. 56.
12mo. &c.

They are also described by Virgil, in consequence of the eruption which happened, according to Mr. Oldenburg (*ubi infra*) at the time of the expedition of Æneas, who, being terrified with the fire of this burning mountain, left Sicily.

Horrificis juxta tonat Ætna ruinis,
Interdumque atram prorumpit ad Æthera nubem,
Turbine fumantem piceo et candente favilla;
Adtollitque globos flammaram, et Sidera lambit;
Interdum scopulos avolsaque viscera montis
Erigit cruetans, liquesfacta saxa sub auras
Cum gemitu glomerat, fundoque exæstuat imo.
Æneid. l. iii. v. 571, &c. tom. ii. p. 433, &c.
Ed. Burman.

The philosophical poet, Lucretius, has also mentioned the eruptions of Ætna.

Per fauces montis ut Ætnæ
Exspirent ignes interdum turbine tanto,
Expediam: neque enim mediocri clade co'orta
Flammæ tempestas, Siculûm dominata per agros
Finitumis ad se convertit gentibus ora;
Fumida quom cœli scintillare omnia templa

Cædentes,

Cementes, pavida complebant pectora curâ,
Quid moliretur rerum natura novarum.

Lib. vi. v. 639, &c.

Vol. iii. p. 309, &c. Ed. Wakefield.

For Silius Italicus's description of Ætna, see Punic.
lib. xiv. v. 55. 69. p. 697. Ed. Drakenb.

Mr. Oldenburg has enumerated several eruptions which happened before his time in the Phil. Trans. No. 48. Abridgm. vol. ii. p. 386. The first he mentions is that to which we have already referred; but the first eruption of which we have any positive historical record is that mentioned by Diodorus Siculus (l. 5. tom. i. p. 335. Ed. Wessel.), though he does not specify the precise period when it happened. This event, however, compelled the Sicani to abandon the eastern parts of Sicily, and to settle in the southern parts. This territory was afterwards occupied by the Sicilians, who migrated thither from Italy. The *second* eruption is the first of three that are recited by Thucydides (Hist. l. iii. c. 116. p. 237. Ed. Duker.) without mentioning the exact date of any one of them. He says, that from the arrival of the first Greek colonies that settled in Sicily, viz. in the third year of the 11th olympiad, corresponding to the year 733 before the Christian æra (vid. Annales Thucyd. p. 12), to the third year of the 88th olympiad, Ant. Christ. 425, Ætna, at three different times, discharged torrents of fire. This second eruption happened according to Eusebius (Chronicon. MDXC.) Ant. Christ. 565. The *third* eruption, or the second mentioned by Thucydides, happened, as he says, in the 50th year before the last; or as it is stated (vid. Annales Thucyd. p. 31. Ed. Wessel.) Ante Christ. 475. Olymp. 76½, when Phædo was archon at Athens. But the Oxford marble refers it to the 1st year of the 75th olympiad, Ant. Christ. 477, when Xantippus was archon at Athens. In the second year of this Olympiad, it is said the Athenians gained their boasted victory over Xerxes's general, Mardonius, near Platæa. Both the eruption of the volcano and the victory of the Athenians are commemorated in an ancient inscription on the marble table above-mentioned. It was at this eruption, as we are told, that two rich brothers, named Amphinomus and Anapis, disregarding their effects, rushed into the flames and carried off their aged parents on their backs. It is said that the fire spared these youths, whilst others who took the same road were consumed. The citizens of Catania recompensed this act of filial piety with a temple and divine honours. The heroic deed is represented on an ancient medal, and it is recorded by several ancient authors, as Strabo, (tom. i. p. 412.) Silius Italicus, (l. xiv. vers. cxvii. p. 703.) Valerius Maximus (l. v. c. 4) Pausanias (Phocica. l. x. p. 867. Ed. Kuhnii) Ælian (Fragmenta. Var. Hist. tom. ii. 1054) Seneca, Aristotle, Claudian, Solinus, &c. The *fourth* eruption, or the third mentioned by Thucydides, occurred, as we have already hinted, in the 88th olympiad, Ant. Christ. 425. and laid waste the territory of Catania. The *fifth* is dated by Orosius, in the consulship of Sergius Fulvius Flaccus, and Quintus Calpurnius Piso, about 133 years before Christ. Livy (l. liv. c. 12. tom. v. p. 1043. Ed. Drakenb.) mentions an eruption in the consulship of C. Lælius and Q. Servilius, Ante Christ. 140. The *sixth* happened in the 125th year before the Christian æra, and Orosius says, that a number of fishes were destroyed by it, and that the inhabitants of Lipari suffered exceedingly by eating them. The *seventh* eruption, which occurred in the 121st year before Christ, desolated Catania to such a degree, that the inhabitants were excused by the Romans from paying taxes for 10 years, in order to enable them to repair the damage which they had sustained.

This is mentioned by Livy (l. lxi. c. 41. tom. vi. p. 11). An *eighth* eruption happened in the 43d year before Christ, not long before the death of Cæsar, and was afterwards regarded as an omen of this event. The *ninth* eruption is mentioned by Suetonius, in his life of Caligula (tom. i. p. 608. Ed. Piffet.) It happened A. D. 40, and terrified the emperor so as to make him fly precipitately from Messina. This is reckoned the 13th eruption by Cluverius in his Sicil. l. 8. §. 2. Carrera mentions two eruptions, one in the year 253 and another in 420. The eruption which happened in the reign of Charlemagne, A. D. 812, is recorded by Geoffroy of Viterbo in his chronicle. In 1169, Sicily was disturbed by a violent earthquake, which extended to Reggio on the opposite side of the strait. Catania was destroyed by it, and 15,000 persons perished. On this occasion old rivers disappeared, and new ones burst out; and the ridge of Ætna fell on the side near Taormina. The spring of Arethusa became muddy and brackish; and the fountain of Ajo ceased to flow for two hours, and then gushed forth more abundantly than before. The sea at Messina retired far within its usual limits, and then overflowed its ordinary banks, and swallowed up a number of persons, who had fled to the shore for safety. Corn and trees of all sorts were destroyed, and the fields were covered with stones so as to become unfit for cultivation. From the year 1160, or as some say 1157, to 1169, Sicily repeatedly suffered from earthquakes and eruptions. This was followed by another eruption in 1181 or 1184, when streams of fire ran down the declivity of the mountain: and in 1329 the inhabitants of the mountain and of the whole island were alarmed by the commotions and noises of Ætna, and by the flames and stones, and other attendants of an eruption, which succeeded them. On this occasion a new crater was opened, and the flaming materials that were disgorged from it overspread the adjacent fields, destroyed their buildings, and occasioned the death of birds and quadrupeds, and of the fishes of the rivers and contiguous parts of the sea. A spectator says, that he could not think Babylon or Sodom was destroyed with such awful severity. The ashes were carried by the wind as far as Malta, and many persons are said to have died of terror. In 1333, Ætna made another terrible explosion, which was succeeded by that of 1381, which extended its ravages to the confines of Catania, and burnt up the olive-yards in the neighbourhood of the city, and again by another in 1444, when the mountain shook and discharged a quantity of lava, and large rocks were broken off from its summit and precipitated into the sea. Slight eruptions occurred in 1446 and 1447; but the eruption of 1536, after a cessation of near 100 years, was very dreadful in its appearance and effects, and lasted for a considerable time. A thick cloud, tinged with red in the middle, hovered over the summit of the mountain, which was attended by a strong west wind, and succeeded by the discharge of a large quantity of burning materials, that rushed with the noise and rapidity of a torrent down the eastern side of the mountain, and destroyed buildings and animals that lay in its way. A similar stream of liquid fire held its course towards the west, and did great damage. Several chasms were opened on the sides of the mountain, from which streams of ignited matter were thrown up to a great height into the air; and a learned physician whose curiosity and desire of information led him to examine the eruption, was burnt to ashes by a volley of burning stones. This continued with little intermission for a whole year, and terminated by causing the river Simetus suddenly to overflow its banks, and carry off those who lived near it with their cattle and other property. The country near Paterno

suffered much; and the neighbouring castles, and more than 500 houses were destroyed by the ravages of the river, and trees were torn up by violent blasts of wind. Ætna was convulsed and rent in several places, and poured forth torrents of lava, which destroyed the vineyards and gardens at the monastery of St. *Nicola d'Arena*, and proceeded onwards to *Nicolosi*, burnt *Monpelleri* and *Fallica*, and did great injury wherever it spread. The commotions of Ætna were so great, that the summit fell in with a tremendous noise, and the shocks of the earthquake that attended them were felt through the whole island. The inhabitants were so much alarmed and distressed, that they appeared in mourning; and continued in this state for a considerable part of the year. In 1567 and 1579, the ravages of Ætna were renewed; and from 1603 to 1636 its eruptions were occasionally repeated, and torrents of lava flowed from it, which destroyed the woods and vineyards in those parts to which they reached. In 1650, as Oldenburg informs us, from Kircher's *Mundus Subterraneus*, the mountain burnt on the north side, and produced great devastation. Carrera was witness of a dreadful conflagration in 1664, which lasted till the end of May 1678. But the eruption of 1669 was the most formidable and most destructive. Borelli, who was an eye witness of this catastrophe, and some English merchants who were also upon the spot and who examined its effects, of whose report we have a detailed account, in the Phil. Transf. (No. 51. abr. vol. ii. p. 387.) have minutely described the access, and progress, and ruinous consequences of this eruption. It was preceded, for eighteen days, with a dark sky, thunder and lightning, and frequent concussions of the earth, which destroyed many houses in the village of *Nicolosi*, and dispersed its inhabitants. The old crater on the summit of Ætna raged for two or three months before this event, in an unusual manner; and this was also the case with Volcano and Stromboli, two burning islands to the west of it. In the evening of the 11th of March, at the distance of about twenty miles from the old mouth, and ten miles from Catania, a chasm was opened in the east side of the mountain; which is said to have been several miles (Borelli says twelve) in length, and five or six feet wide. This was not far from the place where *Monte Rosso* afterwards arose, and extended in the direction of the grand crater of Ætna. See Pl. i. Nat. Hist. fig. 2. V. V. V. On the night following, in the place where this mountain now stands, another large cleft opened, and several other chasms were formed in different parts of the mountain; and there issued from all of them huge volumes of smoke, accompanied with the usual phenomena of thunder and earthquake. From the principal chasm there issued the same night a stream of lava, which directed its course to a lake, called *la Hardia*, about six miles from *Monpelleri*, and in its way destroyed many dwelling-houses and other buildings in the adjacent villages. The next day it moved towards a tract of country called *Mal Passo*, inhabited by about 800 people, which, in the space of twenty hours, was entirely depopulated and laid waste; the lava then changed its direction, and destroyed some other villages. *Monpelleri*, and its inhabitants, were also destroyed. On the 23d of March the stream of lava was in some places two miles broad, and extended itself to the village of *Mazzalucia*. On this day a new gulf was opened, from which were discharged sand and ashes, which formed a hill with two summits, two miles in circumference, and 150 paces high; these consisted of stones of different colours. The new mountain of *Nicolosi* continued to discharge ashes for three months, in such quantity as to cover the adjoining tract of country for 15 miles. Some of

these ashes were conveyed by the winds as far as Messina and Calabria; and others spread over the southern country, about Agosta, Lentini, and remoter parts. On the 25th of March the whole mountain, even to its highest summit, was agitated by a very violent earthquake. The highest crater, or its loftiest eminence, then sunk into the volcanic focus, and the spot which it had occupied became a deep gulf, more than a mile in extent, from which were thrown up enormous masses of smoke, ashes, and stones. At this time it is said, the famous block of lava on mount *Frumento* was discharged from the volcanic focus. The torrent of lava, which still continued to flow, directed its course towards Catania; it first passed under its walls for a considerable distance into the sea, but afterwards accumulated and passed over them in several places. The gardens and grounds belonging to the convent of the Benedictines were overwhelmed by it; and by its taking this direction many buildings in the town escaped. From hence it divided into separate channels or streams, and flowed chiefly into the sea. The English merchants say, that it had overwhelmed in the upland country, 14 towns and villages, some of which contained 3 or 4000 inhabitants, and stood in a fruitful country, where the fire had not before this time made any devastation; and they add, "there is not now so much as any sign where these towns stood, except the church and steeple of one of them, which was situated on an eminence." The Earl of Winchelsea, who at this time happened to be there on his way home from an embassy to Constantinople, in his account of this tremendous catastrophe, informs us, that the inundation of fire, cinders, and burning stones, advanced into the sea 600 yards, and a mile in breadth: that it destroyed in 40 days the habitations of 27,000 persons; and of 20,000 persons, who inhabited Catania, 3000 only remained. He adds, that the fiery deluge, in its progress, met with a lake four miles in compass, and not only filled it up, though it was four fathoms deep, but raised it into a mountain. He observes, according to an extract, cited by Sir William Hamilton, that he could see at ten miles distance the fire begin to run from the mountain in a direct line, and the flame to ascend in bulk and height equal to those of the loftiest steeple in this kingdom, and to throw up large stones into the air. He discerned also the river of fire descending the mountain, exhibiting a terrible fiery or red colour, and bearing stones, which swam upon it, as big as an ordinary table. This fire was observed to move in several other places, emitting flames and smoke resembling those of a furnace of melted iron, and occasioning a loud noise especially by means of the great pieces that fell into the sea. He adds, upon the information of a cavalier of Malta, that the river was as liquid, when it issued from the mountain, as water, and came out like a torrent with great violence; and that it was five or six fathoms both in depth and breadth, and that no stones could sink in it. Borelli observes, that when they threw stones into the chasm of the mountain, they could not hear them strike the bottom. Burning rocks, he says, 60 palms in length, were thrown to the distance of a mile, and stones of a lesser size were carried upwards of three miles, and the thunder and lightning from the smoke were not less terrible than the noise of the mountain. After the most violent struggles, and shaking of the whole island, when the lava got vent it sprang up into the air to the height of 60 palms; the sun, for many weeks, did not appear, and the day seemed to be changed into night; and it was not till four months from the time when it began to discharge its contents, that these dreadful symptoms abated. This deluge of fire, after destroying the finest country in Sicily, and sweeping away churches, villages, and

convents before it, burst over the lofty walls of Catania, and covered five of its bastions, with the intervening curtains; and from thence pouring down on the city, it laid waste every object it met with, overwhelming and burying all in one promiscuous ruin. He regrets the destruction of many remains of antiquity; particularly an amphitheatre, which he calls *Coliseo*, the *Circus Maximus*, the *Neumachia*, and several temples. Borelli has calculated, that the matter discharged at this eruption was sufficient to fill a space of 93,838,750 cubic paces.

The English merchants, to whose account we have already referred, describe the lava as a mass consisting of metals and minerals, which being rendered liquid by the fierceness of the fire in the bowels of the earth, boiled up and gushed forth as the water does at the head of some great river; and having run in a full body for a stone's cast or more, the extremity of it became cruisted, and formed those hard stones which the people call *fiarri*, and which resembled huge cakes of sea-coal strongly ignited. The lava thus proceeded to the sea, when the conflict between the two elements occasioned a noise more dreadful than the loudest thunder, which was heard to a great distance; the water retired before it, the fish on the coast were destroyed, the transparency of the waters was lost for several months; and the clouds or vapours that ascended from it darkened the sun. The fire, say these gentlemen, spread about three miles in breadth, and 17 miles in length. When they attempted to go up to the mouth, whence the lava issued, they could not advance nearer to it than a furlong, but they should be overwhelmed by a pillar of ashes, which seemed to them to exceed twice the bulk of the steeple of St. Paul's church in London, and to ascend into the air to a much greater height. From the mouth proceeded a loud noise, like the beating of billows against rocks, or distant thunder, which was at intervals so violent as to be heard 60 or even 100 miles off; and so far were the ashes carried. The hole whence the lava issued was about ten feet in diameter. Sir William Hamilton informs us, that the lava, on which there were no signs of vegetation in 1769, is 14 miles in length, and in many parts six in breadth, and that after destroying many hundred monuments in Catania it ran far into the sea, forming a safe harbour, which was soon after filled up by a fresh torrent of the same inflamed matter.

The eruption of 1682 produced a burning gulf on the top of the mountain, and its lava was directed over the hill of *Mazarra*. In 1686 a quantity of this ignited matter was thrown off from the summit of the mountain, and after consuming woods, vineyards, and crops of grain through the extent of four leagues, its course was stopped in a valley near the castle of *Mazara*. Several people, whose curiosity led them to watch the progress of the lava on a hill between the wood of Catania and the confines of *Carita* were buried under the hill which suddenly sunk inward.

After a long interval of rest, the eruptions of *Ætna* were renewed in 1755, when a prodigious torrent of boiling water issued from the great crater. The discharge of water was preceded by smoke and flames, subterraneous noise and convulsions of the earth, the usual signs of an approaching eruption; at length the torrent burst forth, and formed tremendous cataracts in descending from one chain of rocks to another, till it reached the cultivated plains, which it overspread for many miles; and after separating into several deep and rapid rivers, it discharged itself into the sea. The ravages of this inundation, on account of both the quantity and the heat of the water, were very extensively injurious: and though the mountain continued to throw up water only for half an

hour, it produced not only alarm but very considerable damage wherever it flowed. When the discharge of water ceased, the noise, smoke, and convulsions were continued; and there appeared two new chafers, from which two torrents of lava issued, and pursued their course through the snow, which covered the summit of the mountain. The discharge of water was followed in two days by an explosion of small stones and sand, some of which were carried as far as the hills of *Mazara*; and the black sand was driven to *Messina*, and even over the strait to *Reggio* in Calabria. Some of the sand was conveyed, by the shifting of the wind, to the plains of *Agosta*. In two days the mountain opened again, and discharged a torrent of lava which moved towards the plain, at the rate of a mile a day, and continued for six days.

Recupero examined the course of the torrent of water above mentioned. He found that it proceeded from the bowels of the mountain, and pursuing a channel which it formed from the summit to the sea, it gained accession from the melted snow; and in its progress destroyed a large forest of trees, which were torn up by the violence of the current, though some of them were not less than two and two and a half feet in diameter. The main torrent divided into four principal streams, and these again separated into smaller currents; but afterwards reuniting, they formed islands, and larger rivers, about 900 feet wide, and of a depth which could not be easily ascertained. The channel of the waters, in their farther descent, was alternately contracted and dilated; and in some places it was not less than 1500 feet. Fragments of lava, and huge rocks, were removed by the current, and valleys were filled up by the sand which the waters deposited. When Recupero visited the mountain, after an interval of ten years from the eruption, the whole side of the hill bore the marks of the deluge. In 1763 there was an eruption, which continued with intermissions for three months. From the crater, opened on this occasion, a pyramid of fire issued; which ascended to a great height in the air, and exhibited an artificial fire-work, attended with the explosion of a formidable battery, which shook the earth under those who were spectators of the scene. The lava that flowed from the crater yielded a very brilliant light, retained its heat, and exhaled its smoke for two years; nor did any snow appear on the summit of *Ætna* for five years. In 1764, a new crater was opened at a considerable distance from *Ætna*; and in 1766 another was opened at the grotto of *Paterno*, which formed a mountain that after an interval of four years discharged great quantities of smoke, with loud explosions. In this interval the lava was not cooled, nor was the fire extinguished. Its fury was spent on a beautiful forest, which it laid waste, to the extent of many miles. In 1780, the convulsions of the mountain were often renewed, and several new craters were formed: and from these flowed streams of lava, which moved with different velocities, and in various directions. The most considerable of these flowed from a crater on Mount *Frumento* on the summit of *Ætna*; and flowing in a stream about 200 paces in breadth, at the rate of about a mile in a day, spread through the valley of *Landunza*. From another crater red hot stones were projected, and a current of lava was discharged, which flowed over a tract of country two miles in extent.

The next eruption of *Ætna* happened in July, 1787, and has been accurately described by *Gioeni*, in an account of it printed at Catania in the same year, of which we have a French translation, by *M. Dolomieu*, at the close of his *Catalogue Raisonné*. It was preceded by the usual signs of an approaching eruption for several days, i. e. from the 1st

to the 17th of July, when the lava flowed from the hinder part of one of the two mountains that form the double head of Ætna. On the next day, a numerous flock, and the appearance of a thick smoke, a shower of fine black brilliant sand descended; on the call file there was a fall of stones; and at the foot of the mountain a deluge of flashes of fire, scorix, and lava. In the evening cooled flames appeared alternately to rise and fall from the volcano; at three the next morning the mountain seemed to be cleft, and the summit was a burning mass. Two of the conical flames, viz. one on the north and another on the south, were of an immense extent; where these separated, another cone of flame, composed of many smaller ones, appeared to ascend above the mountain over a base of about a mile and a half in diameter to a height supposed to be about two miles. This cone was covered with a thick smoke, in which were seen very brilliant flashes of lightning; a phenomenon which had not been observed in other eruptions. Sounds resembling the explosions of a large cannon were also occasionally heard. From the cone, as from a fountain, there was perceived a jet of many flaming volcanic matters, which were thrown to the distance of six or seven miles; and from the base of the cone there issued a thick smoke, which darkened parts of the flame, at the time when the rivers of lava were discharged. This beautiful appearance continued for three quarters of an hour. It began the next night with greater force, but lasted only for half an hour. In the intervals Ætna continued to throw out flames, smoke, ignited stones, and showers of sand. From the 20th to the 22d, the appearances gradually ceased. The stream of lava flowed towards Bronte and the plain of Lago. After the eruption, the western side of the top of the mountain was covered with hardened lava, scorix, and stones. The travellers were annoyed by smoke, showers of sand, mephitic vapours, and excessive heat. The lava that proceeded from the western point was observed to separate into two branches, one of which was directed towards Libeccio, and the other, already mentioned, towards the plain of Lago.

The lava on the western head of the mountain had been evidently in a state of fusion; and from one of the spiracula, the odour was that of liver of sulphur. The thermometer in descending was at 40° of Fahrenheit's scale; but near the lava, on the plain of Lago, it was 140°. The lava extended two miles; its breadth was from 13½ to 21 feet, and its depth 13½ feet. There was another eruption in October, 1787; the effects of which are described by the Abbè Spallanzani. The stream of lava that issued on this occasion, from the great crater, was three miles in length; its breadth was in some places about a quarter of a mile, and in others one third, and in other parts still greater: its greatest depth was about 18 feet, and the least six. Its course was along the west side of the mountain; and the effervescence that produced it was, like that of July, extremely violent. The scorix were like that of the torrent in July of a black colour; but differed from them in their adhesion to the lava, in their external vitreous appearance, their greater weight, and their hardness, which was such as to yield sparks with steel, almost as plentifully as flints. These differences are ascribed to accidental combinations of the same substance; the constituent principles of both these scorix being the same. Both contained the same felspar lamellæ. For other particulars, relating to the causes and products of volcanic eruptions, see BASALTES, LAVA, POZZOLANO, and VOLCANO. For the places adjacent to Ætna, see CATANIA, CYCLOPS, HYBLA, and TRIZZA.

ÆTNA, a name given to a city of Sicily, founded by Hiero of Syracuse, in the 1st year of the 76th olympiad,

on the ruins of Catana; which was dispossessed of its primitive inhabitants. After the death of Hiero, the Catanians returned, expelled the new occupiers, and destroyed the sepulchre of the Syracusan monarch. The Ætneans retired to *Iunista*, or *Eunista*, which was the name given to mount Ætna, and which was distant about 80 stadia from Catana, called it Ætna, and announced Hiero to be its founder. Diodorus says, that Dionysius of Syracuse persuaded the inhabitants of Catana to remove to Ætna, because it was a fortified town. Authors are now hardly agreed about the situation of Ætna. Strabo, tom. i. p. 412. Diod. Sic. l. ii. c. 76. tom. i. p. 461. l. xiv. p. 644, &c. Thucyd. Annales. p. 31. Ed. Wesseling.

ÆTNA *sals*, *sal Ætnæ*, a name given by some authors to the *sal ammoniac*, which is found on the surface and sides of the openings of Ætna, and other burning mountains after their eruptions; and sometimes on the surface of the ferruginous matter which they throw out. This salt makes a very various appearance in many cases; it is sometimes found in large and thick cakes, sometimes only in form of a thin powder, scattered over the surface of the earth and stones. Some of this salt is yellow, some white, and some greenish.

This salt is a concrete of nitre, sulphur, and vitriol, burnt and sublimed together. Borelli found once a vast quantity of this salt on mount Ætna, and tried many experiments on it; from whence he concluded, that this salt is so far from occasioning the explosions of the mountain, as some have supposed, that it does not exist in it, but is formed during the burning. Phil. Trans. N° 100.

ÆTOLIA, in *Ancient Geography*, a province of Greece, which formerly comprehended the country now called the *Despotat*, or *little Greece*, was parted on the east by the river Evenus, now the Fidari, from the Locrenses Ozolæ, and on the west from Acarnania by the Achelous; and on the north it bordered upon the country of the Dorians and part of Epirus, and on the south extended to the bay of Corinth. Its utmost extent from north to south was about 48 miles; and from east to west its greatest breadth was somewhat above 20 miles. According to Strabo (l. x. tom. ii. p. 691) it was customary to divide Ætolia into two districts, the one called the ancient Ætolia, which lay between the rivers Achelous and Calydon on the Evenus, and which was a level and fruitful country, and the other denominated *εὐαχίνος* or the acquired, which was contiguous to the Locrians, towards Naupactus and Eupalus, and extended northwards towards the mountain Oeta, and which was more craggy and barren. He also informs us (tom. i. p. 548. tom. ii. p. 711.) that it derived its name from Ætolus, the son of Endymion, who being compelled to leave Elis, removed to this country, and founded several cities in it; of which the principal were Thermus, Calydon, and Pleuron. Their only sea-port was Oenias on the Corinthian bay. Of their kings, who succeeded Ætolus, little more is known than their names. It does not appear by whom it was inhabited before Ætolus took possession of it; and its subsequent history for several ages is very obscure and doubtful. Thucydides (l. i. p. 5. Ed. Duker.) Plutarch, (in Theseo) Strabo, and other ancient writers represent the Ætolians, as the greatest robbers in Greece, and as continuing such for many centuries, after Hercules, Theseus, and other heroes, had extirpated those banditti every where else; to them Strabo ascribes the invention of the sling. Livy (l. xxxvi. tom. iv. p. 1040.) describes them as a proud, arrogant, and ungrateful people, but as good warriors; and they are said to have fought with one shoe, whence the epithet *μονοπέδιλοι* has been

been applied to them. Polybius (Megal. Hist. l. iv. passim p. 270, &c. Ed. Casaubon.) speaks of them as a turbulent people; seldom at peace among themselves, and generally at war with their neighbours; utter strangers to all sense of friendship, or principles of honour; ready to betray their friends whenever they had the least prospect of deriving any advantage from their treachery; and, in short, as persons who were regarded by the other states of Greece as outlaws and public robbers. In war, however, they were bold and enterprising; inured to hardship and labour; and jealous of their liberties, in defence of which they were ready to sacrifice their lives.

The constitution of the Ætolian republic was formed in imitation of that of the Achæans, and with a view of counteracting their growing power. It was governed by a general assembly, a prætor, and other magistrates of inferior rank and authority. The general assembly usually met once a year, and on extraordinary occasions it was summoned by the prætor more frequently; and this national council possessed the whole power of enacting laws, declaring war, making peace, and concluding alliances with other states. Each city of the Ætolian alliance deputed members, composing a council which was called the *Apocleti*, and which consisted of the most eminent men of the nation, whose office resembled that of the *demurgi* among the Achæans. Their chief magistrates, in subordination to the prætor, were the general of the horse, the public secretary, and the *ephor*i. The republic of Ætolia, thus formed and governed, distinguished itself above all the other nations of Greece, in opposing the ambitious designs of the Macedonian princes. Having kindled the Cleomeneic war, and that of the allies, called the Social war, in the heart of Peloponnesus, with a view of humbling their antagonists the Achæans, they resisted for three years, with the assistance of the Eleans and Lacedæmonians, the united forces of Achæa and Macedon; but they were at last obliged to purchase a peace by surrendering to Philip the whole of Acarnania. But as they gave it up with reluctance, they were anxious to seize the first favourable opportunity that occurred for regaining it. With this view they concluded an alliance with the Romans, Ante Christ. 211; which was ratified two years after it was formed, by both nations. The articles of which it consisted were ordered by the senate to be deposited in the capitol, as a lasting monument of their first alliance with the Greek nation. Hostilities, however, immediately commenced, as soon as the treaty was concluded. Whilst the forces of Philip were employed in Macedon, the Ætolians entered Acarnania; where they found a very determined and vigorous opposition. Notwithstanding the assistance which they were likely to derive from Lævinus, the Roman General, who had projected the alliance with them, they were intimidated by the resolution of the Acarnanians, and returned home without attempting to provoke a people who had declared their purpose either to conquer or die. Diverted from prosecuting their first design, they turned their arms against Anticyra, a city of the Locri, and aided by the Romans, compelled it to surrender. This success encouraged them to march into Achæa, and to oppose the forces of Philip. The hostile armies met near Lamia, a city of Phthiotis, where the Ætolians were twice defeated. After this victory Philip was prevailed upon by an embassy from Ptolemy Philopater, king of Egypt, and by deputies from the islands of Chios and Rhodes, and the city of Athens, to grant the Ætolians a truce of thirty days, and to enter into a negotiation for peace. Polybius has preserved (l. xi. c. 4. p. 626) one of the speeches which was delivered on this occasion, and

which may be considered as a master-piece of the kind. The negotiation, however, proved unsuccessful; and the war was renewed with considerable, though temporary, advantage on the part of the Ætolians and their confederates. During the absence of Philip, they possessed themselves of several cities: but upon his return, being abandoned by the Romans, they were under a necessity of concluding a peace upon very unfavourable terms, Ante Christ. 204. This peace was of short duration. An extraordinary diet was held at Naupactus, in which the friendship and alliance of the Ætolians were solicited by Philip, and also by the two powerful republics of Athens and Rome. The Romans, however, prevailed (Ante Christ. 201), and the Ætolians, after some previous conquests, entered Thessaly, where they were met by Philip, and, after a considerable slaughter, totally routed. Next year they rallied again, and re-entered Thessaly, plundering and destroying wherever they came, and either putting the inhabitants to the sword, or selling them for slaves to the best bidder. The Ætolians maintained their attachment to the Romans during the course of the war, and were favoured by the Roman commanders above the other nations of Greece; but after the battle of Cynocephalæ, in which Philip was entirely defeated, their mutual affection abated. The Ætolians arrogated to themselves the glory of this victory; and Flaminius, the Roman general, mortified their vanity and excited their resentment, by granting a truce to the deputies of Philip without consulting them. When a negotiation for peace between Philip and the Romans commenced, the Ætolians obstructed it; and it was concluded Ante Christ. 196, without their concurrence. Dissatisfied with the conduct of the Romans on this occasion, they meditated revenge, and exerted themselves in raising new enemies against their former allies. They made their first attempt in the assembly of the Amphyctions, but failing here, they had recourse to Antiochus king of Syria, Nabis tyrant of Lacedæmon, and even to Philip king of Macedon. They were immediately joined by Nabis; and having concerted a plan for seizing on three cities, which were reckoned the bulwarks of Greece, *viz.* Chalcis in Eubœa, Demetrias in Thessaly, and Lacedæmon in the center of Peloponnesus, they proceeded to the execution of it. Having succeeded by stratagem in gaining possession of Demetrias, Antiochus, who had declared in their favour, determined to land in this place; and in the year (Ante Christ. 192) he arrived in Greece; and in a diet held at Lamia, he was honoured with the title of generalissimo, or commander in chief of all the Greek armies against Rome. The king of Syria having gained possession of Chalcis, was joined by several of the Greek states, who renounced their alliance with Rome: but Chalcis in the event proved no less fatal to Antiochus than Capua had been to Hannibal. During his residence in this city he formed a connection with the daughter of Cleoptoïemus, one of the chief citizens, and married her. Such was the ardour of his attachment to the new queen, that he seemed to forget Rome, Greece and Syria. The king spent the winter in feasting and rejoicings; his example infected the officers of his army; the soldiers abandoned themselves to idleness and debauchery; and mutiny and disorder universally prevailed. The Romans availed themselves of these circumstances; and in the year Ante Christ. 191, declared war against him, and dispatched a powerful army into Greece. The Ætolians could afford him little assistance; nor was he able to stay the progress of the Roman army, till they compelled him to take refuge first in Chalcis, and afterwards to set sail for Asia and retire to Ephesus. The Ætolians were strongly fortified

besieged at Ilion; although their number amounted only to 1000, they held out 40 days against the incessant attacks of the whole consular army under the victorious Ætolians. The town was at length taken by stratagem, and delivered up to be pillaged by the soldiers. Ælamia, which had been for some time unsuccessfully besieged by Philip, surrendered to the Romans. After the loss of these two cities, the Ætolians sent ambassadors to the Roman consul, who lived for a peace; but they could merely obtain a truce of 10 days. When this truce was near expiring, the Ætolian ambassadors at Rome were admitted to an audience of the senate; and were told, that they must either submit to the will of the senate, or pay the republic a thousand talents, and make neither war nor peace with any other power, without the consent and approbation of Rome. The ambassadors hesitated in complying with these terms, and were ordered to leave Rome that day, and Italy in a fortnight. The Ætolians upon a second application obtained a truce of six months; and the consular army was withdrawn from Greece. But during the interval of negotiation they invaded the territories of Philip, and reduced several provinces, which they solicited the permission of the Romans to retain. Their ambassadors enforced their application by a false report, that the two Scipios had been made prisoners by Antiochus, and that the Roman army was entirely defeated. The senate, incensed by this artifice, dismissed the ambassadors, and forbade their return without the express consent of the generals whom the republic were about to send for carrying on the war in their country. In the year, Ante Christ. 189, the Romans began their hostile operations with the siege of Ambracia, which was seasonably succoured by the Ætolians, and which they vigorously defended. The contending armies having formed two mines near the wall of the city, fought for some time under ground, first with pickaxes and spades, and then with swords and spears; and each party secured itself by making a kind of rampart with the loose earth. The Ætolians on this occasion invented a singular kind of machine, in order to drive the enemy out of the mine: this was a hollow vessel, with an iron bottom, bored with holes and armed with spikes for preventing the approach of the enemy. They filled this vessel with feathers, and having brought it to the place where the two mines met, they set the feathers on fire; and by driving with bellows the smoke on the besiegers obliged them to quit the mine; and by this stratagem they gained time for repairing the foundations of the walls. The siege, however, was continued, and Ambracia was under a necessity of capitulating. After this event, the Ætolians sent ambassadors to Rome; and their application being enforced by the concurrence of the Rhodians and Athenians, and also of Valerius, who was brother to the consul Fulvius, and the son of Lævinus, who formed the first treaty of alliance between Rome and Ætolia, a peace was concluded on the following terms.—1. The majesty of the Roman people shall be revered in all Ætolia. 2. Ætolia shall not suffer the armies of those who are at war with Rome to pass through her territories, and the enemies of Rome shall likewise be enemies of Ætolia. 3. She shall in 100 days deliver to the magistrates of Corcyra all prisoners and deserters, both of the Romans and their allies, except those who have been taken twice, or during her alliance with Rome. 4. The Ætolians shall pay to the Roman general in Ætolia 200 Euboic talents, of the same value with that of the Athenian talents, and engage to pay 50 talents more within six years. 5. They shall deliver to the consul 40 hostages of his choice, none of whom shall

be under 12 or above 40 years of age; the prætor, general of the horse, and those who had been already hostages at Rome, excepted. 6. Ætolia shall renounce all pretensions to the cities and territories which the Romans have conquered since the consulate of Flaminius, though they had formerly belonged to the Ætolians. 7. The city of Oenias and its districts, shall continue subject to the Acarnanians. 8. Cephalenia shall not be included in this treaty. Severe as these terms were, the Ætolian republic was reduced to a much worse condition after the conquest of Macedonia by Paulus Æmilius; for those who had openly declared for Perseus, and others who had secretly favoured him, were sent to Rome, and there detained, so that they were never allowed to return to their native country. Five hundred and fifty of the chief persons of the nation were barbarously assassinated by the partisans of Rome under a suspicion of wishing well to Perseus; and though the Ætolians appeared in mourning habits before Paulus Æmilius, and complained of this inhuman treatment, they obtained no redress. From this time none were advanced to stations of honour or office in Ætolia, but those who were known to prefer the interest of Rome to that of their own country. In this state of humiliating subjection did the Ætolians continue till the destruction of Corinth, and the dissolution of the Achæan league, when Ætolia, with the other free states of Greece, was reduced to a Roman province, commonly called the province of Achaia. Nevertheless, each state and city were governed by their own laws, under the superintendency of the prætor, who was sent annually from Rome into Achaia. The whole nation paid a stipulated tribute, and the rich were prohibited from possessing lands any where except in their own country. Livy, l. 26.—27.—31.—32.—33.—35.—36.—37.—38.—39. tom. iii. iv. v. Ed. Drakenb. Polybius Hist. l. 2. 4.—9.—10.—11.—17. pp. 91.—272.—560.—596.—626.—743. Excerpt. Legat. pp. 788.—796.—802.—806.—825.—828. Ed. Cafaub. Pausanias in Achaic. p. 521, &c. Ed. Kuhnii.

In this state, with little alteration, Ætolia continued under the emperors, till the reign of Constantine the Great, who, in his new partition of the provinces of the empire, divided the Western parts of Greece from the rest, calling them new Epirus, and subjecting the whole country to the *præfectus prætorii* of Illyrium. Under the successors of Constantine, Greece was divided into several principalities, especially after the taking of Constantinople by the western princes. At that time, Theodorus Angelus, a noble Grecian, of the Imperial family, seized on Ætolia and Epirus. The former he left to Michael his son, who maintained it against Michael Paleologus, the first emperor of the Greeks, after the expulsion of the Latins. Charles, the last prince of this family, dying in 1430, without lawful issue, bequeathed Ætolia to his brother's son, named also Charles, and ACARNANIA to his natural sons, Memnon, Turnus, and Hercules. But great disputes arising about this division, Amurath II. after the reduction of Theflonica, seized so favourable an opportunity, and expelled them all in 1432. The Mahometans were afterwards dispossessed of this country by the famous prince of Epirus, George Castriot, commonly called Scanderbeg, who, with a small army, opposed the whole power of the Ottoman empire, having defeated those barbarians in 22 pitched battles. This hero, at his death, left great part of Ætolia to the Venetians; but they not being able to oppose such a formidable power, the whole country was soon reduced by Mahommed II, whose successors still possess it. Anc. Un. Hist. vol. vi. 155—205. 8vo.

ÆTOLIA, an ancient town of the Peloponnesus, placed by Steph. Byzant. in Laconia.

ÆTORCHECUM, a promontory of Bithynia.

ÆTUATES, a people of Helvetia, upon the frontiers of Rætia, towards the sources of the Rhine.

ÆTULANA, a country of Armenia Minor.

ÆTYMANDRI, a people of Asia.

ÆVSKAIA, in *Geography*, a town of Siberia, situated on the Irtilsh; 20 leagues north-west of Tara.

ÆX, the name of one of the nurses of Jupiter, who was placed among the stars.

ÆXONA, a borough of Attica, dependent upon the tribe of Cceropides. The inhabitants were so much addicted to calumny, that *αἰξωνισμός* was used proverbially for speaking evil of another.

ÆXONIA, was also the name of a city of Magnesia in Thessaly. Stephan. Byz.

ÆZALA, a town of the greater Armenia in Asia.

ÆZANIS, a town of the greater Phrygia in Asia.

ÆZARI, an ancient people of Africa, who gave name to a canton of Marmarica.

ÆZICA, a country of Thrace.

AFDELLES, in *Ichthyology*, a name given by the Cretans to the fish called at Rome, *donzellina* and *zigurella*. See **JULIS**.

AFER, *Constantinus*, in *Biography*. See **CONSTANTINUS**.

AFER, *Domitius*, a celebrated orator, was born at Nîmes, in Gaul, in the year before Christ 15 or 16, and lived under Tiberius, and the three succeeding emperors. After his advancement to the office of prætor, his ambition led him to aspire after higher honours; and with this view, preferring fame to virtue, he exercised his talents as an accuser. Claudia Pulchra, the cousin of Agrippina, was the first object of his attack; and by charging her with adultery, witchcraft and magical operations against the emperor, he recommended himself to Tiberius, who had conceived an invincible detestation of Agrippina. Agrippina, however, much as she must have resented his conduct, treated him with the contempt he deserved; for when she accidentally met with him after the impeachment of Claudia, and he was endeavouring to avoid her, she pertinently applied to him the passage in Homer (Il. æ. 335.)

Οὐκ ἐμὲ τιμῶς ἐπιτίσεις, ἀλλ' Ἀγαμέμνον.

"It is not of you, it is of Agamemnon I complain:"

Thus intimating her disdain of him, who was the mere minister of an injustice that proceeded from a higher power. Afer next year directed his accusation against Quintilius Varus, the son of Claudia; in which he was aided by P. Dolabella, who was a man of birth and the relation of Varus. Finding this practice to be a source of wealth and honours, at the degenerate period in which he lived, he adhered to it through life, and incurred the contempt even of his admirers, by persisting in it when his faculties were impaired by age, and the decay of his powers eclipsed the fame of his former eloquence. His advancement at this period depended on his talents for flattery, as well as on those by which he was distinguished as a public speaker. Having erected a statue to Caligula, he introduced into the inscription a record, which he undoubtedly designed as an expression of respect, that the emperor was a second time consul at the age of 27 years. Caligula interpreted the compliment as a censure upon him for violating the law, and as a reproach of his youth; and pronounced a vehement oration against him in the senate. Afer, instead of making any reply in his own vindication, professed the highest admiration of the emperor's eloquence, and re-

peated the greatest part of his speech in strains of rapture. By this seasonable artifice he not only obtained a pardon, but induced the emperor to dispossess the consuls of their office, and by this act of injustice to make way for the advancement of Afer.

This orator died in the reign of Nero, A. D. 59, in consequence, as it is said, of eating to excess. Quintilian assiduously cultivated the friendship of Afer, and was in his youth a constant attendant on his pleadings. Of his eloquence he speaks in terms of high commendation, as distinguished by art and vanity, intitling him to rank among the first orators of Rome. According to his account, Afer often introduced pleasant stories and strokes of wit in his pleadings; and collections were made of his jests. He discouraged and condemned the prevailing practice of vociferous applause; and being repeatedly interrupted whilst he was pleading slowly and gravely before the Centumviri, he paused, and addressing the judges, observed, "Gentlemen, our profession is ruined." Afer, however, exposed himself to ridicule, by continuing to plead under the infirmities and decays of advanced life: some, says Quintilian, laughed, others were ashamed; and he observes that Afer incurred the reproach, "*Malle eum desicere, quam desinere*," or, "that he had rather fail than finish:" and he grounds on his conduct a recommendation to orators to withdraw, when age incapacitates them for maintaining their former reputation. The orator, he says, in order to prevent falling into these snares of old age, should found a retreat, and come into port with a sound vessel. Tacitus, Annal. l. iv. c. 66. tom. i. p. 517. l. xiv. c. 19. tom. i. p. 935. Ed. Gronov. Dion Cassius, Hist. Rom. tom. ii. p. 922. Ed. Reimar. Quintilian, Inst. l. v. c. 7. tom. i. p. 378. l. vi. c. 3. p. 535. l. x. c. 1. p. 918. l. xii. c. 11. tom. ii. p. 1107. Ed. Burman. Pliny, Epist. li. p. 14.

AFFA, a weight used on the gold coast of Guinea. It is equal to an ounce, and the half of it is called *eggeba*. Most of the blacks on the gold coast give these names to those weights.

AFFACUS, in *Geography*, a town on the Barbary shore, eight leagues south-east from **AFRICA**.

AFFANG, a town of the archduchy of Austria, three leagues west of Steyr.

AFFAR, a town of Arabia Felix; 14 German miles east of Loheia.

AFFATOMIA, in *Ancient Laws*, a kind of donation made by thrusting a wand into the person's bosom, to whom it was made. Du-Cange.

AFFECTED, in *Algebra*. See **ADFFECTED**.

AFFECTIO bovina, is a disease incident to cattle, occasioned by a little worm, bred between the flesh and the skin; which works its way over all parts of the body.

AFFECTION, in a general sense, denotes an **ATTRIBUTE** peculiar to some subject, and arising from the very idea or essence of it.

The word is formed from *afficere*, to *affect*; the **SUBJECT** being here supposed in some measure *affected*, or acted on, by the thing attributed to it.

In this sense, *affection* is synonymous with *property*, or with what the schoolmen call *proprium*: *quarvo modo*.

Philosophers are divided as to the doctrine and division of affections: according to Aristotle, they are either *subordinating*, or *subordinated*; under the first of which comes only *mode*; and under the second, *finiteness*, *place*, and *time*. The generality of Peripatetics divide affections into *internal*, as motion and finiteness; and *external*, as place and time. According to Sperslingius, affections are better divided into *simple* or *united*, and *disjunct* or *separate*: under the first he comprehends

extension, *quantity*, *quality*, *place*, and *time*; under the second of these, &c.

Affections are also distinguished into those of *body*, and those of *mind*.

Affections of *body*, are certain modifications of it: occasioned or produced by matter; in virtue of which, a body comes to be in a certain disposition.

The Affections of *body* are sometimes subdivided into *primary*, and *secondary*.

Affections, *primary*, are those which arise either from the idea of matter, as quantity and figure; or from that of form, as quality and power; or both together, as motion, place, and time.

Affections, *secondary*, or *derivative*, are those which arise from some of the *primary*; e.g. from quantity, as divisibility, continuity, contiguity, finity, impenetrability; from figure, as regularity and irregularity; from *quality*, as health, strength, &c.

The epithet *material* is applied to those affections that are properties of matter, resulting from its figure, bulk or motion.

Affections of *mind*, are what we more usually call *PASSIONS*.

Dr. Cogan, in his Philosophical Treatise on the Passions, very properly distinguishes between affection and passion; and he accurately discriminates between both these terms, and that feeling, which is usually denominated *EMOTION*. The term affection, he says, has a different signification from either of the other two, and represents a less violent, and generally a more durable influence, which things have upon the mind. It is applicable to the manner in which we are affected by them for a continuance; and supposes a more deliberate predilection and aversion, in consequence of the permanent influence of some prevailing quality. This distinguishes it from the transient impulse of passion; nor is it so intimately connected with any external signs, which distinguishes it from *emotions*. The affections sometimes succeed to passions and emotions, because these may have been excited by something that becomes permanently interesting; or they may be gradually inspired, by a deliberate attention to the good or bad qualities of their objects. In this philosophic sense of the word, affection is applicable to an unpleasant as well as pleasant state of the mind, when impressed by any object or quality; it may be produced by any thing that torments or corrodes the heart, as well as by that which charms and delights it. Custom, however, chiefly appropriates the term to the kindly and benevolent affections.

In the same manner Dr. Reid (Essays, p. 143. 167.) has applied the general name of affections to those various principles of action in man, which have persons for their immediate object, and which imply, in their very nature, our being well or ill-affected to some person, or at least, to some animated being: and whether they dispose us to do good or hurt to others. He observes, however, that the word affection seems, by custom, to be limited to good affections. Accordingly, when we speak of having affection for any person, it is always understood to be a benevolent affection. In the extensive sense above stated, our affections are very naturally divided into benevolent and malevolent, as they respectively imply our being well or ill affected towards their object. The characters of love and hatred, resulting from the infinitely various situations and circumstances upon which their developement and operations depend, entitle them to the denomination of *primary* or *cardinal affections*.

Our benevolent affections, whilst they differ in the feel-

ing, or sensation, which is a common ingredient in all of them, and in the objects to which they are directed, agree in these two respects, *viz.* that the feeling which accompanies them is agreeable, and that they imply a desire of happiness to their object. The first of these affections is that of parents and children, and other near relations, commonly called *natural affections*: the second, is *GRATITUDE* to benefactors: the third, is *PIETY* and *COMPASSION* towards the distressed: a fourth is *ESTEEM* of the wife and good: the fifth is *FRIENDSHIP*: the sixth, is *LOVE* between the sexes: and the last, is *PATRIOTISM* or public spirit; that is, an affection to any community to which we belong.

The malevolent affections, commonly called *PASSIONS*, in the arrangement of Dr. Reid, are *EMULATION* and *RESENTMENT*. For the difference between affection and disposition; See *DISPOSITION*.

AFFECTION, in *Geometry*, is synonymous with *PROPERTY*.

AFFECTION, in *Medicine*, denotes a morbid, or preternatural state of the body, or some of its parts. Thus we say, an *HYPOCHONDRIACAL*, an *HYSTERICAL* affection; and, in like manner, such a part of the body is affected, *i. e.* indisposed, or seized with a *DISEASE*.

AFFEERORS, *AFFERATOIRES*, in *Law*, persons appointed in court-leets, and courts-baron, upon oath, to settle and moderate the *FINES* of such as have committed faults arbitrarily punishable, or which have no express penalty set down by statute. See stat. 25 Edw. III. c. 7.

The word is formed, according to Cowel, of the French *affier*, to *affirm*; by reason those appointed to this office do affirm, upon their oaths, what penalty they think, in conscience, the offender hath deserved. Others better derive it from *affeur*, a word in the customary of Normandy, rendered by the Latin interpreters, *taxare*, to *set the price of a thing*; as *affimare*, *indicare*, &c.—Kitchin joins the three words as *synonyma*; *affidati*, *amerciatores*, *afferores*.

AFFENTHAL, in *Geography*, a valley of Suabia in the Ortenaw, near Straßburg, famous for its excellent wines.

AFFERI, in *Law*. See *AVERIA*.

AFFETTUOSO, or *Con Affetto*, in the *Italian Music*, is used to denote that kind of music, which must be performed in a very tender, moving, and affecting manner; and for that reason rather slow than fast. This term, placed at the beginning of a musical air, implies, in point of time, a movement between *andante* and *largo*; and requires a sweet and affecting expression of the melody.

AFFIANCE, in *Law*, the plighting of troth between a man and woman, upon an agreement in marriage to be had between them.

AFFIDATIO Dominorum, signifies an oath taken by the lords in parliament: thus called in the Rot. Parl. Hen. VI.

AFFIDATUS, or *AFFIDIATUS*, in our *Law Books*, denotes a tenant by *FEALTY*.

Affidati are not properly vassals, but *quasi* vassals, or persons who vow fealty to, and put themselves under the protection of, another.

In this sense they amount to the same with what are otherwise called *commendati*, and *recommendati*.

AFFIDAVIT, an *OATH* in writing, sworn before some person who hath authority to take such oath; and made use of, and read in court, upon motions; though not allowed upon trials.

In the court of Chancery is an *Affidavit-office*, under the direction of a *Master of CHANCERY*.

AFFILA, in *Ancient Geography*, a district of Italy belonging to the Hernici.

AFFILIANUS

AFFILIANUS *mons*, a mountain of Italy, near the Tiber. The colony *Æsula* was at the foot of this mountain.

AFFILIATION, *Adfiliatio*, in *Middle Age Writers*, the same with **ADOPTION**. See also **AFFILIATION**.

Among the ancient Gauls, affiliation was a sort of adoption only practised among the great.—It was performed with military ceremonies: the father presented a battle-axe to the person he was to adopt for his son, as an intimation that he was to preferre the effects he thus called him to succeed to, by arms.

AFFINAGE is sometimes used, in *Ancient Law Books*, for the refining of metals.

AFFINITY properly imports a relation contracted between one of two parties married, and the kindred of the other party.

The word is originally Latin, compounded of *ad*, to, and *finis*, boundary, limit; by reason, as the lawyers say, that one of the families here approaches to the bounds of the other. *Quod due cognationes per nuptias copulantur, & altera ad alterius cognationes finem accedit.* Or, as another expresses it, *Quod utriusque cognationis fines in unum locum conferuntur.*

In which sense the word stands contradistinguished from *consanguinity*, which is a relation by blood.

Affinity does not found any real kinship; it is no more than a kind of fiction, introduced on account of the close relation between husband and wife. It is even said to cease, when the cause of it ceases. Hence a woman who is not capable of being a witness for her husband's brother, during his life-time, is allowed for a witness, when a widow, by reason the affinity is dissolved. Yet, with regard to the contracting marriage, affinity is not dissolved by death, though it be in every thing else.

In the Mosaic law there are several degrees of affinity, wherein **MARRIAGE** is expressly prohibited, which yet seem not at all prohibited by the law of nature.

Thus (see Lev. xviii. 7, &c.) a son could not marry his mother, nor his father's second wife: a brother could not marry his sister, either by the father only or by the mother only, much less if related to him both by father and mother; a grandfather could not marry his grand-daughter; no one could marry the daughter of his father's wife, nor the sister of his father or mother; nor the uncle his niece, nor the aunt her nephew; nor the nephew the wife of his uncle by the father's side: a father-in-law could not marry his daughter-in-law; nor a brother the wife of his brother, while living, nor after the death of that brother, if he left children; if he left no children, the living brother was to raise up children to his deceased brother, by marrying his widow: it was forbidden to marry a mother and her daughter at one time, or the daughter of the mother's son, or the daughter of her daughter, or two sisters together. The patriarchs, indeed, before the law, sometimes married their half-sisters, as Abraham married Sarah, his father's daughter by another mother; or two sisters together, as Jacob married Rachel and Leah; but these cases are not examples, because they might then plead necessity or custom, and the prohibitory law as not existing. If other instances occur before or since the law, the Scripture expressly disapproves of them, as Reuben's incest with Bilhah, his father's concubine, and the connection of Ammon with his sister Tamar; and that of Herod Antipas with Herodias, his sister-in-law, or his brother Philip's wife, while her husband was living, and that which St. Paul reproves among the Corinthians, 2 Cor. v. Calmet.

The *Canonists* distinguish three species of affinity.—The first, that contracted between the husband and the relations

by blood of his wife; and between the wife and the relations by blood of her husband.

The second, between the husband and those related to his wife by marriage; and the wife, and those so related to her husband.

The third, between the husband and the relations of his wife's relations; and the wife, and the relations of her husband's relations.

By the fourth council of Lateran, held in 1213, it was decreed, that none but the first kind was any real affinity; the rest being mere refinements, which ought to be set aside.

The degrees are reckoned after the same manner in affinity as in **CONSANGUINITY**; and therefore differently in the *Canon Law* from what they are in the *Civil Law*.

Whatever line or degree of consanguinity the kindred of one of the parties married are in, they are in the same line and degree of affinity to the other. And again, in whatever line or degree of affinity persons are, in the first kind, they are in the same in the second and third kinds of affinity. Hence arise what we may call a direct and collateral, an ascending and a descending line of affinity.

The Romanists talk of a *spiritual* affinity, contracted by the sacrament of baptism and confirmation. In that church, a god-father may not marry with his god-daughter, without a dispensation.

The degrees and terms of affinity are chiefly, father-in-law, *i. e.* husband's or wife's father, in Latin, *soer*; step-father, *i. e.* mother's husband, *vitruus*; mother-in-law, *i. e.* husband's or wife's mother, *soera*; step-mother, *i. e.* father's wife, *noverca*; son-in-law, *gener*; daughter-in-law, *nurus*; step-daughter, *i. e.* husband's or wife's daughter by another marriage, *privigna*; step-son, *i. e.* husband's or wife's son by a former marriage, *privignus*; which two last, considered in relation to each other, are called *comprivigni*; son-in-law, *i. e.* daughter's husband; brother-in-law, *i. e.* husband's brother, or sister's husband, *beir*; wife's brother, brother's wife; sister-in-law, *i. e.* husband's or wife's sister. Calv. Lex. Jur.

Affinity, in the *Civil Law*, is divided into *civil*, that between free persons; and *servile*, that between slaves.

Affinity, *legitimate*, is that contracted by a proper and legal matrimony; or, between slaves, by *contubernium*.

Affinity, *illegitimate*, that contracted out of legal marriage.

Affinity may be contracted by an unlawful commerce: thus a person who has impregnated two sisters, is prohibited marrying either of them; thus an affinity may commence between husband and wife, by his lying with her sister.

Affinity, *true*, is that subsisting while the marriage between the two parties subsists.

Affinity, *quasi*, that subsisting either after the dissolution of the marriage, as between a husband and his wife's daughter, begot by another after her being divorced from him; or before the marriage is solemnized, as that between a father and a daughter, only espoused, or betrothed to his son.

Affinity is also used figuratively, for a conformity, or agreement, between one thing and another.

In which sense the word stands opposed to *diversity*, *variety*, *opposition*, &c.

Bishop Wilkins gives tables, wherein things are classed according to their affinities. Vide *Real Charact.* p. ii. p. 22.

Henckelius has a treatise on the affinity between *vegetables* and *minerals*.

Affinity is more particularly used in speaking of the relation or friendship between languages, occasioned by their being derived from the same source.

We are an affinity of word, sound, &c.

Attraction, *Attraction*, Fr. *Attraction*, Germ. *Attraction*, Swed. *Attraktion* of composition—*Elective attraction* of elements.

The term, which in its proper and original sense signifies a proximity of relationship, has been adopted by modern philosophers as the expression of a force purely chemical, by which substances of different natures are made to combine with each other. This particular metaphorical use of the word is not, however, of very old standing. Borelli is probably the first who introduced it; speaking of the difficulty of obtaining chemical elements perfectly pure, he accounts for it in the following way, “*Arctam enim atque reciprocam inter se habent affinitatem*.” Boerhaave, however, contributed more than any other to bring the word into common use; thus we find in his *Elementa Chimiæ*; “*Particulæ solventes et solute se affinitate sunt naturæ, colligat in corpora homogenea*.” Bergman has preferred the term *attraction*, as more conformable to the precision of scientific language; since, however, all bodies in nature attract each other, while chemical affinity exists only between particular substances, it seems upon the whole more convenient to appropriate a term to the expression of this particular force, without, however, rigorously excluding the synonymous phrase *elective attraction*, which the high authority of Bergman has introduced into the chemical nomenclature.

In treating of so important a subject as chemical affinity, it will be necessary, for the sake of clearness to divide it into six sections.

The first will contain a sketch of the progress of discoveries in affinity.

In the second the cause of affinity will be discussed.

The third will treat of single and compound affinity, and the construction of tables and schemes.

In the fourth the several methods of estimating numerically the force of affinity will be considered.

The fifth will contain the laws of affinity.

The sixth will be appropriated to the consideration of certain anomalies.

§ I. History of Affinity.

The general fact that all substances have not the same relative degree of affinity for each other, must have been observed as soon as the smallest attention began to be paid to chemical phenomena, and in the first rude attempts to explain the cause of this difference of force, recourse was had to the maxim of Hippocrates, *ὅμοιον ἰσχυρὸν τῷ ὁμοίῳ, simile venit ad simile*. This doctrine of the old school we still find in Becher, who supposed that there was a hidden principle of similitude in all substances capable of mutual chemical combination. Another sect, at the head of whom was Lemery, endeavoured to explain chemical agency by considering solvents as composed of a multitude of fine points, and thus mechanically predisposed to enter the pores and separate the particles of substances exposed to their action.

Still, however, rejecting the hypothesis of mere mechanical forces, attributed the power of menstrua to the attraction of contact or intimate cohesion; for, to use his own language, “*combinationes quascunque non aliter fieri quam per arctam appositionem*.”—“*Non per modum cunei, neque per modum incurvis in unam particulam separandam, sed potius per modum apprehensionis seu arctæ ap-*

plicationis.” This eminent chemist also deduced from his experiments a variety of facts and observations, tending to prove that an union once formed could not be dissolved without a more intimate union of one of its constituent parts with another substance.

It is to Geoffroy, the elder, that chemistry is indebted for the happy idea of collecting these scattered facts, and sketching the outlines of the general rules of analysis and composition. In the year 1718, he presented to the Royal Academy of Sciences at Paris the first table of affinity, or as he calls it, “*Des différens rapports observés en chymie entre différentes substances*,” (some of the different relations observed in chemistry between different substances). This table, which merits preservation, as a curious historical memorial, and the pattern of all that have appeared since, consisted of only seventeen columns very imperfectly filled, and presented rules, which for the most part have been changed or considerably modified. With all its errors, however, it is justly to be considered as the basis and guide to all our chemical knowledge: it has been enlarged and improved, but still retains its original form and essence, and as the great fabric of experimental science advances towards perfection, so will this, which is its epitome and model.

No very material improvement appears to have been made on Geoffroy's table till Gellert, the celebrated professor of Freyburg, published, in 1750, his *Chymia Metallurgica*; in this work was contained a new table of affinity extended to 28 columns, and at the bottom of each was a list of substances which he had found not to be acted on by the body placed at the head of the column. Rudiger, in 1756, inserted in his system of Chemistry a table of affinity reduced to 15 columns, in which the fixed alkalies and lime are placed parallel with each other, and before ammonia in the column of acids: he also added, in a small supplementary table, those bodies which refused to combine without the intervention of a third.

In consequence of a prize offered by the Academy of Rouen, in 1758, a very important addition was made to the table of affinities by M. Limbourg; he extended the number of columns to 33; he ascertained that zinc should be placed at the head of the metals in the column of acids, and that it precipitated them all, even by the dry way; he maintained, that lime and the fixed alkalies acted by means of affinity on animal matter; and pointed out several cases in which the order of affinities was changed by the influence of temperature or the volatility of one of the ingredients.

From this period, the importance of the subject being fully established, tables were multiplied and the general system of affinity was investigated by some of the ablest chemists of the age, among whom the names of Erxleben and Weigleb stand eminently distinguished. At length, in 1775, the illustrious Bergman published his dissertation on elective attractions, in the transactions of the Royal Society of Upsal, and successive editions of his tables made their appearance in 1779 and 1783. These tables may justly be considered as a masterpiece of skill and industry; the affinities of no less than 59 substances are ascertained with great exactness, and the distinction between those that take place in the moist and dry way is precisely stated: the method of registering cases of compound affinity is perfected, and 64 of the most important are added to the general stock of chemical science. Since the death of Bergman, successive impressions of his tables have appeared with little or no alteration, till Dr. Pearson's in 1799. In this, the nomenclature is changed, and in part reformed according to the French system, a few articles to be found in Bergman's

Bergman are expunged on the authority of later investigations, and the number of columns is increased to 62.

It is not, however, to the construction of tables, important as they are, that the researches of chemists on the subject of affinity have been confined. Since the discovery of the great law of attraction, by Newton, it has been the uniform endeavour of the ablest philosophers to show that the cause of chemical phenomena is only a branch or modification of this universal property of matter, and the names of Buffon, Macquer, Limbourg, and Morveau, stand conspicuous for their endeavours in this department: it is to Kirwan that we owe the able attempt to reduce the force of contending affinities to numerical calculation; and the sagacious Berthollet, in his "*Recherches sur les lois de l'affinité*," has just now opened a new field of enquiry on this most important subject.

§ II. Cause of Chemical Affinity.

There have been only two ways of accounting for chemical affinity; the one is by having recourse to a gratuitous and inexplicable principle of sympathy, and which therefore is merely the substitution of one metaphor for another; and the other is an endeavour, by the help of experiment and calculation, to shew the identity of affinity and the Newtonian attraction. The first of these, as it does not profess to be supported by any external evidence, may be passed by; the other requires a particular examination.

It was the opinion of Newton, and a very natural one in his situation, that the force of attraction which he had demonstrated to be the efficient cause of the planetary motions, of the alternation of the tides, of the descent of heavy bodies, and of the oscillation of the pendulum, was an essential property of matter, and, as such, the cause of chemical phenomena: perceiving acids to be some of the most powerful agents in the production of these effects, he hence defined them as bodies that attract strongly, and are strongly attracted ("*acidum dicimus quod multum attrahit et attrahitur*"). This however is to be considered merely as a conjecture of that great man, since no attempt was made by him to submit to calculation any cases of affinity, or even to obviate the weighty objections that might be brought against the theory. The essential foundations of the Newtonian attraction are, that the force of gravitation is in a direct ratio to the mass or quantity of ponderable matter; and that the increase of the force is in an inverse ratio to the square of the distance, or, to make this plainer by an example: If the lead of a plumb-line is suspended two yards from the side of a mountain, the attractive force exercised upon it will be four times less than if the distance between the lead and the mountain was only one yard; for

$$2 \times 2 : 1 \times 1 :: 4 : 1.$$

Although, however, the justness of this law be rigorously demonstrated in all cases where the distance is capable of being measured, how does it apply to those instances in which bodies are supposed to touch each other? How can the apparent uniformity of attraction be made to explain the infinite variety of chemical affinity? To this fundamental and obvious objection Buffon has given the following reply. The distances between the several heavenly bodies are so considerable, that they may be looked upon with regard to their action on each other as so many gravitating points, the slight differences in their figure being of little or no account. If the moon and the earth, instead of being spherical, were each in the form of a short cylinder, whose transverse axis should be equal to their present diameters,

the law of their reciprocal action would not be materially altered by such a change, because the relative distance of each particle of the moon from the earth would, notwithstanding, be nearly the same as before; but if these globes were drawn out into very long cylinders, and brought within a short distance of each other, the law of their reciprocal action would seem very different, on account of the prodigious change in the situation of their particles relatively to each other, and to the whole; thus in proportion as figure enters as an element into the calculation of distance, the law would appear to vary, though remaining fundamentally the same.

Whatsoever stress be laid upon this proposition (which appears to have been acquiesced in by Bergman and Macquer), that in attractions between bodies that are nearly in contact with each other, the force is modified by the figure of the molecule, it must be confessed that not a single case of affinity has yet been resolved by the application of the law of the square of the distance, modified by the figure; and several eminent mathematicians, at the same time that they admit chemical affinity to be only an effect of attraction, maintain it to follow in these cases a different law from that which Newton demonstrated, which yet remains to be investigated.

Morveau, in his elaborate treatise of affinity in the *Dictionnaire Methodique*, has endeavoured to support the theory of Buffon, by certain analogical arguments, the scope of which is, that in the attractions of adhesion and cohesion, in capillary attraction and crystallization, all of which are generally admitted to depend upon the same law as the attraction of gravitation, there are cases equally difficult to be reconciled with the rule of the square of the distance, as those in chemical affinity: he also brings to his aid an ingenious argument of Macquer, to this effect: Since we are ignorant of the density of the elementary particles of bodies, it is impossible to ascertain the density of the aggregates formed by their union; it may therefore happen, that a body, whose primitive particles have little density, should, notwithstanding, be an aggregate of great density, provided these particles are of such a figure as to adhere intimately to each other by all their surfaces: for the same reason, a compound may have but little density, though its constituent particles have individually a great deal, if their form is such as to allow of but few points of contact. Thus, although copper in mass has less density than silver, it is possible that its ultimate particles should be superior in this respect to those of silver; or, allowing it to be of inferior density, it may still be capable, on account of the figure of its component particles, to enter into such intimate contact with those of a third body, as shall more than make up for its inferior density: hence the superior affinity which copper has for nitric acid, over that which silver possesses, may be owing to a superior attraction, on account of the greater density of its primitive particles, or their better aptitude for contact.

It is obvious, however, that all these arguments are merely hypothetical, and at best, only enable us to conceive the possibility of the phenomena of chemical attraction being equally reconcilable to the laws of general attraction as those cases of adhesion, capillary attraction, &c. which have not yet, by the ablest mathematicians, been reduced to calculation. If a single case of affinity had been demonstrated by the rule of the square of the distance, modified by even the supposed figure of the molecule, it might be admitted as a strong presumption, that affinity depended on the same laws as gravitation; but as long as this remains a desideratum,

we must be content to see, in our first degree of the primary cause of chemical phenomena.

III. Of the kinds of Affinity, and the Cohesion.

Whether the attraction, of gravitation, of adhesion, of cohesion, and of composition, be or be not considered as distinct, for the time, there is yet difference enough between them, to allow of a very accurate definition of each, and this is the more necessary to be done, as there are certain compounds, and even of chemical affinity, in which the agency of all these forces may be distinctly perceived.

Gravitation then is an attraction between two bodies at an assignable distance from each other, whose force is directly as the mass, and inversely as the square of the distance.

Adhesion is an attraction that takes place at the plane of contact, whose force is peculiar for each substance in nature, and in a direct ratio to the surface of contact.

Cohesion, or aggregation, is an attraction between molecules of the same nature, whose force is peculiar for each substance, and in an inverse ratio to the quantity of caloric, interposed between the particles.

Affinity, or the attraction of composition, is that which, uniting together different homogeneous substances, whether simple or compound, produces an uniform whole, incapable of being resolved by mechanical force, and whose characteristic properties are often different, and sometimes contrary to those of its constituent parts. Thus, if running mercury is added to melted sulphur, a compound is produced, which has neither the colour, the splendour, the inflammability, the volatility, nor the specific gravity, of either of its constituent parts.

It is this affinity of composition which is the great agent in all the operations of nature and art, that are referable to the science of chemistry; not only as an instrument of synthesis, as might be supposed from the primary meaning of the term, but also as the sole means of analysis; there being no way of resolving a chemical compound, but by exposing its elements to the action of stronger affinities than those which retain them in union.

All the known instances of affinity may be arranged under three classes, according to the number of elementary substances, acting on each other at the same time, and the number of new compounds thus produced.—Where only two are concerned, it may be called a case of *concurrent affinity*, or affinity of composition, in which, if the force of their mutual affinity is ever so little superior to the sum of their respective degrees of cohesion, combination will take place. Thus, if a piece of quicklime is put into muriatic acid, the sum of their cohesions being less than the force of their mutual affinity, the two substances will unite together, and there will result a homogeneous compound muriatic of lime, possessing the properties neither of the earth nor of the acid. Those instances also, in which more than two bodies unite together into one compound, come equally under this rule; as, when sulphuric acid, alumine and potash are mixed together; the result is common alum, a salt possessing peculiar properties, which could never have been inferred from those of its elements. All the cases belonging to this first class are those of concurrent affinities, where two or more substances by virtue of their attraction for each other, unite into one homogeneous body. Hence it appears, that though every substance has different degrees of affinity for other substances, yet the strongest does not necessarily act to the exclusion of the rest.

It is not, however, always, nor indeed generally, the case, where more than two substances are concerned, that their respective affinities concur to produce one new substance; for it usually happens that their difference of force produces one binary compound, to the exclusion of the third element, on account of the weakness of its attraction for the new compound. Thus, if muriatic and sulphuric acid are mixed together, and an aqueous solution of pure barytes is then added, an instant combination will take place between the sulphuric acid and the barytes, to the exclusion of the muriatic acid; and this last, having also no affinity with the sulphat of barytes thus formed, or at least not sufficiently strong to overcome the sum of their several forces of cohesion, remains permanently excluded. In this instance, therefore, we see how two bodies, whose mutual affinity is very considerable, may unite together to the total exclusion of a third substance. To make this plainer, let A B, be two substances, whose several affinity for C, is equal respectively to 4 and 7: it is obvious then, that B, will unite to C, with a force $= 7 - 4 = 3$; the first effect, therefore, of mixing these substances will be the production of B C, to the exclusion of A: and if the affinity of A, for B C, should be inferior to the cohesive attraction of the several particles of B C, for each other, it is clear that A, must be permanently excluded, notwithstanding its original affinity for C. This exclusion of the weaker by the stronger affinity takes place, not only when the two forces commence their action at the same time, but even when the weaker affinity has been previously allowed to exert its whole action on the base; thus, if muriatic acid and barytes are brought into contact, they combine and form muriatic of barytes, which compound is held together by the force of affinity between the two; but when to this compound we present sulphuric acid, whose affinity for the earthy base is stronger than that of muriatic acid, an immediate change takes place, the whole of the muriatic acid is dislodged, and the sulphuric acid combines with the barytes with a force equal to their mutual affinity, minus that of the muriatic acid: or, to recur to our former illustration; if A C, are held together by a force $= 4$, upon the addition of B, whose force is $= 7$, the attraction of A, to C, will be counterbalanced by $\frac{4}{7}$ of B's affinity for A, and the remainder of B's force will produce the combination B C, $= \frac{3}{7}$ of the original attraction between B and C. This, and similar cases are naturally illustrated by supposing C, to have a *disposition* to unite with A and B, A, being at first the only one present, the combination A C, is produced; afterwards, when B, offers itself, C, having a *preferable attachment* to B, quits A, and forms the combination or *partnership* B, C. It is this metaphorical explanation which induced Bergman to call all those instances where a compound already formed is separated by the action of superior affinities, cases of *elective attraction*; and because in the above example only three substances are concerned, one new compound being formed, and the element of weakest affinity being excluded, it is properly distinguished as a case of *single elective affinity*, which forms the second class, ranking immediately after that of concurrent affinity.

From the consideration of single elective affinity, the progress is easy to that of double, or, more properly speaking, compound elective affinity. Suppose the affinity between sulphuric acid and potash, the constituent parts of sulphat of potash, to be $= 12$, and the affinity of nitrous acid for potash $= 9$, and that of oxyd of mercury for sulphuric acid $= 8$, it is evidently impossible to decompose sulphat

fulphat of potash by either nitrous acid or mercurial oxyd, acting separately: if, however, their action be combined, so as that the metallic oxyd shall exert its affinity on the sulphuric acid, while the nitrous acid is doing the same with respect to the potash, then, as $9 + 8$ is greater than 12 , so will the affinities of nitrat of potash and fulphat of mercury be superior to that of fulphat of potash: but nitrous acid and mercury, the two agents in this decomposition, have also a strong attraction for each other, tending to unite them into the compound salt nitrat of Mercury, let this force be $= 4$; it is evident then, that, upon the addition of nitrated mercury to fulphat of potash, there are four distinct affinities acting two by two against each other. The *quiescent* affinities, or those which resist decomposition, are the attraction between sulphuric acid and potash $= 12$, and that between nitrous acid and mercury $= 4$, the sum of which is $= 16$. The *divellent* affinities, or those which tend to break the original combinations, are those of nitrous acid and potash $= 9$, and of sulphuric acid and mercury $= 8$, which together are $= 17$. Now as 17 is to 16 , so is the sum of the divellent, to that of the quiescent affinities. On the addition, therefore, of nitrat of mercury to fulphat of potash, there will be a decomposition of both salts, and the formation of two new ones, nitrat of potash and fulphat of mercury. This is an example of *compound elective affinity*; which may therefore be defined

as the resolution of a compound by means of the united affinities of its elements for those of another compound. It is obviously impossible, by means of double elective attraction, to obtain either of the elementary parts of a body in a separate uncombined state; but although in this respect it is inferior to single elective affinity, it is nevertheless infinitely superior in the vast variety of its application, and in its rendering not merely possible but even easy, a number of decompositions, which are absolutely impracticable by single elective attraction. Almost all the substances in nature are compounds, and the changes that we see continually operating around us, are brought about by very complicated affinities; so it is in nearly every process of art in which chemistry is concerned, a thorough knowledge, therefore, of the general principles of compound affinity is absolutely necessary to be acquired at the very threshold of the science.

From what has been already said, it is obvious that every chemical fact arranges itself under one or other of the three species of chemical affinity; and hence may be conceived the obligation that science is under to Geoffroy, for his ingenious method of arranging cases of single elective attraction, so as to enable the enquirer to discover in an instant any particular fact that he is looking for, or to compare, at a single glance, the results of numerous and complicated experiments.

T A B L E I.

TABLE of CHEMICAL AFFINITY, by G. G. G. G., in 1712.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Acids	Muriatic Acid	Nitrous Acid	Sulphuric Acid	Absorbent Earth	Fixed Alkali	Volatile Alkali	Metals	Sulphur	Mercury	Lead	Copper	Silver	Iron	Antimony	Water	Spirit of Wine
Phlogiston	Tin	Iron	Fixed Alkali	Sulphuric Acid	Sulphuric Acid	Sulphuric Acid	Muriatic Acid	Fixed Alkali	Gold	Silver	Mercury	Lead	Antimony	Iron	Spirit of Wine	Water
Fixed Alkali	Antimony	Copper	Volatile Alkali	Nitrous Acid	Nitrous Acid	Nitrous Acid	Sulphuric Acid	Iron	Silver	Mercury	Calamine	Copper	Silver	Copper	Neutral Salt	Oil
Volatile Alkali	Copper	Lead	Absorbent Earth	Muriatic Acid	Muriatic Acid	Muriatic Acid	Nitrous Acid	Copper	Lead							
Absorbent Earth	Silver	Mercury	Iron	Acetous Acid	Acetous Acid	Acetous Acid	Acetous Acid	Lead	Copper							
Metals	Mercury	Silver	Mercury		Sulphur			Silver	Zinc							
			Silver					Antimony	Antimony							
								Mercury								
	Gold							Gold								

TABLE II.

SINGLE ELECTIVE AFFINITIES, from PEARSON and BERGMAN.—IN WATER.

1. OXYGEN.	2. SULPHUR.	3. SALINE. SULPHURETS.	4. SILEX.	5. ALUMINE.	6. BARYTES.	7. STRONTIAN.
Bases of Mariatic and other unde- composed acids	Oxygen	Oxygen	Fluoric acid	Sulphuric acid	Sulphuric acid	Sulphuric acid
Carbon	Molybdic oxyd and acid	Oxyd of gold	Potash	Nitric acid	Oxalic acid	Oxalic acid
Phosphorus	— tin	— silver	Soda	Muriatic acid	Succinic acid	Tartareous acid
Hydrogen?	Oxyd of lead	— mercury	Barytes	Fluoric acid	Fluoric acid	Fluoric acid
Sulphur	— tin	— arsenic	Strontian	Arfenic acid	Phosphoric acid	Nitric acid
Zinc	— silver	— antimony		Oxalic acid	Saccholactic acid	Muriatic acid
Copper	— mercury	— bismuth		Tartareous acid	Nitric acid	Succinic acid
Lead	— arsenic	— copper		Succinic acid	Muriatic acid	Phosphoric acid
Iron	— antimo- ny	— tin		Citric acid	Sebacic acid	Acetous acid
Silver	— iron	— lead		Phosphoric acid	Citric acid	Arfenic acid
Platina	Potash	— nickel		Formic acid	Tartareous acid	Boracic acid
Mercury	Soda	— cobalt		Lactic acid	Arfenic acid	Carbonic acid
Gold	Barytes	— manga- nese		Benzoic acid	Formic acid	Water
Nitrous gas	Strontian	— iron		Acetous acid	Lactic acid	Fat oil
Muriatic acid	Lime	Other metallic oxyds		Boracic acid	Benzoic acid	Sulphur
Nitrous acid	Magnesia	Carbon		Sulphureous acid	Acetous acid	Hydro-sulphuret
Sulphureous acid	Phosphorus	Water		Prussic acid	Boracic acid	
White oxyd of Manganese	Fat oil	Alcohol		Carbonic acid	Sulphureous acid	
Volatile oils	Ammonia	Ether		Potash	Nitrous acid	
Alcohol	Ether				Carbonic acid	
	Hydrogen?				Prussic acid	
					Water	
					Fat oil	
					Sulphur	
					Hydro-sulphuret	

8.	9.	10. 11. 12.	13.	14.	15. 16. 17. 18. 19. 20.	21. 22. 23. 24. 25. 26.
LIME.	MAGNESIA.	POTASH—SODA AMMONIA.	WATER.	SULPHURIC ACID.	NITROUS, NI- TRIC, MURI- ATIC, OXY- MURIATIC, NITRO-MURI- ATIC ACIDS.	BORACIC, OX- ALIC, TARTA- REOUS, SEBA- CIC, PHOS- PHORIC, AR- SENIC ACIDS.
Oxalic acid	Oxalic acid	Sulphuric acid	Potash	Barytes	Potash	Lime
Sulphuric acid	Phosphoric acid	Nitric acid	Soda	Strontian	Soda	Barytes
Tartareous acid	Sulphuric acid	Muriatic acid	Ammonia	Potash	Barytes	Strontian
Succinic acid	Fluoric acid	Sebacic acid	Deliquescent salts	Soda	Strontian	Magnesia
Phosphoric acid	Sebacic acid	Fluoric acid	Alcohol	Lime	Lime	Potash
Saccho-lactic a- cid	Arfenic acid	Phosphoric acid	Carbonated am- monia	Magnesia	Magnesia	Soda
Nitric acid	Saccho-lactic a- cid	Oxalic acid	Ether	Ammonia	For the rest the same as Sul- phuric acid.	Ammonia
Muriatic acid	Succinic acid	Tartareous acid	Sulphuric acid	Alumine		For the rest the same as Sul- phuric acid.
Sebacic acid	Nitric acid	Arfenic acid	Non-deliques- cent salts	Oxyd of zinc		
Fluoric acid	Muriatic acid	Succinic acid		— iron		
Arfenic acid	Tartareous acid	Citric acid		— manga- nese		
Formic acid	Citric acid	Formic acid		— cobalt		
Lactic acid	Formic acid	Lactic acid		— nickel		
Citric acid	Lactic acid	Benzoic acid		— lead		
Benzoic acid	Benzoic acid	Acetous acid		— tin		
Acetous acid	Acetous acid	Saccho-lactic a- cid		— copper		
Boracic acid	Boracic acid	Boracic acid		— bismuth		
Sulphureous acid	Sulphureous acid	Sulphureous acid		— antimony		
Nitrous acid	Nitrous acid	Nitrous acid		— arsenic		
Carbonic acid	Carbonic acid	Carbonic acid		— mercury		
Prussic acid	Prussic acid	Prussic acid		— silver		
Water	Sulphur	Water		— gold		
Fat oil		Fat oil		— platina		
Sulphur		Sulphur		Water		
Phosphorus		Metallic oxyds		Alcohol		

TABLE II. *Continued.*

27. FLUORIC ACID.	28. 29. SULPHUROUS CARBONIC A- CID.	30. 31. 32. CITRIC, BENZO- IC, SACCHO- LACTIC ACIDS.	33. SUCCINIC ACID.	34. 35. 36. ACETOUS, LAC- TIC, FORMIC ACIDS.	37. PRUSSIC ACID.	37. CHROMIC ACID.
The same as Bo- raic acid.	Barytes Strontian Lime Potash Soda Magnesia For the rest the same as Sul- phuric acid	Lime Barytes Magnesia Potash Soda Ammonia For the rest the same as Sul- phuric acid	Barytes Lime Magnesia Potash Soda Ammonia For the rest the same as Sul- phuric acid	Barytes Potash Soda Strontian? Ammonia Lime Magnesia Alumine For the rest the same as Sul- phuric acid	Potash Soda Ammonia Lime Barytes Strontian? Magnesia Alumine For the rest the same as Sul- phuric acid	Fixed alkali Oxyd of lead copper 38. MOLYBDIC ACID. Fixed alkalies Alkaline earths Metallic oxyds
Sulx						

39. OXYD OF ARSE- NIC.	40. OXYD OF TITANIUM.	42. OXYD OF TEL- LURIUM.	43. OXYD OF MANGANESE.	44. OXYD OF NICKEL.	45. OXYD OF COBALT.	46. OXYD OF BISMUTH.
Muriatic acid Oxalic acid Sulphuric acid Nitric acid Sebacic acid Tartareous acid Phosphoric acid Fluoric acid Saccho-lactic a- cid Succinic acid Citric acid Formic acid Arsenic acid Lactic acid Acetous acid Prussic acid Potash? Ammonia Fat oil	Sulphuric acid Nitric acid Muriatic acid Prussic acid 41. OXYD OF URA- NIUM. Sulphuric acid Nitro-muriatic a- cid Muriatic acid Nitric acid Phosphoric acid Acetous acid Gallic acid Prussic acid Carbonic acid Sulphur	Nitric acid Nitro-muriatic a- cid Sulphuric acid Sulphur Alkalies Mercury	Oxalic acid Tartareous acid Citric acid Fluoric acid Phosphoric a- cid Nitric acid Sulphuric acid Muriatic acid Sebacic acid Arsenic acid Acetic acid Prussic acid Carbonic acid	Oxalic acid Muriatic acid Sulphuric acid Tartareous acid Nitric acid Sebacic acid Phosphoric acid Fluoric acid Saccho-lactic a- cid Succinic acid Citric acid Formic acid Acetous acid Lactic acid Arsenic acid Boracic acid Prussic acid Carbonic acid Ammonia	The same as Oxyd of Nickel	Oxalic acid Arsenic acid Tartareous acid Phosphoric acid Sulphuric acid Sebacic acid Muriatic acid Nitric acid Fluoric acid Saccho-lactic a- cid Succinic acid Citric acid Formic acid Lactic acid Acetous acid Prussic acid Carbonic acid Ammonia

TABLE II. *Continued.*

47. OXYD OF ANTIMONY.	48. OXYD OF ZINC.	49. OXYD OF IRON.	50. OXYD OF TIN.	51. OXYD OF LEAD.	52. OXYD OF COPPER.	53. OXYD OF MERCURY.
Sebacic acid Muriatic acid Oxalic acid Sulphuric acid Nitric acid Tartareous acid Saccho-lactic acid Phosphoric acid Citric acid Succinic acid Fluoric acid Arsenic acid Formic acid Lactic acid Acetous acid Boracic acid Prussic acid Carbonic acid Sulphur	Oxalic acid Sulphuric acid Muriatic acid Saccho-lactic acid Nitric acid Sebacic acid Tartareous acid Phosphoric acid Citric acid Succinic acid Fluoric acid Arsenic acid Formic acid Lactic acid Acetous acid Boracic acid Prussic acid Carbonic acid Ammonia	Oxalic acid Tartareous acid Sulphuric acid Saccho-lactic acid Muriatic acid Nitric acid Sebacic acid Phosphoric acid Arsenic acid Fluoric acid Succinic acid Citric acid Formic acid Lactic acid Acetous acid Boracic acid Prussic acid Carbonic acid	Sebacic acid Tartareous acid Muriatic acid Sulphuric acid Oxalic acid Arsenic acid Phosphoric acid Nitric acid Succinic acid Fluoric acid Saccho-lactic acid Citric acid Formic acid Lactic acid Acetous acid Boracic acid Prussic acid Potash Soda Ammonia	Sulphuric acid Sebacic acid Saccho-lactic acid Oxalic acid Arsenic acid Tartareous acid Phosphoric acid Muriatic acid Nitric acid Fluoric acid Citric acid Formic acid Lactic acid Acetous acid Boracic acid Prussic acid Carbonic acid Fixed alkali Fat oil	Oxalic acid Tartareous acid Muriatic acid Sulphuric acid Saccho-lactic acid Nitric acid Sebacic acid Arsenic acid Phosphoric acid Succinic acid Fluoric acid Citric acid Formic acid Lactic acid Acetous acid Boracic acid Prussic acid Carbonic acid Potash Soda Ammonia Compound salts Fat oil	Sebacic acid Muriatic acid Oxalic acid Succinic acid Phosphoric a. Sulphuric acid Saccho-lactica. Tartareous acid Citric acid Nitric acid Fluoric acid Acetous acid Boracic acid Prussic acid Carbonic acid Ammonia

54. OXYD OF SILVER.	55. OXYD OF PLATINA	56. OXYD OF GOLD.	57. ALCOHOL.	58. ETHER.	60. FIXED OIL.
Muriatic acid Sebacic acid Oxalic acid Sulphuric acid Saccho-lactic acid Phosphoric acid Nitric acid Arsenic acid Fluoric acid Tartareous acid Phosphoric acid Sebacic acid Oxalic acid Citric acid Formic acid Lactic acid Acetous acid Succinic acid Prussic acid Carbonic acid Ammonia	Muriatic acid Nitro-muriatic acid Nitric acid Sulphuric acid Arsenic acid Fluoric acid Tartareous acid Phosphoric acid Sebacic acid Oxalic acid Citric acid Formic acid Lactic acid Acetous acid Succinic acid	Muriatic acid Nitro-muriatic acid Nitric acid Sulphuric acid Arsenic acid Fluoric acid Tartareous acid Phosphoric acid Sebacic acid Prussic acid Fixed Alkalies Ammonia	Water Ether Volatile oils Ammonia Fixed Alkali Alkaline sulphu- ret Sulphur Muriats Phosphoric acid	Alcohol Volatile oils Water 59. VOLATILE OIL. Ether Alcohol Fixed oil Fixed alkali Sulphur Phosphorus	Barytes? Strontian? Lime Metallic oxyds Ether Volatile oil Fixed alkali Ammonia Sulphur Phosphorus

TABLE III.

SINGLE ELECTIVE AFFINITIES, from PEARSON and BERGMAN.—IN FIRE.

1. OXYGEN.	2. SULPHUR.	3. SALINE SULPHU- RETS.	4. SILEX.	5. ALUMINE.	6. 7. 8. BARYTES, LIME, MAGNESIA.	9. 10. POTASH, SODA.	11. AMMONIA.	12. SULPHURIC ACID.
Carbon	Oxygen	Manganese	Potash	Phosphoric	Phosphoric	Phosphoric	Sulphuric a-	Potash
Zinc	Potash	Iron	Soda	acid	acid	acid	cid	Soda
Iron	Soda	Copper	Phosphoric	Boracic acid	Boracic acid	Boracic acid	For the rest	Barytes
Hydrogen	Iron	Tin	acid	Arsenic acid	Arsenic acid	Arsenic acid	the same as	Strontian
Manganese	Copper	Lead	Oxyd of lead	Sulphuric a.	Sulphuric a.	Sulphuric a.	the pre-	Lime
Cobalt	Tin	Silver		Nitric acid	Nitric acid	Nitric acid	ceeding co-	Magnesia
Nickel	Lead	Gold		Muriatic a.	Muriatic a.	Muriatic a.	lumn.	Zircon
Lead	Silver	Antimony		Fluoric acid	Fluoric acid	Sebacic acid		Metallic ox-
Tin	Cobalt	Cobalt		Sebacic acid	Sebacic acid	Fluoric acid		yds
Phosphorus	Nickel	Nickel		Succinic a.	Succinic acid	Succinic acid		Ammonia
Copper	Bismuth	Bismuth		Formic acid	Formic acid	Formic acid		Alumine
Bismuth	Antimony	Mercury		Lactic acid	Lactic acid	Lactic acid		
Antimony	Mercury	Arsenic		Benzoic acid	Benzoic a.	Benzoic acid		
Mercury at 600°	Arsenic	Carbon ?		Acetous acid	Acetous a.	Acetous acid		
Arsenic	Uranium ?			Fixed alkali	Fixed alkali	Barytes		
Sugar	Molybdena			Sulphur ?	Sulphur	Lime		
Sulphur	Tellurium			Oxyd of lead	Oxyd of lead	Magnesia		
Gold						Alumine		
Silver						Silex		
Platina						Sulphur		
Mercury at above 1000°								
Manganese white oxyd of								

13. 14. 15. 16. 17. 18. 19. 20. NITROUS, NI- TRIC, MURI- ATIC, OXY- MURIATIC, NITRO-MURI- ATIC, ACET- OUS, LACTIC AND FORMIC ACIDS.	21. 22. 23. 24. 25. 26. 27. FLUORIC, BO- RACIC, BEN- ZOIC, SAC- CHOLACTIC, SEBACIC, PHOSPHORIC, ARSÉNIC A- CIDS.	28. ARSENIC.	29. MANGA- NESE.	30. TELLU- RIUM.	31. NICKEL.	32. COBALT.	33. BISMUTH.	34. ANTIMONY.
Barytes	Lime	Nickel	Copper	Mercury	Iron	Iron	Lead	Iron
Strontian	Barytes	Cobalt	Iron	Sulphur	Cobalt	Nickel	Silver	Copper
Potash	Strontian	Copper	Gold		Arsenic	Arsenic	Gold	Tin
Soda	Magnesia	Iron	Silver		Copper	Copper	Mercury	Lead
Lime	Potash	Silver	Tin		Gold	Gold	Antimony	Nickel
Magnesia	Soda	Tin	Alkaline- sulphuret		Tin	Platina	Tin	Silver
Metallic oxyds	Metallic oxyds	Lead			Antimony	Tin	Copper	Bismuth
Ammonia	Ammonia	Gold			Platina	Antimony	Platina	Zinc
Alumine	Alumine	Platina			Bismuth	Zinc	Nickel	Gold
		Zinc			Lead	Alkaline- sulphuret	Iron	Platina
		Antimony			Silver	Sulphur	Zinc	Mercury
		Alkaline- sulphuret			Zinc		Alkaline- sulphuret	Arsenic
		Sulphur			Alkaline- sulphuret		Sulphur	Cobalt
					Sulphur			Alkaline- sulphuret
								Sulphur

TABLE III. *Continued.*

35. ZINC.	36. IRON.	37. TIN.	38. LEAD.	39. COPPER.	40. MERCURY.	41. SILVER.	42. PLATINA.	43. GOLD.
Copper	Nickel	Zinc	Gold	Gold	Gold	Lead	Arsenic	Mercury
Antimony	Cobalt	Mercury	Silver	Silver	Silver	Copper	Gold	Copper
Tin	Manganese	Copper	Copper	Iron	Platina	Mercury	Copper	Silver
Mercury	Arsenic	Antimony	Mercury	Arsenic	Lead	Bismuth	Tin	Lead
Silver	Copper	Gold	Bismuth	Manganese	Tin	Tin	Bismuth	Bismuth
Gold	Gold	Silver	Tin	Zinc	Zinc	Gold	Zinc	Tin
Cobalt	Silver	Lead	Antimony	Antimony	Bismuth	Antimony	Antimony	Antimony
Arsenic	Tin	Iron	Platina	Platina	Copper	Iron	Nickel	Iron
Platina	Antimony	Manganese	Arsenic	Tin	Antimony	Manganese	Cobalt	Platina
Bismuth	Platina	Nickel	Zinc	Lead	Arsenic	Zinc	Manganese	Zinc
Lead	Bismuth	Arsenic	Nickel	Nickel	Iron	Arsenic	Iron	Nickel
Nickel	Lead	Platina	Iron	Bismuth	Alkaline-	Nickel	Lead	Arsenic
Iron	Alkaline-ful-	Bismuth	Alkaline-	Cobalt	fulphuret	Platina	Silver	Cobalt
	phuret	Cobalt	fulphuret	Mercury	Sulphur	Alkaline-	Mercury	Manganese
	Sulphur	Alkaline-	Sulphur	Alkaline-		fulphuret	Alkaline-	Alkaline-
		fulphuret		fulphuret			fulphuret	fulphuret
		Sulphur		Sulphur				

Of these Tables, the first is a transcript of the original one, published by Geoffroy, and which merits preservation as an historical memorial of an important æra in chemical science. The second and third are, with a few alterations, copies of Dr. Pearson's enlarged edition of Bergman's tables.

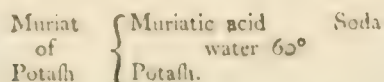
Table II. contains the elective affinities, as far as they have been ascertained, of sixty of the most important chemical substances. All these take place through the medium of water, in which one or both the substances are dissolved, the temperature therefore, in all the cases here mentioned, cannot exceed 212° Fahrenheit. At the head of each column, in larger characters than the rest, and divided from them by a horizontal line, is the name of the substance whose affinities are the subject of the rest of the column; and these are arranged in the order of their intensity, so as that the substance of strongest affinity with that which is at the head of the column, stands the nearest to it. Thus in the column of lime, N^o 8, the substances from oxalic acid downwards, present a decreasing series of the affinities of lime: hence the combination of lime with any substance in the column, may be decomposed by any of the bodies that precede this substance, but is not broken by those which succeed it. The use and application of this table is obvious. If, for example, it is required to decompose an aqueous solution of muriat of soda (common salt) by single affinity; the first inquiry is, which of the two component parts is to be set at liberty: suppose it to be the acid, I am then to find a substance whose affinity with soda is greater than that of muriatic acid, for this purpose I turn to the column of soda N^o 11, and find that by the addition of either sulphuric or nitric acid, I shall be able to decompose the salt in question, so as to obtain its acid in a disengaged state: if, on the other hand, the alkaline base is wanted, I find, upon inspecting the column of muriatic acid, N^o 18, that the affinity of potash for muriatic acid is greater than that of soda; and therefore, by this means, I obtain muriat of potash and free soda. Again, if citrat of lime is to be decomposed, I find, by referring to citric acid, column 30, that it is impossible to do it so as to set at liberty the lime,

because this stands the first in the column of citric acid; but from the column of lime N^o 8, it appears that no less than thirteen acids will each of them separate the lime, so as to leave the citric acid disengaged. If the decomposition of sulphat of Barytes is required, it is plain from the column of Barytes, N^o 6, that it cannot be decomposed so as to set the sulphuric acid at liberty; it is also equally obvious from the column of sulphuric acid, N^o 14, that the Barytes cannot be separated, sulphat of Barytes therefore is undecomposable in water by single affinity.

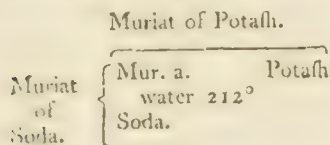
In Table III. the affinities of forty-three substances, without the medium of water, and at a temperature equal to the fusion of at least one of the substances in each instance, are registered: the application and construction of this table is precisely the same as of the former; to enlarge more upon it is therefore unnecessary: it is curious, however, to observe how the order of affinities is modified by temperature; for we find that sulphat of Barytes which is undecomposable by single affinity in water, may at a high heat be decomposed with separation of the Barytes, by potash or soda; and with separation of the acid by the phosphoric, boracic or arsenic acids.

The construction of Geoffroy's tables, although admirably well suited to express the general results of single affinity, is deficient as a method of registering the conclusions from single and unconnected experiments; on which account the schemes of Bergman, either invented or at least first brought into general use by him, have been universally adopted for this purpose. The register of an experiment in affinity ought not to be considered as complete, except it expresses clearly, 1st, the result, i. e. whether or not any change is effected; 2^d, the menstruum, whether water, alcohol, &c. is the fluid in which the substances are dissolved; 3^dly, the temperature of the substances at the time of experiment. 4thly, the state of the new substances, whether they are precipitated from the menstruum, or remain dissolved, or are sublimed. Now all these circumstances are expressed clearly and concisely in the following schemes. Suppose the experiment is made to decompose muriat of potash in water at the common temperature, by soda, it will be found that no change

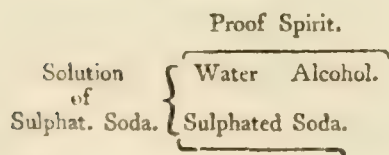
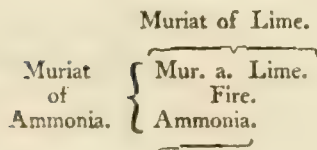
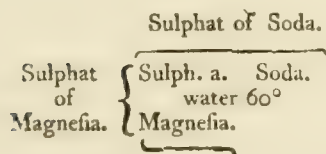
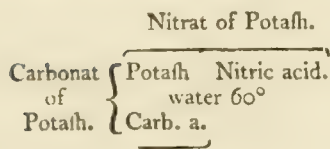
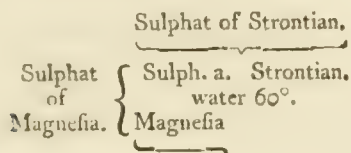
age takes place, this is expressed by the following diagram, or scheme.



The substance to be decomposed is placed on the left hand, and is immediately followed by a bracket whose point is turned towards the compound; within the bracket are the names of the two simple substances of which the compound is formed, and parallel to one of them is the substance by whose affinity a decomposition was expected: no change however taking place, the scheme is left thus imperfect; in the centre is the name of the menstruum and the temperature in degrees of Fahrenheit's thermometer.



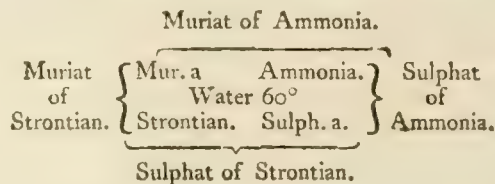
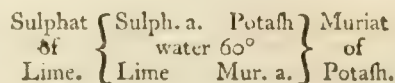
This scheme expresses, that if to a boiling hot solution of muriat of soda in water, potash be added, a decomposition takes place; muriat of potash being formed, and the soda being set at liberty: the straight line under the soda, and the pointless bracket under muriat of potash, express that both substances remain in solution.



The above five schemes illustrate all the remaining cases

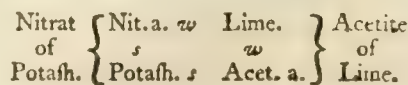
of simple affinity: in the first, we see that strontian added to sulphated magnesia dissolved in water, at the ordinary temperature, decomposes it, and produces sulphat of strontian, and magnesia, both of which are precipitated. In the second, the addition of nitric acid, to a solution of carbonated potash, produces nitrat of potash remaining in solution, while the carbonic acid is volatilized. In the third, sulphated magnesia with soda, produces sulphat of soda remaining in solution, and the magnesia is precipitated. In the fourth, dry muriat of ammonia and lime, heated together, produce ammonia which is volatilized in the form of gas, and muriat of lime remains behind. In the fifth, a solution of sulphated soda being added to alcohol, the water and alcohol unite together, while the sulphat of soda is precipitated.

It is impossible to arrange the results of experiments in compound affinity in a tabular form; accordingly, schemes framed on the same principles as those for single affinity, have been adopted for the convenient registering of all the known facts on this subject. For example, the facts that sulphat of lime and muriat of potash do not decompose each other; and that muriat of strontian, and sulphat of ammonia do decompose each other, together with the circumstances of such experiments are expressed in the two following schemes.



§ IV. Methods of estimating numerically the force of elective Affinities.

Notwithstanding the vast importance of Geoffroy's tables, and of all later ones constructed on the same plan, it is obvious that we can only learn from them the greater or less degree of affinity which different substances have for the same body, according to the order in which they are arranged; and though this is sufficient for foretelling the result in cases of single elective affinity, yet in more complicated cases, where the mutual attractions of four or more substances are concerned, the want of a numerical expression for the force of affinity, in order to infer with any probability the result of an untried experiment, must have forcibly impressed the mind of every chemist. Thus, if the result of a mixture of nitrat of potash with acetite of lime is required, all that can be learnt from the inspection of the tables is, that the affinity of nitric acid for potash is stronger than for lime, and that the affinity of lime for acetic acid is weaker than that for potash, or, to express it in a tabular form,



hence we have,
Quiescent affinities = $s + w$.
Divellent affinities = $s + w$.

And it is impossible hence to conclude whether or not any chemical change will take place: but if we find the affinity of nitrous acid for potash = 12, of the same for lime = 7; of acetous acid for potash = 14, of the same for lime = 6,

$$\begin{array}{l} \text{Nitrat} \left\{ \begin{array}{l} \text{Nit. a. } 6 \\ \text{of } 12 \end{array} \right. + \left\{ \begin{array}{l} \text{Lime } 7 \\ \text{Acet. a. } 14 \end{array} \right\} \text{Acetite} \\ \text{Potash.} \left\{ \begin{array}{l} \text{Potash } 14 \\ \text{of } 20 \end{array} \right. \text{Lime.} \end{array}$$

we shall then have

$$\text{Quiescent affinities} = 12 + 7 = 19$$

$$\text{Divellent affinities} = 6 + 14 = 20$$

and hence we may with certainty infer that a double decomposition will take place, with a force equal to the excess of 20 over 19.

Chemical philosophers have not, however, by any means agreed on the method to be followed for the attainment of this desirable object; some with M. Wenzel, consider the time requisite for effecting solution as the expression of the force of the affinity between a substance and its menstruum; others with Fourcroy, believe the intensity of this to be more accurately measured by its resistance to decomposition, than by its rapidity in uniting bodies: according to Macquer the force of affinity is expressed by the facility with which bodies unite, compounded with the force by which they continue united. Kirwan, on the other hand, has estimated the affinity of acids for their bases by the different proportions of them that they require for saturation. And from this very diversity of opinions may be inferred the great difficulty of the subject.

According to M. Wenzel, the disposition to chemical union between bodies varies with the figure of their constituent parts; and, regarding the action of menstrua upon them as a mere mechanical impulse, subject to calculation upon the principles of statics, he concludes, that the rapidity of solution is an exponent of the force of affinity; and therefore, that *the affinity of different bodies with any common menstruum, is in an inverse ratio of the time required for their solution.* To prove this, he procured equal cylinders of silver, copper, lead, and other metals in a state of purity, having weighed them, he covered them with varnish so as to leave only one end exposed to the action of the solvent: they were then separately suspended in equal quantities of nitric acid, and left to its action for an hour; being then taken out and freed from their varnish, they were weighed, and the quantity dissolved of each was found to correspond with the order of their respective affinities for the acid. This large conclusion of M. Wenzel's from so partial an experiment, is however, most strikingly contradicted by facts: the cylinders of silver and lead will be scarce perceptibly acted on in muriatic and sulphuric acids, whereas these will precipitate a nitrous solution of either metal with the greatest ease; a multitude of similar obvious contradictions to the rule might be mentioned, if need were, besides that M. Wenzel's method, if ever so accurate, is capable only of being applied in cases where one of the substances is a solid.

The resistance which the parts of a compound offer to any force that is employed to separate them, offers a probable method of estimating the degree of their mutual affinity: since however the union is chemical, it is plain that mechanical means of separation cannot be used for this purpose, and there are very few chemical agents that can be

made the subject of calculation. The only method proposed by Fourcroy, and one that he himself allows, is inapplicable to the greatest number of cases, is to ascertain the thermometrical temperature necessary to effect a separation. It is certain that the application of high degrees of heat in many cases opposes the action of chemical affinity: the force of affinity for caloric (heat) is also probably different in every natural substance, we know in many cases, as in the burning of lime, the reduction of mercurial oxyds, &c. that mere caloric is capable of separating carbonic acid from lime, oxygen from mercury, &c. it is not therefore *a priori* improbable, that the affinity of any acid for the different alkaline, earthy, and metallic bases should be truly expressed by the various quantities of caloric, as indicated by the degrees of the thermometer and pyrometer, required for the decomposition of the different salts. But although this rule certainly holds good in some cases, yet the greater number of compound salts are incapable of being decomposed by the greatest quantity of mere caloric that we are able to apply, and almost all the cases of chemical affinity through the medium of water, are also incommensurate with the scale proposed.

In consequence of these difficulties both Fourcroy and Morveau have agreed in proposing an arbitrary number as the basis of their respective numerical series, all the other terms of which are brought by approximation and comparison with the results of known experiments, to bear certain proportions to the standard term, and to each other.

It is plain, therefore, that a table, constructed on these principles, can never be any thing more than an approach towards the truth; and even this can only be effected by repeated corrections according to the results of a vast multitude of experiments; and in all untried cases it is reduced merely to an argument from analogy. In order to verify the numbers in the following short table of Morveau, no less than 490 experiments would be necessary, and probably more than half these would require separate adjustments of all the numbers in the table; it may be conceived therefore how many centuries of incessant labour would be required to tabulate in this manner with any accuracy, even the binary combinations of the present chemical substances.

How far this Table, which has already undergone repeated

	Sulphuric acid.	Nitric acid.	Muriatic acid.	Acetous acid.	Carbonic acid.
Barytes	66	62	36	28	14
Potash	62	58	32	26	9
Soda	58	50	31	25	8
Lime	54	44	24	19	12
Ammonia	46	38	21	20	4
Magnesia	50	40	22	17	6
Alumine	40	36	18	15	2

corrections by its able author is to be depended upon, a few examples will show.

If acetite of barytes be added to sulphat of soda, a decomposition will take place, and there will be produced sulphat of barytes and acetite of soda: now according to the Table, the sum of the

Quiescent affinities = $28 + 58 = 86$
Divellent affinities = $66 + 25 = 91$.
this case, therefore, is resolved truly by the Table.

Nitrat of Potash and acetite of lime mutually

mutually decompose each other, forming nitrat of lime and acetate of potash; but by the Table,

$$\text{Quiescent affinities} = 38 + 19 = 57$$

$$\text{Divellent affinities} = 11 + 46 = 57$$

The Table, therefore, in this instance, is erroneous.

Nitrat of soda and nitrat of ammonia mutually decompose each other; but by the Table,

$$\text{Quiescent affinities} = 50 + 21 = 71$$

$$\text{Divellent affinities} = 38 + 31 = 69$$

Nitrat of potash and fulphat of ammonia mutually decompose each other; but by the Table,

$$\text{Quiescent affinities} = 58 + 46 = 104$$

$$\text{Divellent affinities} = 38 + 62 = 100$$

Hence is obvious the great probability of error in all calculations and reasonings founded on this Table.

Mr. Kirwan's numerical system of affinities is founded on the proportion of base necessary to saturate a given quantity of acid; and as no one has treated this important subject with such unwearied ability and profound investigation as the learned president of the Royal Irish Academy, it will be necessary to enter somewhat minutely into an examination of the fundamental parts of his system.

The first object with Mr. Kirwan was to ascertain exactly the quantity of *real acid* in each of the three mineral acids, at a determinate specific gravity (by *real acid* is to be understood acid free from all water, except such as is necessary to its very constitution). For this purpose, assuming that muriatic acid, in the form of gas, is free from all mixture with water, he procured 100 cubic inches of this acid gas, and found its weight to be = 60 grains, the barometer standing at 29.6, and the thermometer at 57°. The barometrical pressure remaining the same, and the temperature being = 49°, he found that 10 grains of water absorbed an equal weight of muriatic acid gas, and the liquid acid thus formed occupied the space of 13.3 grains of water; hence the specific gravity of this acid was equal to about 1.5, and that of a muriatic acid equal in purity to the acid gas, and of the same degree of condensation as the *real acid* contained in the above mentioned liquid acid, would be equal to 3.03. Taking this, therefore, as the specific gravity of *real muriatic acid*, he next established the proportion of this contained in muriatic acids of different specific gravity. Not being able to obtain nitric or sulphuric acids in a state of gas, he calculated the proportion of *real acid* contained in these liquors, upon the supposition that equal quantities of the three acids, reduced to the state of *real acid*, required equal weights of potash for their saturation: the results of these calculations being found to accord with the actual specific gravities of these acids, diluted with different known quantities of water, he hence inferred the truth of the principle that he had assumed. Proceeding from these data he next ascertained the quantity of *real acid*, and *real base*, in all the salts formed by the three acids, with alkaline and earthy bases, and comparing these results with the known order of affinity of the bases for the acids, he drew the general conclusions, "That the quantity of *real acid* necessary to saturate a given weight of any of the bases, is "in an inverse ratio to the affinity of the bases with the "acid; and that the quantity of any of the bases necessary "to saturate a given quantity of any acid, is in the direct "ratio of the affinity of the same acid with the base." Or in other words, that, of two bases, which has the strongest affinity for any given acid, requires the least quantity of acid for its saturation; and a given quantity of acid will

take up a greater quantity of one base than of another, in proportion to the force of its affinity for the base.

If these deductions are legitimate, the following Table, containing the quantities of base required to saturate 100 parts of *real acid*, is also a true expression of their respective forces of chemical affinity.

	Potash.	Soda.	Lime.	Ammonia.	Magnes.	Alumine.
Sulphuric acid.	215	165	110	90	80	75
Nitric acid.	215	165	96	87	75	65
Muriatic acid.	215	158	89	79	71	55

Mr. Kirwan's method has, however, been examined with much care, by two of the ablest chemical philosophers that the age can boast of, M. M. Morveau and Berthollet; and a number of very serious objections have been brought against it. These may be divided into those which call in question the essential principle of the force of affinity being in direct ratio to the quantity of base, and those which only relate to the accuracy of particular experiments.

The essential objections are contained in the following experiments of Morveau. A quantity of sulphuric acid containing, according to the table of Kirwan, 100 grains of *real acid*, required, for saturation, 201 grains of crystallized carbonat of potash. A quantity of nitric acid, containing also, according to Kirwan, 100 grains of *real acid* required 302 grains of the same salt for saturation. A quantity of muriatic acid, containing 100 grains of *real acid*, required 905 grains of the same salt. Hence it appears either that Mr. Kirwan's fundamental calculations are erroneous, or that the very principle of his whole system is false: for not only do equal quantities of *real acids* require for their saturation different quantities of the potash, but the quantity of base required is in an inverse ratio to the force of affinity, being exactly the reverse of the principle that Kirwan lays down.

Again, according to Kirwan's corrected tables,

Sulphat of potash consists of	{ Acid 100 Potash 108.7
Sulphat of lime - -	{ Acid 100 Lime 80.6
Nitrat of potash - - -	{ Acid 100 Potash 83.33
Nitrat of lime - - -	{ Acid 100 Lime 34.4

Now, if a solution be made in water of such a quantity of sulphat of potash as contains 100 grains of *real acid*, and to this a sufficient quantity of nitrat of lime be added to convert the whole of the sulphuric acid into sulphat of lime, it is evident that 80.6 grains of lime will be required, and 234.4 grains of nitric acid will be set at liberty; but this quantity of nitric acid would require for saturation 195.32 grains of potash, whereas the decomposed sulphat of potash will furnish only 108.7 grains; there should remain therefore 64.87 grains of nitric acid in excess, or uncombined.

with any base. If, however, we put this calculation to the test of experiment, we shall find whether the liquor be diluted, or concentrated, or even brought to crystallization, that there is not the smallest trace to be found of any disengaged acid.

Besides the above, there are several other important objections to Mr. Kirwan's theory, especially to that part of it in which he supposes equal quantities of real sulphuric, nitric, and muriatic acids, to require for their saturation the same proportion of potash. The force of these objections has been acknowledged by Mr. Kirwan in his treatise "*on the strength of acid, and the composition of neutral salts*;" he has, in consequence, deduced the proportion of real acid, in

nitrous and sulphuric acids, from other less exceptionable data; so that his numerical table of the strength of affinities is now by far the most correct of any that has yet been constructed; and his fundamental principle, that the quantity of base required to saturate a given quantity of real acid, is a true expression of the force of affinity between the acid and the base, seems to receive additional confirmation in proportion to the advance of chemical knowledge.

The following corrected table of the quantity of base taken up by 100 parts of sulphuric, nitric, muriatic, and carbonic acids, is copied from Mr. Kirwan's essay on the analysis of mineral waters.

100 parts.	Potash.	Soda.	Ammon.	Barytes.	Strontian.	Lime.	Magnesia.
Sulphuric	121.48	78.32	26.05	200.	138.	70.	57.92
Nitric	117.7	73.43	40.35	178.12	116.86	55.7	47.64
Muriatic	177.6	136.2	58.48	314.46	216.21	118.3	89.8
Carbonic	95.1	149.6		354.5	231 +	122.	50.

§ V. *Laws of Affinity.*

Before the subject of affinity was so well understood as it is at present, or rather while chemists were not yet aware of the extreme difficulty and uncertainty of their researches, all the known facts were collected and classified, and from them was deduced a number of general laws of affinity, most of which have been since overturned, or essentially modified by later more accurate investigations. The enumeration of these laws, with such restrictions as have been induced by modern discoveries, will form the subject of this section.

1. *Chemical affinity takes place only between bodies of different natures.*

This necessarily follows from the definition given in the third section, by which chemical affinity was distinguished from the attraction of aggregation or cohesion, by this very circumstance.

2. *Affinity takes place only between the ultimate particles of bodies.*

Where two simple substances enter into combination, this may be allowed to be the case, but certainly does not happen when compound bodies unite with each other: thus when oxygen and hydrogen combine together into water, and oxygen and sulphur into sulphuric acid, there is probably an affinity between the ultimate particles of oxygen with those of hydrogen in one case, and those of sulphur in the other; but when water and sulphuric acid combine together, the affinity takes place between particles of water and of acid, each of which is resolvable into its chemical elements, and is, therefore, not in a state of ultimate division.

3. *The affinity which any one body has for a series of others, is not equal in force towards each individual of that series.*

It is probable that no two substances can be found, whose separate affinity for a third is perfectly equal in similar circumstances; that such instances, if they ever occur, are at least very rare, is obvious from all that has been said concerning single and compound elective affinity; the whole of which essentially depends upon this law, and is at the same time a demonstration of its truth.

4. *Chemical affinity may act upon more than two substances at the same time, and unite them into one compound.*

A considerable number of triple salts has lately been discovered which seem to countenance this law; perhaps,
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however, it is scarcely yet established beyond the reach of controversy. In one sense, indeed, almost all the salts may be said to be compounds of more than two substances, thus, sulphat of iron consists of sulphur, iron, and oxygen; carbonat of ammonia, of carbon, hydrogen, azot, and oxygen: but in these and similar cases, it is universally allowed that the affinity of a binary compound is totally different from that of its elements: so, the neutral salt, carbonat of ammonia, is not held together by the concurrent affinities of its four primary elements, but by those of its two immediate compound parts, carbonic acid and ammonia. Common alum is usually considered as a proper triple salt, in which the separate affinities of sulphuric acid, alumine, and potash, are acting on each other at the same time; of this, however, there appears not the least evidence, for though the salt in question may be made by adding together sulphuric acid, alumine, and potash, yet the same result is obtained by combining acidulous sulphat of alumine with sulphat of potash. Similar observations may be made on the ammoniacomagnesian and other triple salts, as they are called.

5. *Chemical action will not take place between two bodies except one of them, at least, is in a fluid state.*

This, though more accurate than the ancient maxim, "*corpora non agunt nisi sint soluta*," is obviously borrowed from it. There are two kinds of fluidity, the elastic and non-elastic, and these require to be carefully distinguished from each other: the first, or the gaseous, is for the most part very unfavourable to chemical combination, while the second, or the liquid, (including both fusion and solution) is one of the most indispensable circumstances in all cases of affinity.

6. *Chemical affinity is in an inverse ratio to the attraction of aggregation.*

This would seem to be a necessary deduction from the preceding law; it is not, however, to be admitted without many limitations. The aggregation of bodies may be destroyed by mere mechanical means to a certain degree; such is the effect of the operations of cutting, rasping, pounding, &c. Now in all these, and similar cases, the above law holds strictly true; the ease and rapidity with which bodies are decomposed, or enter into new combinations being directly as the quantity of surface that they present, or inversely as their masses. Thus fluat of lime (fluor spar) in entire crystals, is wholly unaffected by sulphuric acid, but in
Z z proportion

proportion as its surface is multiplied by grinding it down to powder, for the attraction of aggregation is diminished; and the action of the sulphuric acid on the lime, to the exclusion of the fluoric acid, becomes more energetic. It would be more correct to say, that the affinity of chemical affinity is exactly as the attraction of aggregation; because its absolute force remains constant in the mass, and it only appears to increase or decrease on the dissolution of its aggregate attraction. Thus, if the chemical affinity of lime and fluoric acid be $= 1$, and the force of its cohesive attraction, when crystallized be 6, the sum of its quiescent affinities will be $= 16$. Let the affinity of sulphuric acid for lime, or the dissolvent affinity be $= 13$; it is obvious that no decomposition can take place, although the chemical dissolvent affinity is superior to the quiescent one; but, these continuing the same, let the attraction of aggregation be reduced by mechanical texture to be only $= 2$, then the strongest chemical affinity will become efficacious, and a decomposition will take place.

The aggregation of bodies is, however, more frequently overcome by the action of solution by water, or fusion by fire, and these menstrua are so commonly made use of that the habit is infensibly acquired of considering solutions of substances in water or fire, as equally simple with the same bodies when in a concrete state. It is from this oversight that all the apparent exceptions to this law have originated. "If, says Morveau, we apply heat to a mixture of acid and water, or of alcohol and water, which are real chemical combinations, we only augment the degree of their rarefaction; but instead of thus promoting their union we separate them; the same is the case with those metallic oxyds that are decomposable by mere heat, and of all those compound salts, one of the principles of which is more fixed than the other." If, however, caloric is capable of being exhibited in an uncombined state, and of being distinguished from all other substances by peculiar sensible properties, if these are modified and changed by combination with different bodies, if caloric may be transferred from one body to another, according to an ascertained order of chemical affinity; and finally, if it may be separated from its combination, and again exhibited with all the original properties that were at first characteristic of it, what reason is there to deny that it is so far a material substance, as to be capable of chemical combination? To recur, therefore, to the examples adduced by Morveau: if to the compound of alcohol and water a certain quantity of caloric be added, it will be divided between the two ingredients, according to their respective affinities, and in proportion to the addition of this new substance will the original affinities of the water and alcohol be weakened: the alcohol being the soonest saturated with caloric, will assume a gaseous form, and being assisted by the attraction of gravitation, will separate from the water. In all this there is nothing inconsistent with the general order of chemical agency; whereas the reasoning of Morveau involves a contradiction in terms: for if the force of chemical affinity is capable of being overcome by rarefaction, and if rarefaction is nothing but the greatest possible resolution of an aggregate, it follows that the absolute force of chemical affinity may be overcome by the negation of the attraction of aggregation.

7. *When two or more substances unite to form a chemical compound, the properties of their constituent parts, and those of the compound are not to be inferred from the properties of its elements.*

It is not meant by this, that the properties of a com-

pound are always, and in every particular different from those of its constituent parts, only that they are by no means intermediate between them. The reverse of this was maintained by the earlier chemists, and accordingly Stahl taught that salts were composed of earth and water, because he found their properties to be a medium between those of these two tubilanes. It will probably be thought at present that the very instance which Stahl has selected to prove his maxim is rather conclusive on the contrary side; but numbers of other more unexceptionable examples occur in every department of chemistry. Tin and iron are both of them very ductile, but if equal parts of the two are melted together, the result is a brittle alloy. Magnesia is tasteless, sulphuric acid is intensely sour, combine them, and we obtain a bitter salt. Alkali is colourless, syrup of violets is purple, the product upon mixture is green; carbonic acid and ammonia, when separate, are gaseous, mix them, and they become solid. Amalgam of lead, and of bismuth are solid, by combination they form a liquid.

8. *The capacity for caloric is always changed by chemical combination.*

This law is, in fact, only an offset from the preceding; and for the explanation of it, see CALORIC.

§ VI. Anomalies.

All those cases of chemical affinity, which either really or apparently contradict the general laws that have just been cited, may be reduced to two classes; *viz.* those depending on the variable force of affinity itself, and those occasioned by the action of other antagonistic attractions.

1. The whole system of Bergman depends on the absolute uniformity of elective attraction, on its being a constant force, so that if (the temperature and menstruum remaining the same) the combination A B is decomposed by C, to the exclusion of B, the new substance A C, cannot be again separated by B, so as to reproduce A B, and leave C at liberty. With still more rigour does this apply to all the methods of estimating numerically the excess of one affinity over another, independently of the relative quantities of the substances employed. It appears, nevertheless, from Berthollet's treatise on this subject, that in almost all cases of change produced by elective affinity, there is not a total transfer of the base, but a partition of it between the two opposite attracting substances in a compound ratio of the relative force of affinity and quantity of each. That in many cases the excess of quantity may supply the deficiency of force, and therefore that the mass must be carefully taken into consideration, together with the specific force in the construction of tables of affinity. Barytes is properly placed by Bergman at the head of the column of the affinities of sulphuric acid, in water; not however because it is impossible for sulphat of barytes to be decomposed by any other substance, but because, if equal quantities are taken of all the substances that combine with sulphuric acid, barytes will be found to decompose the greatest proportion of any other sulphat; and of the sulphat of barytes the largest part will remain undecomposed by a quantity of any body equal in weight to the barytic part of the salt in question. Thus, if equal parts of pure potash and sulphat of barytes are boiled together to dryness in a small quantity of water, it will be found that the sulphuric acid has been divided between the two bases in the compound ratio of their mass and their force of affinity; the greater part of the barytic sulphat will be found undecomposed, a small quantity of barytes will be found at liberty, most of the potash

potash will also be uncombined, but a certain proportion will be united with the sulphuric acid which the barytes has lost, in the form of sulphat of potash. To make this matter plainer, let us examine the results of the decomposition of sulphat of barytes by potash, and of sulphat of potash by barytes, as calculated from Mr. Kirwan's data. Sulphat of barytes contains 3.33 parts of sulphuric acid and 6.66 of barytes: if therefore we take ten parts of this salt and an equal quantity of potash we have,

3.33 sulph. a.

6.66 barytes

10. potash.

and the affinity of equal parts of barytes and potash for sulphuric acid being : 2 : 1.21 the acid, if shared between them in the compound ratio of their masses and their affinity, will be 13.32 to barytes, and 12.1 to potash: now the composition of sulphat of barytes being as already stated, and that of sulphat of potash being 54 of alkali to 45 of acid, there will remain undecomposed 5.22 parts of barytic sulphat; 5.18 of barytes will be set at liberty; 3.47 of sulphated potash will be produced, and 8.11 of potash will continue uncombined. If, on the other hand, we mix equal parts of sulphat of potash and barytes we shall have

5.48 potash

4.52 sulph. a.

10. barytes

and the acid being divided between the bases in the compound ratio of their masses and force of affinity, will give 6.63 parts to the potash and 20. to the barytes: there will then be 2.48 parts sulphat of potash remaining undecomposed, and 3.24 barytes uncombined; 4.12 parts potash will be set at liberty, and 10.14 sulphat of barytes will be produced.

It is not merely in a few instances that this partition of one body between two others, according to their respective masses and affinities, takes place, there being scarcely any example to the contrary. Lime has a weaker affinity than potash for sulphuric acid; yet lime, when acting on an equal weight of sulphat of potash, is capable of partly decomposing it: the same happens with phosphat of lime and potash, with sulphat of potash and soda, &c.

From these and similar experiments it follows, that when a compound of two substances is acted on by any third body, that part of the compound which is the subject of combination, is shared between the two remaining elements, not only in the proportion of their respective degrees of affinity, but also according to their quantity; these two substances therefore must be considered as opposite forces, dividing between them the subject of combination, according to the ratio of their intensity, and this intensity depends, not only on the energy of affinity, but also on the quantity, so that by varying this in either, the effect produced will be proportionably modified.

Another consequence is, that the action of a substance in opposition to any particular combination decreases, as it advances towards saturation; and as the force of this is continually diminishing, so the power of the substance eliminated is enlarging according to its increased quantity, and this effect takes place till the antagonist forces exactly counterpoise each other.

A third inference is, that in cases of precipitation the precipitate necessarily retains a portion of the substance with which it had before been combined; for during the instant of this action, a partition is made of the subject of combination in proportion to the affinities and masses of the substances employed.

2. The variable ratio of the force of affinity between the two elements of particular compounds, is another ano-

maly and occasional source of error. Thus the black oxyd of manganese readily parts with a portion of its oxygen, by the action of such a portion of caloric as will just raise it to ignition; but after it has parted with this excess of oxygen, the affinity which unites it to the remainder, follows a much higher ratio, so that the utmost possible accumulation of caloric is unable to produce any further decomposition: hence the affinity of metallic manganese for oxygen is very high, and the affinity of the white oxyd of manganese for oxygen is much lower than it ought to be, provided the affinity of these two substances was in an uniform ratio, according to their relative proportions. So again, the acidulous sulphat of barytes is decomposed by an equal quantity of water into the common barytic sulphat and sulphuric acid, yet no addition of water can produce any further decomposition of this earthy salt; the general fact, therefore, of masses compensating for inferiority of attractive force does not here hold good. Another striking example of the same is the decomposition of tartrite of potash by acetous acid, into acidulous tartrite of potash and acetite of potash; and the resistance made by the acidulous tartrite to all further decomposition by any quantity of acetous acid. The same may be said of the affinity of muriatic acid to oxygen, and of its base for the same substance.

3. The order of chemical affinities is often modified by the attraction of saline vegetation, a power belonging to all but the deliquescent salts, which causes them to separate from the water that holds them in solution, and rise in the form of vegetations up the sides of the vessel in which they are contained; the efflorescent salts are more particularly subject to this attraction, and consequently their affinities are the most frequently disturbed by this force. Muriat of soda is scarcely, if at all, decomposed by carbonated lime in water; but if, according to Scheele's process, lime and muriat of soda are mixed with only so much water as will make the mass into a paste, and this is exposed to carbonic acid gas, a saline efflorescence will shortly make its appearance, possessing all the properties of carbonated soda, and the muriat of lime in a deliquescent state will be found at the bottom of the vessel: but if the carbonat of soda is dissolved and added to the muriat of lime, an immediate decomposition will take place, and carbonated lime and muriat of soda will be produced. A similar effect happens when iron is moistened with muriat of soda and exposed to carbonic acid gas.

4. The last cause of anomaly that need be mentioned, arises from the affinity of water with substances dissolved in it, and this is a very important circumstance to be aware of, as it accounts for the otherwise inexplicable phenomenon of what are called *incompatible salts* in certain mineral waters. Bergman, Kirwan, Cavendish, and other eminent chemists, have discovered in mineral waters the co-existence of small quantities of various salts, which, in common circumstances, decompose each other; thus the waters of Rathbone-place, according to Cavendish, contain in the pint 0.9 of a grain carbonated ammonia, and 1.2 grains of sulphat of lime. A gallon of Harrowgate water contains 13 grains muriated lime, and 5 grains sulphated magnesia. But in both these cases, on account of the small quantity of salt compared to that of the water, the affinity of this salt, aided by its mass, is capable of overcoming the excess of the divellent, over the quiescent affinities of the salts that it holds in solution; and is obviously the true reason of the fact, for if, by evaporation, a considerable proportion of the water is taken away, the divellent affinities of the two salts become efficacious, and decomposition takes place.

For other subjects in some measure connected with the

important subject of chemical affinity, see ADHESION, CRYSTALLIZATION, SATURATION, SOLUTION.

Doct. Method. art. Affinité.—Recherches sur les lois de l’Affinité par Berthollet.—Annales de Chimie, vols. xiii. xiv. xvi. xxv.—Berghman, on Elective Attraction.—Kirwan on Min. Waters.—Fourcroy Systeme des concrets. Chim. exp. vol. i.—Pearson on Elective Attraction.—Kirwan on the strength of Acids, and the composition of Neutral Salts.

ACTION, is a name given by the Arabians to opium; and also to an electuary, in which opium is an ingredient.

AFFIRMATION, *affirmatio*, in *Logic*, a positive proposition, alleging the truth or reality of something.

Affirmation is defined, by the *Logicians*, an act whereby we attribute one idea to another; as supposing it to belong, or agree to it.—As when, conceiving perfection to agree to the Deity, we say, *God is perfect*.

This, on other occasions, is called ENUNCIATION, PROPOSITION, COMPOSITION, and JUDGING.

Affirmation, in *Law*, signifies the ratifying or confirming a former law, or judgment.

We say, to *affirm* a judgment: the house of lords, on an appeal, *affirmed* the decree of the Lord Chancellor, or of the lords of session in Scotland.

Affirmance is used in the same sense. 8 Hen. vi. c. 12.

Affirmation is also used in *Grammar*, by some re-ferred upon that art, for what is usually called a VERB; because the office of that part of speech is to express what we affirm or attribute to any subject.

Affirmation is also used for a solemn form of attesting the truth, allowed to be used by the QUAKERS, instead of an oath, which they hold absolutely unlawful to take. See the form of the affirmation, &c. under the article QUAKER.

Affirmation is of divers kinds, tacit, by words, by a nod, or gesture, &c.

In a civil law sense, affirmation may be divided into *simple*, which is that from which no obligation arises; and *qualified*, which infers an obligation.

The requisites of this latter are, that it be, 1. deliberate and free; 2. sincere; 3. certain and specific; 4. clear and perspicuous.

AFFIRMATIVE, in *Logic*. See AFFIRMATION.

There are universal affirmative propositions; and such, usually, are the first of SYLLOGISMS.

In *Algebra* we have also *affirmative* or positive QUANTITIES, which have their appropriated CHARACTERS. The term *affirmative* was introduced by Vieta.

Affirmative *sign*, or character. See CHARACTER.

Affirmative, in *Grammar*. Authors distinguish affirmative particles; such is, *yes*.

The term affirmative is sometimes also used *substantively*. Thus we say, the affirmative is the more probable side of the question: there were so many votes, or voices, for the affirmative.

Affirmative is particularly applied, in the Roman INQUISITION, to such heretics as own the errors and opinions with which they are charged; and maintain them in their examination with firmness and resolution.

AFFIX, *affixus*, compounded of *ad* and *figo*, I fix, in *Grammar*, a particle added at the close of a word, either to diversify its form, or alter its signification. In which sense, affix is the same with *suffix*; though affix is sometimes, but less properly, applied more generally so as to include prefix particles.

We meet with affixes in the Saxon, the German, and

other northern languages; but more especially in the Hebrew and other oriental tongues.

The Hebrew affixes are single syllables, frequently single letters, subjoined to nouns and verbs; and contribute not a little to the brevity of that language. The affixes of nouns may be called *possessive affixes*, as they denote the possessive pronouns; and those of verbs, *verbal affixes*. In feminine nouns, ending in ה, the ה is changed into ת, before the affixes, and י is inserted after the plural feminine termination ות, probably for softening the sound; e. g. תורת, *my law*, and תורותינו, *our laws*. The ם of the plural masculine termination is expelled by the affixes, and when י, *my*, is affixed to the plural, after ם is expelled, the י of the plural coalesces with the affix; and they are distinguishable only by the sense, or by other words in the sentence; e. g. ספרי, *my books*, ספרינו, *our books*. Plural affixes are not unfrequently subjoined to singular nouns, and *vice versa*; e. g. דברך (1 Kings viii. 26) for דבריך *thy sword*; and אבותם (Exod. iv. 5) for אבותיהם, *their fathers*. As the possessive pronouns are subjoined to nouns, the personal pronouns are subjoined to verbs in the same manner. In this case the ה of the third person singular feminine is changed into ת, and the ת of the second person singular feminine assumes י, before the affixes; e. g. אהבתה (1 Sam. xviii. 28) *he loved him*, ונתתה (Ezek. xvi. 19) for ונתתה, *and thou gavest him*. In the second person plural, masculine and feminine of Kal, the ם and ך final are ejected, and their place is supplied by י, inserted before the affixes; e. g. נסרתה, for נסרתה, and נסרתנו, *ye delivered him*. Sometimes the ך is wanting, and thus this person is not easily distinguished from the third, second and first person singular; as ציתני (Zech. vii. 5). for ציתוני, *did ye fast unto me?* Affixes are sometimes subjoined to the infinitives of passive verbs, in which case these infinitives assume the rank of substantive nouns; as, ביום הנרא (Gen. v. 2). *In the day when they were created, or of their creation*. When affixes are thus joined to infinitives, they may be taken either actively or passively, or expressed by the nominative or accusative case, according to the sense of the passage; e. g. ביום נסרו, may be understood to signify either, *In the day in which he himself delivered, or in which he delivered him*. Some adverbs, and all prepositions assume affixes; but as the affixes of verbs are generally rendered by the accusative, and those of nouns by the genitive, the affixes of adverbs are expressed by the nominative, and those of prepositions by the case which the preposition governs. Wilson's Elements of Heb. Gram. p. 108. 174. Maselef, Heb. Gr. vol. i. p. 65, 171, 189.

The oriental languages are much the same as to the RADICALS; and differ chiefly from each other as to *affixes* and *PREFIXES*. Mem. Acad. Insc. tom. ix. p. 334.

AFFLATUS, formed from *ad* and *flare*, to blow, literally denotes a blast of wind, breath, or vapour, striking with force against another body.

Naturalists sometimes speak of the *afflatus* of serpents.

Tully uses the word *figuratively*, for a divine INSPIRATION. In which sense, he ascribes all great and eminent accomplishments to a divine *afflatus*. See PYTHIA.

AFFLENK, in *Geography*, a town of Stiria, in Germany; two leagues north of Pruck.

AFFLICTION is not itself, in propriety of medical speech, a disease, but it produces many; for whatever excites envy, anger, or hatred, produces diseases from tense fibres; as whatever excites fear, grief, joy, or delight, begets diseases from relaxation.

Many

Many chronical diseases, particularly the *plthifia*, spring from affliction. For a very remarkable history of the effect of affliction, see Hist. de l'Acad. Roy. des Scienc. an. 1732.

AFFLUX, in *Electricity*, is opposed to *efflux*; and both terms were used by the Abbé Nollet, and also by Dr. Watfon, previously to the discovery of positive and negative electricities. They apprehended, that in all electrical operations, there was both an afflux of electrical matter to the globe and the conductor, and likewise an efflux of the same matter from them. Dr. Watfon soon corrected this mistaken opinion; but the Abbé Nollet was more tenacious; and he was confirmed in his attachment to this favourite theory by observing, that bodies not insulated, plunged in electric atmospheres, shewed signs of electricity; not perceiving, that the electricity of such bodies was in its nature and effects different from, and directly opposite to that of the electrified body, in the atmosphere of which they were involved. See **ELECTRICITY**.

AFFORAGE, in the French *Customs*, a duty paid to the lord of a district, for permission to sell wine, or other liquors within his seignory.

Afforage is also used for the rate or price of provisions laid and fixed by the provost, or sheriffs, of Paris.

AFFORARE, to *affear*, in *Law*, is to set a value on any thing; and *afforatus* denotes appraised or valued, as things vendible in a fair or market. Du-Cange. See **AFFEERORS**.

AFFORCEMENT, *afforciamentum*, derived from the barbarous Latin *afforciare*, to *strengthen*, *confirm*, in some ancient charters, denotes a **FORTRESS**, or work of **FORTIFICATION** and **DEFENCE**.

AFFORESTING, *afforestatio*, the turning ground into **FOREST**. In this sense, the word stands opposite to **DEAFFORESTING**.

The Conqueror, and his successors, continued afforesting the lands of the subject for many reigns; till the grievance became so notorious, that the people of all degrees and denominations were brought to sue for relief; which was at length obtained, and commissions were granted to survey and perambulate the forest, and separate all the new afforested lands, and re-convert them to the uses of their proprietors, under the name and quality of **FURLIEU**, or *pouralle land*.

AFFRANCHISEMENT. See **MANUMISSION**.

AFFRAY, in *Law*, is derived from the French word *affrayer*, to *affright*, and it formerly meant no more; as where persons appeared with armour or weapons, not usually worn, to the terror of others. Stat. 2 Edw. III. cap. 3. But it now implies a skirmish or fighting between two or more, in some public place, to the terror of his majesty's subjects; and there must be a stroke given or offered, or a weapon drawn, otherwise it is not an affray; but if the fighting be in private it is no affray, but an assault. 3 Inst. 158. It is inquirable in the court leet, and punishable by justices of peace in their sessions, by fine and imprisonment; and it differs from **ASSAULT**, in that it is a wrong to the public; whereas assault is of a private nature. Lamb. lib. ii. Affrays may be suppressed by any private person present, who is justifiable in endeavouring to part the combatants, whatever consequences may ensue. But a constable, or other similar officer, may break open doors to suppress an affray, or apprehend the affrayers; and he may either take them before a justice, or imprison them by his own authority, for a convenient time, till the heat is over; and may then, perhaps, also make them find sureties for the peace. 3 Inst. 158. 1 Hawkins P. c. 134, 136, 138. The offence of affray admits of several degrees of aggravation.

This is the case when two persons deliberately engage in a **DUEL**, though no mischief has actually ensued. Another aggravation is, when the officers of justice are disturbed by an affray, in the due execution of their office, or where it occurs in the king's court and such places. All affrays in a church or church-yard are deemed heinous offences; and therefore it is enacted, by Stat. 5 and 6 Edw. VI. c. 4. that if any person shall, by words only, quarrel, chide or brawl, in a church or church-yard, the ordinary shall suspend him, if a layman, *ab ingressu ecclesie*; and, if a clerk in orders, from the ministration of his office, during pleasure. And, if any person in such church or church-yard proceeds to smite or lay violent hands upon another, he shall be excommunicated, *ipso facto*; or if he strikes him with a weapon, or draws any weapon with intent to strike, he shall, besides excommunication, (being convicted by a jury) have one of his ears cut off; or, having no ears, be branded with the letter F in his cheek. Blackst. Com. vol. iv. p. 146.

AFFREIGHTMENT, or **AFFRETAMENT**, **AFFRETA-MENTUM**, in *Law*, signifies the **FREIGHT** of a ship.

The word is formed from the French *fret*, which expresses the same thing.

AFFRONTE, French, compounded of *ad*, to, and *frons*, forehead, in *Heraldry*, is understood of animals borne in an **ESCUTCHEON** as facing, or with their heads turned towards each other. This is otherwise called *confronté*; and stands opposed to *adossé*. When a savage's head is full-faced, it is said to be *affronté*. The word often occurs in the same sense with *gardant*.

AFFUERA, in *Geography*, one of the islands of Juan Fernandes, on the South-sea coast, in the kingdom of Chili. Its longitude, from the meridian of Callao, is 30° 20', and it is about 400 leagues to the north of Cape Horn. This coast swarms with sea lions and wolves.

AFFUIAGE, *affuiagium*, derived from *affuer*, q. d. *affocare*, to make a fire, of *ad* and *focus*, in *Ancient Customs*, a right of cutting fuel-wood in a forest, or the like, for maintaining family-fire. Du-Cange.

AFFUSION, the act of pouring some fluid substance on another body. Dr. Grew gives several experiments of the luctation arising from the affusion of divers menstruums on all sorts of bodies. Divines and church historians speak of **BAPTISM** by *affusion*; which amounts to much the same with what we now call sprinkling.

AFGHANS, in *Geography* and *History*, comprehend generally the several tribes of Mahometans, who inhabit the northern parts of India; some of whom are spread over the whole of India, and known by the name of *Pattans*: they are esteemed the best soldiers in the country. In a more restricted sense, they are the indigenous possessors of a tract of country, which stretches from the mountains of Tartary to certain parts of the gulf of Cambay and Persia, and from the Indus to the confines of Persia; and their principal settlements have been the mountainous districts bordering on Kandahar, Cabul, Gazna, Peshawer or Peshor, and Hazaret, &c. The Afghans are represented as a rude unlettered people, without a written character, says Mr. Forster (Journey from Bengal to England, through the northern parts of India, &c.), and speaking a language, called *Pushto*, peculiar to themselves. They are a robust hardy race of men, and being generally addicted to a state of predatory warfare, their manners largely partake of a barbarous insolence, and they avow a fixed contempt for the occupations of civil life. The territory which they chiefly inhabit is denominated by Mr. Forster *Afghanistan*, and he observes that, though the natives are denominated Tartars in some histories of Asia, they bear no resemblance to those people,

people, in their nation, manners, or language. They had been formerly subject to the Moors, and four times to the Persians, but were finally independent. During the reign of Abdolseid Hossain, and the tyranny of his son Ismael, by whom he was governed, they suffered much from oppression; and under the direction of Mirza Amir Weiss, or Vaez, one of their chiefs, a man of a bold and enterprising spirit, they determined to revolt, and to throw off the Persian yoke. Having indirectly petitioned the sultan, and then deputed to the Persian court a person supposed to be the agent of a seditions and turbulent party, the sultan, Mir Weiss, was seized and sent as a prisoner to Ispahan. He contrived, however, by his presents and his eloquence, so to ingratiate himself with the king's ministers, and with the king himself, that he was not only released, but acquitted and favoured with the royal protection. This suit afforded him an opportunity of observing the weakness of the Persian monarchy, and of concerting measures for the success of the enterprise which he had projected. With a view of uniting the Afghans in his interest, he obtained leave to make the pilgrimage to Mecca; and here he obtained a dispensation for effecting the revolt which he had meditated. After the successful execution of several preparatory measures, and the murder of the Khan of Kandahar, and his Persian and Georgian adherents, he marched forward to the city, which he surprised and took. He was then joined by the Afghans, who, after several alternate defeats and victories, obtained peaceable possession of the whole kingdom of Kandahar, A. D. 1713. Mir Weiss, however, who had for some time assumed the title of king, with other ensigns of sovereignty, died in his new kingdom in the year 1715, and was succeeded on the throne by his brother, Mir Abdollah. This prince was destitute of talents, ambition, and courage; and therefore formed a design of restoring Kandahar to the crown of Persia. Whilst he was negotiating the surrender, he was killed by his nephew Mir Mahmud, a prince of the age of 18, who was proclaimed king of Kandahar, within six months after the death of his father.

In 1717, the *Abdollahs*, another tribe of Afghans, who resided in the province of Herat, and who had submitted to Persia, on condition of not being subject to foreign governors, resolved to follow the example of the Afghans of Kandahar, and to emancipate themselves from the Persian yoke. They succeeded in their attempt, and Herat became an independent republic. Mir Mahmud, availing himself of the revolt of the Abdoltees, and of other concurring circumstances, which contributed to enfeeble the Persian government, proceeded to the execution of the design which his father had conceived of subduing the whole of Persia, and engaged the Afghans, the Abdoltees, and the other inhabitants of adjacent states, to co-operate with him. Accordingly he began his march in January 1722; and having advanced within three leagues of Ispahan, the capital, he pitched his camp and prepared for battle. The Persian army, after suffering a great slaughter, whilst the loss of the Afghans was very inconsiderable, was betrayed by one of its own generals, and reduced to the greatest distress. Mahmud having gained the suburbs, invested the city; but several unfavourable circumstances occurred during the siege, and the Afghans must have withdrawn if Shah Hossain had not been deserted and betrayed by those in whom he placed his chief confidence. After enduring the horrors of famine for two months to such a degree that the besieged were under the necessity of consuming every kind of brute animal they could find, and of appeasing their hunger by eating the bodies of those who died, and even murdering their fellow-citizens and children, the city capitulated on condition

of Hossain's resigning the empire, together with his person and principal officers of the court, into the hands of the conqueror. "Such," said the vanquished and distressed monarch, addressing the Afghan prince, "is the instability of human grandeur: God disposes of empires as he pleases, and takes them from one nation to give them to another; but I promise to consider you always as my own father; and I will undertake nothing for the future without your advice." As soon as these words were uttered four thousand Afghans were ordered to take possession of the royal palace, and the gates of the city. Thus, when Hossain had reigned 28 years, the dynasty of the Sefis, or Safis, ended in the person of this prince, the 10th successor of Ismael, its founder, after having lasted 223 years. For the manner in which Mahmud closed his life and reign, see the article *MAHMUD*. He was succeeded by Ashruff, the son of Abdollah, whom the Afghans raised to the throne of Persia, A. D. 1725. The Afghans at this juncture were masters of Khorasan, Kerman and Pars in Persia; and under the conduct of Ashruff, they obtained some successes against the Turks; but in 1727, they concluded a peace with them, and Ashruff acknowledged the Ottoman emperor lawful sovereign of Persia. About this time, especially in 1729, Nadir Shah, otherwise called Kuli Khan, began to distinguish himself. Having totally routed the Abdollee Afghans, of whom 5000 were made prisoners, and near 15,000 killed and wounded, and having taken possession of Herat, he proceeded to meet Ashruff, who was marching towards Khorasan at the head of an army of 30,000 men. The Afghans were terrified by the prospect of encountering the victorious general of the Persians, and wished to avoid an action. They were, however, compelled to engage, and the event was a complete victory on the part of the Persians. The loss sustained by the Afghans was about 12,000 men: and that of the Persians amounted to the number of 4000. Ashruff retreated towards Ispahan, and was pursued by Kuli Khan. On his approach the Afghans quitted their several garrisons and fled towards the capital, where they deposited ample stores of provisions, with the purpose of defending themselves to the last extremity. But Ashruff determined to try the event of a battle before he submitted to a siege. Accordingly he marched out to a convenient situation about 30 miles from the city, and waited Kuli Khan's arrival. In the mean while he exercised the most wanton cruelty on the Persians, ordering all the principal men to be cut off, and afterwards all they could find in the streets; so that, for the space of 20 days, there was not a Persian to be seen abroad, none appearing but women, who came out to buy the common necessities of life. At last Kuli Khan arrived and obtained a complete victory. Ashruff having lost 7000 men, retired to Ispahan, and issued an order, that all the inhabitants should be slaughtered, and the palace and other houses set on fire. As they were about to execute this barbarous order, the Persian army approached the city; upon which Ashruff and his men, having loaded their beasts with money, hastened to save themselves by flight; and in a few hours there was scarce an Afghan to be seen in the city. The Afghans took up their winter-quarters at Shiraz; but they were pursued by Kuli Khan, Jan. 1730; and after an obstinate resistance, compelled to fly, and to leave behind them a great part of their treasure, and most of their women and children. Ashruff, with about 1500 of his men, marched directly towards Kandahar; but most of them deserted him; and the rest were surprised by a body of the Balluches, and after a gallant defence, he and most of his party were cut to pieces. Thus ended the usurpation of the Afghans in Persia.

After Nadir Shah was proclaimed emperor of Persia in

1736, he proceeded with his army towards Kandahar, in order to reduce to subjection the Afghans, who were the only enemies of the Persian empire whom he had not subdued. Having secured Kandahar and Cabul, and advancing in his march toward Peshawar, he was much incommoded by the hot dusty mountain air, and in several skirmishes with them lost many men, who were either killed or wounded. The Afghans had fortified themselves so strongly on the tops of the hills, that this victorious general found it impossible to force their pass, without much bloodshed; and he therefore sent them offers of accommodation, which they accepted the more readily, as they had not received for four or five years the usual allowance from court for their services in defending the passes of the mountains. Nadir Shah, upon paying them a certain sum of money, was allowed to march forward without molestation: several of the Afghans enlisted in his army; and others joined him in his further progress. The mountainous residences of the Afghans were included in the territories to the westward of the river Attek, formally ceded to Nadir Shah by Mahommed Shah, in the year 1739. A body of Afghans, in the service of Nadir Shah, was commanded by Ahmed Khan, who, after the assassination of this barbarous conqueror in 1747, took possession of Cabul, and with the resources furnished by the treasure which he thus obtained, laid the foundation of an independent government, including Afghanistan Gour, Multan, Sind, and Casmir. Ahmed was succeeded in 1773, by his son Timur Shah, who, besides his Afghan and Indian dominions, possessed a large division of Khorasan. His successor, who now fills the throne, carried his arms in 1796 as far as Lahor, when he was recalled by intestine commotions. Hanway's Hist. Acc. of the British Trade, &c. vol. iii. p. 27, &c. &c. Hanway's Trav. vol. iii. p. 148, &c. Frazer's Hist. Nadir Shah, p. 91. Raynal's Revol. vol. ii. p. 68.

In the 2d volume of the Asiatic Researches, we have some curious particulars relating to the Afghans: they call themselves the posterity of MELIC TALUT, or king Saul. In a war, they say, which raged between the children of Israel and the Amalekites, the latter, being victorious, plundered the Jews, and obtained possession of the ark of the covenant. Considering this as the God of the Jews, they threw it into the fire, which did not injure it; and having ineffectually endeavoured by other methods to destroy it, they placed it in their temple, and all the idols bowed to it. At length they fastened it upon a cow, which they turned loose in the wilderness. They are said to have applied to Samuel, after their defeat by the Amalekites, for a king: and at this time the angel Gabriel descended, and delivered a wand, with instruction, that the person, whose stature corresponded with that wand, should be king of Israel. Melic Talut was then a herdsmen of inferior condition: and having lost a cow, he applied to Samuel for assistance to satisfy the owner. Samuel, perceiving his lofty stature, asked his name: He answered Talut. Upon which, having measured him with the wand, he said to the children of Israel, "God has raised Talut to be your king." How shall we know, said they, that he shall be our king? Samuel replied, they should know, that God had constituted Talut their king, by his restoring the ark of the covenant. He accordingly restored it, and they acknowledged him their sovereign. After Talut obtained the kingdom, he seized part of the territories of Jalut, or Goliath, who assembled a large army, but was killed by David. Talut afterwards died a martyr in the war against the infidels; and God constituted David king of the Jews. Melic Talut, they say, had two sons, one called Berkia and the other Imia,

who served David and were beloved by him. The son of Berkia was called Arden, and the son of Imia was called Unsee. The latter was eminent for his piety, and the former for his courage; from the which names arose the Demons and Genies. Afghans are reported to dwell in the mountains; where, by proxy, they have constituted themselves, lived in a state of independence, fortified, and extended the empire. The late P. Martini, Esq. informs us, that a very particular account of the Afghans has been written by the late *M. de Abul Khan*, a chief of the Rohillas, from which the curious reader may derive much information. They are Mussulmans, partly of the *Senneri*, and partly of the *Sunni* persuasion. They boast much of the antiquity of their origin, and the reputation of their tribe; but other Mussulmans reject their claim, and consider them of modern, and even base extraction. From history however, we learn, that they have distinguished themselves by their courage, both singly and unitedly, as principals and auxiliaries. They have conquered for their own princes and for foreigners, and have always been regarded as the chief strength of the army, in which they have served. As they have been applauded for their virtues, they have also been reproached for vices; having sometimes been guilty of treachery, and even acted the base part of assassins. They consist of four classes, viz. *pure Afghans*, whose fathers and mothers were Afghans; those whose fathers were Afghans, but their mothers of another nation; such as had Afghan mothers, and fathers of another nation; and the children of women, whose mothers were Afghans, and fathers or husbands of a different nation.

The above account is extracted from the Persian Abridgment of a book, called *The Secrets of the Afghans*, written in the Pushto language, a specimen of which is added. The work was communicated by Henry Vansittart, Esq. to the late Sir William Jones, who was then president of the Asiatic society. Although their claim to a descent from Saul seems to resemble some of the fictions borrowed by Mahomet from the later Jewish Rabbins, Sir William Jones has no doubt that the Afghans are descendants of Israel. "We learn, says he, from Esdras, that the ten tribes, after a wandering journey, came to a country called Arfaxeth; where, we may suppose, they settled. Now the Afghans are said by the best Persian historians to be descended from the Jews; they have among themselves traditions of such a descent; and it is even asserted, that their families are distinguished by the names of Jewish tribes; although, since their conversion to the *Islam*, they studiously conceal their origin: the Pushto language, of which I have seen a dictionary, has a manifest resemblance to the Chaldaic; and a considerable district under their dominion is called *Hazàreh*, or *Hazàret*, which might easily have been changed into the word used by Esdras. I strongly recommend an enquiry into the literature and history of the Afghans."

AFLOAT, in *Sea language*, denotes the state of a ship when she is buoyed up by the water from the ground.

AFFOBA, in *Botany*, a name given by the natives of Guinea, to a kind of plant, of the genus of the phaseolus, or kidney bean. They use it pounded and mixed with oil, to cure the itch, and other cutaneous foulnesses. It is more hairy than the common kinds, and its leaves are very small. Phil. Trans. N° 232.

AFORE, signifies that part of a ship which lies forward, or near the stern. It also means *farther forward*, as the manger stands afore the fore-mast, or nearer to the stern.

AFRA,

AIRA, *l. G. 17*, a strong castle on the frontiers of QUENET ALBA, built by Cheif Mahomed, king of SAKAL, in 1711. *L. 17*, p. 17.

AIRA, in *Geography*, a species of PASTURE, with broad wings in the north, and the hinder wings marked with dark cross veins; found in the southern deserts of KILIM.

AIRANIUS, *l. 1*, in *Geography*, a Latin comic poet, who lived about the year U. C. 654, or a century before Christ. Cicero (*de Clar. Orat. apud Oper. t. i. p. 434*, Ed. Olivet.) says that he was a C. T. and commends him for the sweetness of his language and the fluency of his style. Horace (*Epod. l. 1. ep. 1. v. 57*) represents him as resembling Menander. Quintilian, (*l. x. c. 1. t. ii. p. 913*) whilst he celebrates his talents for comedy, expresses a wish that he had not sullied his performances by impure and unnatural love-adventures, which were declaratory of his own manners. Suetonius in his life of Nero, (*apud Oper. t. ii. p. 743*, Ed. Pittel.) mentions a comedy of Afranius, intitled *Incendium* or *Conflagration*, on the exhibitions of which the house that was burned was devoted to be pillaged by the actors. Some fragments of this poet's works are preserved in Mattaire's *Corpus Poetarum*, Lond. 1713, fol.

AFRICA, in *Geography and History*, was anciently one of the three parts of the known world, which was divided into Europe, Asia, and Africa, and called by the Greeks *três continentes*; and is now one of the four quarters of the globe. Bochart (*Geog. Sac. apud op. tom. i. col. 488*.) after enumerating several etymologies of the name Africa, which he disapproves, deduces it from a Punic word *feric*, signifying an *ear of corn*, and referring to the fertility of this country. Dr. Hyde supposes it to be derived from the Phœnician or Punic *Havarca*, or *Avreca*; i. e. the *Barca*, or country of Barca, which was one of the most remarkable parts of this continent. Servius in Virgil (*Æn. v. v. 128*, tom. ii. p. 618. Ed. Burm.) deduces it from *aveu* *frigus*, *sine frigore*, and the appellation expresses the heat of the climate. Africa, called by the ancients *Libya*, was divided by them into Africa *propria*, and Africa *interior*. Africa *propria*, or the territory of CARTHAGE, has had various limits assigned to it by the ancient geographers. Mela (*l. i. c. 7*.) and Ptolemy (*l. iv. c. 3*.) comprehend under this appellation all the countries situated between the river Ampsaga and the borders of Cyrenaica, which, according to Pliny (*H. N. l. v. c. 4*.) were inhabited by twenty-six different nations: and thus they would include Numidia and the Regio Syrtica, which are countries distinct from the proper territory of Carthage. Its true limits seem to have been (See Cellar. *Ant. Geog. tom. ii. p. 85*.) the river Tufca, or boundary of Numidia, on the west; the Mediterranean, or African Sea on the north; the frontiers of the Garamantes and deserts of Libya interior on the south; and the Mediterranean, with the Lesser Syrtis, on the east. It comprehended two provinces, *viz.* the *Regio ZEUGITANA* and *BYZACIUM*, with which the kingdom of TUNIS, as it is divided by Dr. Shaw (*Travels*, p. 73.) into the summer and winter circuits, nearly corresponds. The chief lakes of this region, noticed by the ancients, are *Hipponitis*, the *Palus Sifara*, the *Palus Tritonis*, the *Palus Pallas*, and the *Palus Libya*: the most famous river was the BAGRADA; and the principal islands on the coast of Africa *propria* were the COSSYRA, the TARICHIAE, LOPADUSA, ÆGUSA, the LARUNESIAE, DRACONTIA, GALATA, and ÆGIMURUS.

Africa was first peopled, principally by Ham and his descendants. Mizraim peopled Egypt. (See *Gen. x. 6. 13*.) The Pathrusim, the Naphtalim, the Casluhim, and the Ludim took possession of other parts: though their respective situa-

tions are not precisely known. Some have supposed that the Libabim settled in Libya, and Phut between Numidia and Libya, along the Mediterranean, and that many of the Canaanites, when they were driven out of their country by Joshua, retired into Africa. At a later period, the inhabitants of this country were the Aufes, whose chief city was AUZA, the Maxyes and Machlyes both Libyan nations, the Zaucees, and the Zygarites, who cultivated bees, and made honey. All these were, probably, a mixture of old Libyans and Phœnicians, and in several respects resembled both these nations.

Africa *interior* comprehended those remoter and more southern countries of Africa, most of which were little known to the Greeks and Romans otherwise than by uncertain and fabulous report. The western part of this division was called *Libya interior*, and it was chiefly inhabited by the *Gætuli*, *Garamantes*, *Nigritæ*, and *Hesperian Æthiopiæans*. The eastern part was denominated by Ptolemy *Æthiopia sub Ægypto*. See ABYSSINIA, EGYPT, and ETHIOPIA. The Romans do not seem to have extended their conquests and intercourse beyond the tropic of Cancer. The kingdoms with which they were more immediately connected were Numidia, Mauritania, and Gætulia. As for the inhabitants of the more retired and southerly parts, they were ignorant even of their names, and much more of their character and manners. Some account will be given of the notions that prevailed respecting them in their proper places, under the real or fabulous appellations by which they were distinguished, as *Astacuri*, *Blemmyes*, *Cadupi*, *Dolopes*, *Elephantophagi*, *Ichthyophagi*, *Lotophagi*, &c. &c.

The ignorance of the ancients, concerning the extent of Africa, appears from their disagreement in ascertaining its just limits; whilst some, as Sallust, (Jugurth. Bell. c. 20. tom. i. p. 26. Ed. Haverc.) Mela, (*l. i. c. 8*.) Pliny (*l. iii. c. 1. tom. i. p. 135*, Ed. Hard.) Dionysius, (*Perieg. v. 18*.) Hirtius, (*De Alex. Bell. c. 14*.) Polybius, (*Hist. l. iii. p. 191*, Ed. Casaub.) and Solinus, have preferred for this purpose the western branch of the Nile, or even the great Catathmus or desert; which last would assign to Asia, not only Egypt, but part of Libya: others, as Ptolemy, (*l. iv. c. 5*.) and Strabo, (*l. i. tom. i. p. 61*.) with the modern geographers, fix the isthmus of Suez, and the Arabian gulf, as the boundaries of Asia and Africa. This, says Strabo, is a more natural limit than the Nile; and thus, says Ptolemy, the whole of Egypt is included in Africa. But the knowledge both of Ptolemy and Strabo comprehended only a small part of Africa. Strabo was only acquainted with that part of it which the Romans had reduced under their power, and this was scarcely a tenth part of it, and he seems not to have known any thing with certainty concerning the form and state of the southern parts of Africa (*l. xvi. t. ii. p. 1180*.); and though Ptolemy was acquainted with some other parts, which were not known to the Romans, yet by the division which he hath made of it into twelve regions, we may conceive that nearly one half of it was unknown to him. This inquisitive and learned geographer appears to have been unacquainted with any part of Africa, situated a few degrees beyond the equinoctial line; for he supposes that this great continent was not surrounded by the sea, but that it stretched, without interruption, and increasing in its breadth, towards the south. *Geog. l. 4. c. 9*. Leo Africanus, who was an eminent African geographer, after all his studies, travels, and researches, appears to have been imperfectly acquainted with this country; for by dividing it merely into four parts, *viz.* Barbary, Numidia or Biledulgerid, Libya, and Nigritia or Negroland, he excludes from it the whole kingdom of Egypt

Egypt, and the two Ethiopias. It was not known for many ages, that Africa was a peninsula, every where surrounded by the sea, excepting at the isthmus of Suez, which joins it to Asia. The knowledge of the Romans was restricted to those provinces which stretch along the Mediterranean sea, from Egypt westward to the straits of Gades. The Phœnicians, however, at an earlier period, seem to have been acquainted with both the south-east and western coasts of Africa. A Phœnician fleet, as Herodotus informs us, (l. iv. c. 42. p. 298. Ed. Weiffeling.) fitted out by Necho, king of Egypt, took its departure about 604 years before the Christian æra, from a port in the Red sea, doubled the southern promontory of Africa, and, after a voyage of three years, returned by the straits of Gades, to the mouth of the Nile. Eudoxus of Cyzicus, is said to have held the same course, and to have accomplished the same arduous undertaking. Plin. H. N. l. ii. c. 67. tom. i. p. 106. Strabo, (l. ii. tom. i. p. 155.) mentions this voyage of Eudoxus, and treats it as a fabulous tale. Dr. Vincent, in his *Periplus of the Erythrean sea*, published in 1800, argues with great ingenuity against the possibility of an African circumnavigation previously to that of the Portuguese; and he asserts, that there is no evidence of a farther progress to the south, on the western coast of Africa, than that of Hanno; nor on the eastern, than that of the *Periplus*. An anonymous writer is disposed to credit the voyage, related by Herodotus, till it can be proved that the circumnavigation, in such vessels as the Phœnicians then possessed, was physically impossible; and in support of this opinion, he alleges the simplicity of the narrative, unblended with miraculous adventures—the discovery of two important truths, *viz.* the falling of the shadow to the south, and the peninsular form of the African continent; one of which could be ascertained by no other means, and the former of which was disbelieved by the writer who relates it; and the consideration, that the navigators only put to sea when circumstances were favourable; and though the attempt was hazardous, and success improbable, still no insurmountable impediment to its completion exists. Month. Rev. New Series. vol. xxxiv. p. 122. The Carthaginians also, imbibing the spirit, and following the example of the Phœnicians, extended their intercourse with this country. Whilst they made considerable progress, by land, into the interior provinces of Africa, trading with some of them, and subjecting others to their empire; they sailed along the western coast of this great continent, almost to the tropic of Cancer, and planted several colonies, in order to civilize the natives, and accustom them to commerce. In the prosperous age of the Carthaginian republic, Hanno, with a fleet equipped by authority of the senate, and at the public expence, was directed to steer towards the south, and seems to have advanced much nearer the equinoctial line than any former navigator. Major Rennell supposes his navigation to have terminated at Sherbro' river, or found, which was also the limit of the knowledge of Ptolemy. Plin. H. N. l. v. c. 1. t. i. p. 241. Hannonis *Periplus* apud Geograph. minores ed. Hudson, vol. i. p. 1. The authenticity of this work has been questioned by Mr. Dodwell (*ubi supra*), and vindicated by M. de Montesquieu (Sp. of Laws, b. xxi. c. 8. v. ii. p. 44.) and M. de Bougainville, in a Dissertation published in tom. xxvi. of the Mem. de l'Acad. des Inscriptions, &c. The voyage, it is said, was performed in small vessels, which kept near the coast; and the observations made on the appearance and state of the countries on the coast of Africa have been confirmed by the relations of modern navigators. Nevertheless, Polybius, (Hist. l. iii. p. 192. Ed. Casaub.) long after the period assigned to

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these voyages, asserts, that it was not known in his time, whether Africa was a continued continent, stretching to the south, or whether it was encompassed by the sea; and Pliny (H. N. l. ii. c. 68. t. i. p. 107.) asserts, that there can be no communication between the southern and northern temperate zones. In order to obviate these difficulties, Dr. Robertson observes, (Hist. Amer. vol. i. p. 15. 8vo.) that the Phœnicians and Carthaginians concealed any knowledge they acquired concerning the remote regions of the earth, with a mercantile jealousy. Many of their discoveries seem to have been scarcely known beyond the precincts of their own states. The navigation round Africa is recorded by the Greek and Roman writers, rather as a strange amusing tale, than as a real transaction. As neither the progress of the Phœnician and Carthaginian discoveries, nor the extent of their navigation, were communicated to the rest of mankind, all memorials of their skill in naval affairs seem, in a great measure, to have perished, when the maritime power of the former was annihilated by Alexander's conquest of Tyre, and the empire of the latter was overturned by the Roman arms. It was not till a century after the invention of the mariner's compass in 1302, that navigation began to advance beyond the state to which it had attained before the downfall of the Roman empire. The first regular plan for discovering unknown countries was formed in Portugal by John I. surnamed the bastard, after he had obtained secure possession of the crown, by the peace concluded with Castile, A. D. 1411. Whilst an armament was equipping, in order to attack the Moors who were settled on the coast of Barbary, a fleet, consisting of a few vessels, was destined in 1412 to sail along the western shore of Africa, and to discover the countries that were situated on that coast. This fleet doubled Cape Non, which had been the formidable boundary of the Portuguese navigation before this period, and proceeded 160 miles beyond it to Cape Bojador. The rocky cliffs, adjacent to this cape, deterred any farther progress. In 1418, a new attempt was made for doubling this cape, but though the attempt proved unsuccessful, it terminated in the discovery of Porto Santo; and another expedition, in 1419, was recompensed by the discovery of Madeira. The Portuguese, by their voyage to this island, were accustomed to quit the coast, and venture into the open sea. By pursuing this course they succeeded, A. D. 1433, in doubling cape Bojador, and in advancing within the tropics; so that in a few years they discovered the river Senegal, and the whole coast extending from Cape Blanco to Cape de Verd. As far as the river Senegal they found the African coast inhabited by people resembling the Moors of Barbary; but to the south of that river, they beheld men with skins black as ebony, with short curled hair, flat noses, thick lips, and all those peculiar features which are now known to distinguish the race of NEGROES. The search for unknown countries became now an object of general attention; and it was encouraged first by the discovery of the Cape de Verd islands; and soon after, *viz.* in 1449, by that of the Azores. So slow and gradual, however, was the progress of discovery, that the Portuguese, during the life of prince Henry, who had projected and patronised undertakings of this kind, and who died in 1463, did not advance nearer to the equinoctial line than five degrees; and after their continued exertions for half a century, they had not discovered more than 1500 miles of the African coast. From Cape Non to the SENEGAL, the country along the coast was found to be a sandy, barren tract, thinly inhabited by a wretched people, professing the Mahometan religion, and subject to the extensive empire of Morocco. But to the

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south

fact, that the river and religion of the Mahomedans, by which the country was divided into small tracts, being known, the population was considerable, and the Portuguese, and the Portuguese discovered that it produced gold, silver, and other valuable commodities, which afforded the prospect of a lucrative commerce, as well as the gratification of curiosity. Having sailed to the line in 1482, they found that region of the world, which was supposed to be desolate and uninhabited, to be not only habitable, but populous and fertile. In 1482, a powerful fleet was fitted out, which, after visiting the kingdoms of Benin and Congo, advanced to 15° north beyond the line; and in order to know the production of the country, which they discovered, and the commercial advantages from them, forts were erected on the coast of Guinea, colonies were settled, and by the same means of policy, the Portuguese power and commerce in Africa were established upon a solid foundation. By constant intercourse with the Africans, the Portuguese gained increasing knowledge of the country; they found, that contrary to the doctrine of Ptolemy, the continent inclined towards the east; and they began to indulge a hope, founded on the report of the ancient Phœnician voyages round Africa, of proceeding by the same route to the East Indies, and of engaging that commerce, which has been the source of wealth and power to every nation by which it has been possessed. In 1486, a voyage of discovery was projected, and the conduct of it was committed to Bartholomew Diaz, an experienced and brave officer, who stretched farther towards the south than any of his predecessors, and discovered near 1000 miles of a new country. After encountering many difficulties and hazards, in an unknown and tempestuous ocean, he at length descried that lofty promontory which bounds Africa to the south; but having made the discovery, he was compelled, by the shattered state of his ships, and the turbulent disposition of his crew, to return home. This promontory he called *Cabo Tormentoso*, or the stormy cape; but the king, his master, extending his views by this course to India, gave it a name of better omen, which it has ever since retained,—the *Cape of Good Hope*. In 1497, a squadron was equipped for prosecuting the scheme of opening a passage to the East Indies by this cape; and the command of it was entrusted with Vasco de Gama, a man of noble birth, and possessed of talents adapted to the enterprise. Ignorant of the course of the winds in the Atlantic ocean, he set sail in July, an improper season of the year; and bearing towards the south, he struggled with contrary winds for four months, before he reached the cape. During an interval of calm weather, he doubled this formidable promontory, and pursued his voyage towards the north-east, along the African coast. After touching at several ports and various adventures, he came to anchor before the city of Melinda. From hence he proceeded to Calicut, where he arrived May 22, 1498; but as he had neither force sufficient to attempt a settlement, nor commodities proper for carrying on any commerce, he hastened back to Portugal, with an account of his success in performing a voyage the longest, as well as the most difficult, that had ever been made since the first invention of navigation. He landed at Lisbon, Sept. 14, 1499, two years, two months, and five days from the time he left that port. To this voyage we are indebted for the discovery of the southern and western boundaries of the African continent; and from the Portuguese we also derive our earliest knowledge of many of its interior parts, and of the most considerable kingdoms and empires of which it consists, particularly those of Habesh or Abyssinia, Monomotapa, Monemucui, the eastern

kingdoms of CONGO, ANGOLA, MITAMBA, LOANGO, and others on the western side; those of SOALALA, MOZAMBIQUE, QUILOA, MOMBASA, and MILINDA, on the eastern coast. Their missionaries collected and recorded many particulars with respect to their various religions, governments, laws, customs, products, and commerce, at a time when the means of information concerning the interior of Africa were very scanty and imperfect.

Africa, at a former distant period, contained several kingdoms and states, eminent for the liberal arts, for wealth and power, and for the most extensive commerce. Almost all the northern parts of this continent were full of people, from the Red Sea to the Atlantic Ocean. The kingdoms of EGYPT and ETHIOPIA were much celebrated, and the rich and powerful state of CARTHAGE extended her commerce to every region of the then known world; and even the British shores were visited by her fleets. At length the Romans, after a contest which lasted for more than 100 years, totally subdued this famous republic and destroyed their city, and then reduced under their power other kingdoms and states of Africa. See NUMIDIA, MAURITANIA, GÆTULIA, &c. The Roman empire retained its possessions in this country for several ages, and found them an ample source of revenue, as well as necessary supply.

The 10,000 Euboic, or Phœnician talents, amounting to about four millions sterling, which vanquished Carthage was condemned to pay within the term of fifty years, as Polybius informs us, (Hist. l. xv. c. 2. p. 706.) were a slight acknowledgment of the superiority of Rome, and bear a very small proportion to the taxes afterwards raised both on the lands and on the persons of the inhabitants, after the fertile coast of Africa was reduced into a province. It would be tedious to recite the oppressions which the Africans suffered from the rapacity of the Roman governors, and the distractions which were the consequences of their religious disputes, after the introduction of Christianity, and which were rather augmented than appeased under the unseasonable interference of the civil power. Of the latter, some account will be given under the articles CIRCUMCELLIONES and DONATISTS; and with respect to the former it will be sufficient to select a single instance.

About the year of our Lord 366, Count Romanus possessed the military command of Africa. At this time the three flourishing cities of Oea, Leptis, and Sabrata, which, under the name of Tripoli, had long constituted a federal union, were invaded and pillaged by the barbarians of Gætulia; and several of their most honourable citizens were surprised and massacred. In this state of distress they applied to Romanus for succour; but the price of his assistance was so enormous, that they were incapable of purchasing it. Their application by two deputies to the emperor Valentinian was equally unavailing; for though he deputed Palladius to examine the state of Africa, and the conduct of Romanus, he behaved in such a manner that, for concealing his own guilt, he was under a necessity of attesting the innocence and merit of the Count. The charge of the Tripolitans was declared to be false and frivolous; the citizens of Leptis were compelled to contradict the truth of their own decrees, and to censure the behaviour of their own deputies; the president of Tripoli, who had presumed to pity the distress of the province, was publicly executed at Utica; four distinguished citizens were put to death, as accomplices of the imaginary fraud, and the tongues of two others were cut out, by the express order of the savage emperor. Romanus was continued in the command, till the Africans were provoked, by his avarice, to join the rebellious standard

of Firmus the Moor, A. D. 372. Firmus was the son of one of the richest and most powerful of the Moorish princes, who acknowledged the supremacy of Rome; and having slain his brother in a domestic quarrel, he became obnoxious to the displeasure of Romanus. Unable to conciliate him, he appealed against the tyrant, who was an object of universal contempt and hatred, to the sword and to the people. Having established his power in the provinces of Mauritania and Numidia, and whilst he was hesitating whether he should assume the diadem of a Moorish king, or the purple of a Roman emperor, Theodosius the famous Roman general, with a small band of veterans, unexpectedly arrived on the African coast, and quelled the rebellion by his prudence and activity; and Firmus, deprived of all hopes of escape, disappointed the insulting triumph of the Romans, by strangling himself in the night. Romanus, who was the original cause of this rebellion, escaped with impunity, by fraud and forgery; and Theodosius, the restorer of Britain and of Africa, on a vague suspicion that his name and services were superior to the rank of a subject, was ignominiously beheld at Carthage. Gibbon's Hist. vol. iv. 301—308, 8vo.

The Romans, however, did not long retain their dominion in Africa. It was lost in consequence of a quarrel between Boniface and Ætius, two Roman generals, who were rivals in reputation and power. The former was supreme governor of the Roman territories in this country; but in the year 427, he was induced to revolt, by the treachery of the latter: and in order to avenge his quarrel and maintain his authority, in opposition to his rival, he sought the assistance of Genserik, a warlike prince of the Vandals, who left the kingdom of Gallicia, where he had succeeded his brother Gonderic, and sailing over the straits of Gades, landed on the coasts of Barbary, A. D. 429. The army, which he commanded, amounted at first only to 50,000 effective men; but his own dexterity, and the discontents of Africa, soon fortified the Vandal powers, by the accession of numerous and active allies. The wandering Moors of Mauritania precipitated themselves into an alliance with the enemies of Rome; and a crowd of naked savages rushed from the woods and vallies of Mount Atlas, to satiate their revenge on the polished tyrants, who had injuriously expelled them from the native sovereignty of the land. The persecutions of the DONATISTS favoured the designs of Genserik, who avowed himself an enemy of the orthodox communion, and who led them to expect a repeal of the odious and oppressive edicts of the Roman emperors. The conquest of Africa was facilitated by the active zeal, or the secret favour, of a domestic faction; and the intolerant spirit, which disgraced the triumph of Christianity, contributed to the loss of the most important province of the west.

Boniface having vindicated his innocence at the imperial court, and regained the favour of the empress Placidia, repented of the application which he had made to Genserik, and attempted, by various conciliatory means, to induce him and his adventurers to return to Spain. But all his efforts for this purpose were ineffectual. Although Carthage, and the Roman garrisons, returned with their general to the allegiance of Valentinian, the rest of Africa was distracted with war and faction; and the inexorable king of the Vandals disdained all terms of accommodation, Boniface and his veterans, with the hasty levies of provincial troops, were defeated with considerable loss; the victorious barbarians insulted the open country; and Carthage, Cirta, and Hippo Regius were the only cities that still adhered to the declining interest of Rome. The long

and narrow tract of the African coast to which the Roman power extended was fertile and populous; and besides the supply which it afforded to the inhabitants, the annual exportation, particularly of wheat, was so regular and plentiful that Africa deserved the name of the common granary of Rome and of mankind; and it was called by an ancient writer the soul of the commonwealth. On a sudden, the seven fruitful provinces, from Tangier to Tripoli, were overwhelmed by the invasion of the Vandals; and where they found resistance, such were their dispositions and habits, they seldom gave quarter. Boniface, distressed beyond measure by the view of the ruin which he had occasioned, and by his inability to stay its progress, retired into Hippo Regius, which was immediately besieged. By the skill of this distinguished commander, the siege was protracted above 14 months; and thus Boniface was recruited by a powerful armament from Constantinople. As soon as he obtained this help he marched out against the Vandals; and the loss of a second battle irretrievably decided the fate of Africa; upon which he embarked for Italy with the precipitation of despair, and soon after, A. D. 432, fell in a rencounter with his rival Ætius. In the year 439 Carthage was reduced, 585 years after the destruction of the city and republic by the younger Scipio: the licentious troops of the victor were permitted to satiate their rage and avarice, and all persons were enjoined by an edict, and under the threatened penalty of death and torture, to deliver their gold, silver, jewels and valuable furniture or apparel, to the royal officers. The lands that formed the immediate district of Carthage were divided among the barbarians; and Genserik reserved for his own domain the fertile territory of Byzacium and the adjacent parts of Numidia and Gatulia. Genserik was no less arbitrary and intolerant in the government of the church than of the state. He would not allow the Africans, who fled before him in the field, to dispute his will in synods and churches; and therefore, as he himself had renounced the orthodox communion, he oppressed his catholic subjects by severe laws and punishments. His son Hunneric, who succeeded him, A. D. 477, inherited his vices, and tormented the catholics with the same unrelenting fury. The throne of Africa was successively filled by the two nephews of Hunneric, by Gundamund, A. D. 484, and by Thrasimund, A. D. 496; both of whom emulated the cruelty of their uncle, and the last of whom even exceeded it: for in the hour of death he exacted from his successor a solemn oath, that he would never tolerate the sectaries of Athanasius. Hilderic, the gentle son of the savage Hunneric, ascended the throne A. D. 523, and his accession was distinguished by the restoration of peace and universal freedom. In 530, the government was wrested from him by his cousin Gelimer; but the Vandal kingdom, before he could enjoy or abuse his power, was subverted by the arms of Belisarius; and the orthodox party retaliated the injuries which they had suffered. The recovery of Africa was intrusted by Justinian with Belisarius; and in 533 he landed on the coast with an army, well chosen and properly equipped for the important service to which they were destined. As the Romans approached Carthage, the mind of Gelimer was filled with anxiety and terror. The battle that ensued terminated in the defeat of the Vandals, who, accustomed only to a Moorish enemy, were incapable of withstanding the arms and discipline of the Romans. Gelimer fled towards the deserts of Numidia; and Belisarius pitched his camp on the field of victory at the distance of ten miles from Carthage. When he drew near the city, he found it blazing with torches, as signals of the public joy; the gates were thrown open; and the inhabitants, with acclamations of gratitude, hailed and welcomed their Roman

deliverers. When the Imperial fleet arrived, the mariners were immediately landed to unite with the military in the triumph of their conquest; and they were directed by Belisarius to remember, in their march through the city, that the Vandals had been the tyrants, but that they were the deliverers of the Africans, who must now be respected as the voluntary and affectionate subjects of their common sovereign. "The voice of menace and complaint was silent; the trade of Carthage was not interrupted; while Africa changed her master and her government, the shops continued open and busy; and the soldiers, after sufficient guards had been posted, modestly departed to the houses which were allotted for their reception. Belisarius fixed his residence in the palace; feasted himself on the throne of Genseric; accepted and distributed the barbaric spoil; granted their lives to the suppliant Vandals; and laboured to repair the damage which the suburb of Mandracium had sustained in the preceding night. At supper he entertained his principal officers with the form and magnificence of a royal banquet."

Gelimer, who endeavoured to rally his scattered forces, encamped within four days' journey of Carthage, and was joined by his brother Zano, who returned to him, at his earnest request, from the conquest of Sardinia. In their march towards Carthage, their army increased, and surpassed, in a tenfold proportion, that of the Romans, commanded by Belisarius. After a severe engagement, Zano fell; and the pusillanimous flight of Gelimer exposed the vanity of his recent declaration, that, to the vanquished, death was a relief, life a burthen, and infamy the only object of terror. The Vandals, deserted by their king, hastily dispersed; and the Romans entered the camp without resistance, and disgraced themselves by the massacre and plunder which followed their victory. Belisarius, with the dawn of the next morning, recalled them to order and obedience; and he extended his protection to the suppliant Vandals, exercising a proper vigilance, that they might neither disturb the public peace, nor become the victims of popular revenge. Gelimer had fled to the inaccessible country of the Moors, and Belisarius, desisting from the pursuit, resolved to fix his winter-quarters at Carthage. From thence he conveyed information to the emperor, that, in the space of three months, he had achieved the conquest of Africa. The emperor received the news with devout gratitude; and proceeded, without delay, to the full establishment of the catholic church. "Her jurisdiction, wealth, and immunities," says Mr. Gibbon, "perhaps the most essential part of episcopal religion, were restored and amplified with a liberal hand: the Arian worship was suppressed; the Donatist meetings were proscribed; and the synod of Carthage, by the voice of 217 bishops, applauded the just measure of pious retaliation." Gelimer was traced to the mountain of Papua, in the inland country of Numidia, where he had struggled with the hardship and mortification of the most abject condition, and brought captive to Carthage. When the royal captive accosted his conqueror, he is said to have burst into a fit of laughter. Some might have inferred from this singular circumstance, that he had been deprived of his senses by extreme grief; but to more intelligent observers, this unseasonable mirth insinuated, that the vain and transitory scenes of human greatness are unworthy of a serious thought. Belisarius returned, A. D. 534, to Constantinople, and obtained a very signal and splendid triumph. Gelimer advanced slowly in the train of attendants on this occasion; and maintained the majesty of a king. Not a tear nor a sigh escaped him; but he repeatedly pronounced the words of Solomon, VANITY! VANITY! ALL IS VANITY! The departure of Belisarius

from Africa was followed by new troubles, which continued for several years, and accelerated the ruin of its most flourishing provinces. The taxes were multiplied by arbitrary assessments; the crown lands were resumed, and the Roman soldiers, who had married the widows and daughters of the Vandals, claimed the estates which Genseric had assigned to the victorious troops. The dissatisfaction and mutiny increased; and they were aggravated by soldiers, who had imbibed the doctrines, and were infligated by the clergy of the Arian sect. A conspiracy was formed at Carthage, against the life of Solomon, the successor of Belisarius; and a furious sedition was kindled in the Circus which desolated Africa above ten years. The head of the insurgents was a private soldier, whose name was Stoza. When he fell, another person, called Gontharis, promised to divide Africa with the Moors, and aspired to the throne of Carthage. His reign, however, lasted only 30 days. The rebellion of the Moors continued for some time; but their insolence was checked by a battle, in which 17 of their princes were slain, and the submission of their tribes was celebrated with lavish applause by the people of Constantinople. Such, it has been observed, was the desolation of Africa in the reign of Justinian, that, in many parts, a stranger might wander whole days without seeing the face either of a friend or an enemy. The nation of the Vandals, amounting to 160,000 warriors, exclusively of children, women, and slaves, had disappeared. Their number was much exceeded by that of the Moorish families, exterminated in a relentless war; and the same destruction was retaliated on the Romans and their allies, who perished by the climate, their mutual quarrels, and the rage of the barbarians. Procopius confidently affirms, that five millions of Africans were consumed by the wars and government of the emperor Justinian. The conquest of Africa, by the Saracens, was first attempted by the arms of the caliph Othman, A. D. 647; and the conduct of the war was entrusted to Abdallah, his foster-brother. After some partial successes and very considerable losses, in a campaign of 15 months, the Saracens retreated to the confines of Egypt, with the captives and the wealth of their African expedition. Their western conquests were suspended near 20 years. At length the fearless Akbah plunged into the heart of the country, traversed the wilderness, in which his successors erected the splendid capitals of Fez and Morocco, and penetrated farther to the verge of the Atlantic and the Great Desert. The career of Akbah was restrained by the prospect of a boundless ocean. Spurring his horse into the waves, and raising his eyes to heaven, he exclaimed with the tone of a fanatic—"Great God! if my course were not stopped by this sea, I would still go on, to the unknown kingdoms of the west, preaching the unity of thy holy name, and putting to the sword the rebellious nations who worship any other gods than thee." But this ardent conqueror was recalled from the shores of the Atlantic by the defection of the Africans; and overpowered by a multitude of insurgents, he had only left the resource of an honourable death. His fate was avenged by his successor Zuheir, who vanquished the natives in many battles, and was himself overcome by a powerful army, sent from Constantinople to the relief of Carthage. The conquest of Africa was resumed by the caliph Abdalmalek; and after some progress, his farther advances were obstructed by the forces of the eastern empire, under the præfect and patrician John, a general of experience and renown. But in the ensuing spring, he was compelled to evacuate the fortifications of Carthage; and after a second battle in the neighbourhood of Utica, the Greeks and Goths were again defeated, and

and compelled to embark, and make their escape. The conquest of Africa was finally completed between the years 698 and 709. To the progress and establishment of the Saracens, we may ascribe the decline and extinction of Christianity, on the northern coast of Africa. Gibbon's Hist. of the Decline and Fall of the Roman empire, vol. iv. 301. vol. vi. 11, &c. vol. vii. 168.—186.—349. vol. ix. 449, &c.

When the Saracen empire was divided into seven kingdoms in 936, the African states retained their independence long after the others were subdued by the Turks; but in the beginning of the 16th century, being afraid of falling under the yoke of Spain, they invited the Turks to their assistance; who first protected, and then enslaved them. They are still dependent on the Ottoman empire; not as subjects of the Grand Seignior, but as acknowledging his protection by an annual tribute. On the coasts piracy prevails to such a degree, that some of the chief princes in Europe have been glad to procure liberty to trade in the Mediterranean without molestation, by a pecuniary compensation.

Africa, as it is described by modern geographers, is a large peninsula, connected with Asia by the isthmus of Suez; bounded on the north by the Mediterranean, which separates it from Europe; on the east by the above-named isthmus, the Red Sea, and the Indian Ocean, which divides it from Asia; on the south by the Southern Ocean; and on the west by the Atlantic, which separates it from America; and extending from Cape Bona in the Mediterranean, 37° 10' N. lat. to the Cape of Good Hope, 34° 29' S. lat. or about 4980 miles, and from Cape Verd 17° 33' W. long. to Cape Guardafui, near the straits of Bab el Mandeb, 51° 20' E. long. or about 4790 miles. Its figure is that of a triangle or pyramid, whose base is the northern part, reaching along the Mediterranean from the mouth of the Nile to the straits of Gibraltar, and vertex the Cape of Good Hope; but the sides, extending along the Atlantic to the west, and the Red Sea or Indian Ocean to the east, are very irregular. As the equator passes nearly through the middle of the country, the greatest part of it lies within the tropics; and therefore the heat, augmented by the reflection of the sandy soil of the interior parts, is hardly tolerable to any besides the natives. Those parts, however, that lie near the coasts or in vallies, and on the banks of the rivers, are very fertile and productive; and the country in general is capable of great improvement by cultivation. Its situation for commerce is preferable to that of any other quarter of the globe; as it has a more easy communication with Europe, Asia and America, than either of these has with the rest. Its coast is opposite to that of Europe, for almost 1000 miles from east to west, and the distance of one from the other is no where 100 leagues, and in some places not more than 20 leagues. It is separated from Asia only by the Red Sea for a considerable interval from north to south, and their distance is from 5 leagues to 50; it also fronts the southern coast of Asia, though at a greater distance, and it is adapted for commerce by the interposition of islands from Madagascar to Malabar, and by the alternation of the trade winds. Its coast for 2000 miles lies opposite to America, and the western islands, at a distance of 500 to 700 leagues. Besides, it has many large and navigable rivers, which intersect the country in various directions, and form a communication between the internal parts and the surrounding ocean; and its harbours are very numerous and commodious, and capable of being rendered secure by fortifications. The principal rivers of Africa, which we shall more particularly describe under their several names, are the NILE, NIGER, MOROCCO, GAMBIA,

SENEGAL, SIERRA LEONA, BENIN, CONGO, ZAIRE, WANZA, BRAVAHUL, RIO DEL SPIRITO SANTO, KUNENI, MACUMBO, LORENZO, SABLE, KUMMA or ZAMBESSE, COAVO, ZELEFE, and MAGADONA. There are many other rivers which will be mentioned in the detail of the several countries to which they belong. On the banks of several of these rivers there are villages and towns, which carry on a considerable traffic, and exchange their valuable commodities, as gums, elephant's teeth, slaves, civet, bezoar and gold dust for European trinkets, glass beads, bugles, or, at best, some brags or iron tools, and frequently for brandy and other spirituous liquors, of which the inhabitants are so fond that they will part even with their children in order to obtain them. Another source of commerce is found in the mines with which the mountains abound. The mountains of Africa are the ATLAS, the mountains of the MOON, the mountains of SIERRA LEONA; the mountains of Crystal near the lake of Zalian, so called from their mines of that beautiful mineral, and those of salt-petre, stretching eastward from the kingdom of Congo, the Pico-franco running through the middle of Caffraria, and part of the country of the Hottentots, the Table mountain at the Cape of Good Hope, so called from its square figure, and other mountains of ABYSSINIA. From the discoveries of Mr. Park, a late traveller in Africa, we learn, that a belt of mountains, extending from west to east, occupies the parallels between 10 and 11 degrees of N. lat. This great ridge of mountains is very productive in gold, and more particularly in the parts opposite to MANDING and BAMBOUK on the west, and to WANGARA on the east. See TOMBUCTOO.—Most of the countries bordering on the mountains share in their wealth by means of the rivulets that flow from them. There is no country in the world, says Leo Africanus, richer in gold and silver than some kingdoms in Africa; as those of Mandingo, Ethiopia, Congo, Angola, Butua, Quiticui, Monomotapa, Cafati and Mocnemugi. Father Labat also minutely specifies a great variety of rich mines, of which the negroes have not been able to avail themselves sufficiently, on account of their ignorance of the operations of mining. Copper is a valuable ore found in this part of the globe; and in such abundance, that an opinion prevails, that the mountains called Atlas are all copper. On the northern coasts, the fields, though imperfectly cultivated, produce very large crops of grain: and it is very reasonably supposed, from the qualities of the soil and climate in different parts of the country, that the richest articles of the East and West-India commerce might be obtained from Africa. The spices of Banda, Ternate and Amboyna, might be produced on the rich and fruitful shores of Melinda on the east side, or on those of the slave coast on the west side of the country. The cinnamon of Ceylon, the tea of China and Japan, and the coffee of Mocha, might be produced on the same coast; and it has been affirmed, that the sugars of Barbadoes and Jamaica, and also the ginger, cotton, rice, pepper or pimento, with the cocoa, the indigo, and every other plant which is now obtained from these islands, would be as easily produced in Africa, and that the crops would be equally profitable, if they were cultivated with the same skill and industry as in America. Notwithstanding the capability of cultivation and the advantages for commerce which Africa possesses, it is lamentable to reflect, that a country which has near 10,000 miles of sea-coast, many large rivers and good harbours, a productive soil and extensive population, should remain destitute of the benefits which arts and industry, and commerce, might afford them. It is a reproach to neighbouring nations, that such a country should be so long neglected;

ment, &c. and that the principal advantage derived from it is the sale of the slaves, who are sold as war and wretched captives to the Europeans, which perpetuates the degradation and misery of a great part of the human species, and which is a most infamous and disgraceful trade, and a source of the most extensive misery to the whole of the globe, that, amidst the progress of the human mind, and the various attempts to improve the condition of mankind, have not, at the present moment of the nineteenth century of the Christian era, been a trade so long known and long lamented, and so generally called the *SLAVE-TRADE*. Of the nature of the trade, and of the efforts that have been made for restraining, regulating and abolishing it, an account will be given under that article. The principal branches of the African trade are slaves, gold and ivory, which is carried on with the Europeans from Senegal, by the exchange of woollen and linen manufactures, hardware and spirituous liquors. The Dutch and French, as well as the English, have their different settlements for this purpose. See *AFRICAN COMPANY*.—*EDU. GOLD, IVORY and SLAVE-TRADE*, and *SENEGAL*. The Portuguese are in possession of the east and west coasts of Africa, from the tropic of Capricorn to the Equator; and in immense tract they became masters of by their successive voyages and fortunate discovery of the Cape of Good Hope. From the coast of Zanguebar, on the eastern side, they trade not only for the articles above-mentioned, but likewise for several others, as *gums, cloves, civet, ambergris and frankincense*. The Dutch have had also settlements towards the southern parts of the continent, in the country called Caffraria, or the land of the Hottentots; and they were long in possession of the Cape Town, which is well settled and fortified, till it was captured by the English in 1795, but restored and made a free port by the peace of 1801; and here their ships bound for India were accustomed to put in, and trade with the natives for their cattle, in exchange for which they gave them spirituous liquors. Some laudable attempts have been lately made for establishing colonies on the western coast of Africa, with a view of civilizing the inhabitants, introducing commerce among them, and gradually abolishing the slave-trade. M. Wadstrom in his Essay on Colonization, published in two parts in 1794 and 1795, has given a particular account of these attempts; but we are sorry to observe that their permanent utility is very doubtful and precarious. See *AQUAPIM, BULAM, SIERRA LEONA, and SLAVE-TRADE*.—With respect to the inland parts of Africa, they seem in all ages of the world to have been in the same barbarous and uncivilized state in which we find them at present. To account for this fact an ingenious writer observes, that there are in Africa none of those great inlets, such as the Baltic and Adriatic seas in Europe, the Mediterranean and Euxine seas in both Europe and Asia, and the Gulphs of Arabia, Persia, India, Bengal, and Siam, in Asia, for carrying maritime commerce into the interior parts of that great continent; and the great rivers of Africa are at too great a distance from one another to give occasion to any considerable inland navigation. Besides the commerce which any nation can carry on by means of a river, which does not break itself into any great number of branches or canals, and which runs into another territory before it reaches the sea, can never be very considerable; because it is always in the power of the nations who possess that other territory to obstruct the communication between the upper country and the sea. Smith's Wealth of Nations, vol. i. p. 32. The chief capes on the African coast are BON, BLANCO, CANTIN, GERRA, NON, BOJADOR, BARBAS, VASO, MONTE, PALMAS, *Three POINTS, COAST, FOR-*

SELA, LOPEZ, NIGRO, GOOD HOPE, FUMOS, CO-RESTE, SEBASTIAN, DELGADO, and GUARDAFUI. There is but one strait in Africa, which is called BABEL-MANDEL. Modern geographers are not agreed about the division of Africa. Some have divided it into two general parts, under the denominations of the country of the whites and that of the blacks. The former comprehends Egypt, Barbary containing six subdivisions, *viz.* Barca, Tunis, in which is Tripoli; Tremecen, in which is Algiers; Fez, Morocco; Dara, Biledulgerid, and Zaara or the Desert. The country of the blacks contains the following provinces on the sea-coast, *viz.* Nigritia, Guinea, Congo, Caffraria, Sofala, Abex, Ajan and Zanguebar; and in the interior parts, Nubia, Ethiopia or Abyssinia, Moenomugi and Monomotapa. The following general distribution will direct the reader to those articles in this dictionary, where he may find a further account of the several kingdoms and states of which it consists, *viz.* 1. EGYPT. 2. *Upper Ethiopia*, comprehending NUBIA, ABYSSINIA and ABIX. 3. ZANGUEBAR, with ANIAN or AJAN, which lie on the east of Africa. 4. *Lower ETHIOPIA*, in the interior part, MOENOMUGI, MONOMOTAPA and CAFFRARIA, called by some the land of the HOTTENTOTS, which lie on the south. 5. GUINEA, upper and lower, on the south-west. 6. NIGRITIA or NEGROLAND, in the middle of Africa, extending almost quite through the country, from east to west, on both sides of the river Niger. 7. SAHARA or ZAARA, or the Desert, to the northward of Nigritia. 8. BILEDULGERID, to the northward of Sahara. 9. The empire of FEZ and MOROCCO, containing the north-west part of Africa. 10. The coast of BARBARY, on the north, containing the countries of ALGIERS, TUNIS, TRIPOLI and BARCA. Major Rennell in his Geographical Illustrations of Mr Park's journey, represents north Africa as composed of *three distinct parts*. The *first* and *smallest* is a fertile region along the Mediterranean, commonly distinguished by the name of Barbary; and which, on the supposition that the Mediterranean was once dry land, with the exception of a lake for the surrounding rivers, might be regarded as a part of Europe; because it possesses more of the European than of the African character. The *second* part is what may be deemed the body of north Africa, comprised between Cape Verd and the Red Sea, on the west and east; and having the Great Desert or Sahara and its members, on the north; the Ethiopic ocean and south Africa on the opposite side. The prominent feature of this immense region is a vast belt of elevated land, generally running from west to east about the tenth degree of latitude, and extending from Cape Verd, its western extremity, to the mountains of Abyssinia, the eastern extremity; which has on the north side a lofty tract, that turns the Nile to the northward beyond Abyssinia, and on the south a multitude of rivers, some of them very large, that descend from that side, and join the Atlantic and Ethiopic seas, from the Rio Grande on the west to Cape Lopez on the east. A similar ridge stretches to the south, through the middle of south Africa, and forms an impenetrable barrier between the two coasts; on this account the Portuguese in Congo and Angola have never been able to penetrate to the coast of the Indian Ocean. From Mr Bruce (Travels, vol. iii. p. 668.) we also learn, that a high chain of mountains from 6° runs southwards through the middle of Africa; and he supposes the gold of Sofala to be drawn from these mountains. Major Rennell supposes, that the surface of the Sahara has a general dip to the southward, whilst it declines also to the eastward; and that the rivers receive all their supplies from the south, no streams of any bulk being col-

lected in the Desert. Hence he infers, that there must be a large hollow in the interior of Africa, between the high land of Nubia on the east, and Manding on the west, and of which the mountains and Desert form the other two sides; similar to the cavity in Asia, to whose waters the Caspian and Aoul serve as recipients. The third part of north Africa, in the distribution of Mr. Rennell, is the Great Desert or Sahara, and its members, consisting of the lesser deserts of Bornu, Bilma, Barca, Sort, &c. For the description of this part, see SAHARA.

Many laudable attempts have been lately made, under the encouragement afforded by the AFRICAN Association, for discovering the interior, and hitherto very much unknown, parts of Africa. Mr. Park, a very intelligent and intrepid, and it may be justly added, a very successful adventurer in this mission, has made several important discoveries. Having left PISANIA, N. lat. 13°. 35' about 200 miles from the mouth of the Gambia, Dec. 2, 1795, he returned thither after an absence of eighteen months. In this long interval of time, he explored the interior of Africa to the distance of 1100 miles, in a direct line from Cape Verd; proceeding in a tract bounded by the 15th and returning by the 12th parallel of latitude. His first station was MEDINA, the capital of the kingdom of WOOLLI, whence he pursued his journey by KOLOR, to KOOJAR, the frontier towns of this country. Here he refreshed himself with a liquor made from corn previously malted, with bitter roots instead of hops. After passing a wilderness of two days journey, he reached TALLIKA, the frontier town of BONDOU, and at FATTICONDA, the capital, he was introduced to the king Almami. From Bondou Mr. Park proceeded to the kingdom of KAJAAGA, and having been ill treated at JOAG, the frontier town, he prosecuted his journey to the kingdom of KASSON, and passing TESSEE, the frontier town, arrived at KOONIAKARY, the capital. Here he was treated kindly by the king; and having remained here for some time, he resumed his journey, and arrived at KEMMOO, the capital of KAARTA. Following the route which Daifi, the king of this country, preferred, through the kingdom of LUDAMAR to that of BAMBARRA, he passed MARINA, on his way to SIMBING, the frontier town of LUDAMAR.

Having left JARRA, the frontier town of this country, he pursued his journey and reached SAMPKA. He was afterwards seized by a party of Moors, and conducted back to BENOWM, the residence of Ali, king of Ludamar, where he was treated with great severity by the bigotted and malicious Moors, and escaped death only by a pistol's twice missing fire. At length he fortunately escaped, and reached a negro town called WAWRA, belonging to Mansong, king of Bambarra: and passing through several towns of this kingdom, he arrived at SEGO, on the banks of the Niger, which he found to be as broad as the Thames at Westminster, and flowing slowly to the eastward. Pursuing his course in this direction along the banks of the river, he passed through the towns of KABBA, MODIBOO and KLA, and reached MOORZAN. Here he crossed the Niger to SILLA, which was the termination of his journey to the east. In his return westward on the northern bank of the river, he arrived at BAMMAKOO, the frontier of the kingdom of Bambarra, and quitting the Niger at this place, he proceeded to SIBIDOOLOO, the frontier town of the kingdom of MANDING. Hence he pursued his journey to KAMALIA, where he remained seven months. In his progress from Kamalia he traversed the JALONKO wilderness, by an interval of 100 miles, and having crossed the Black River, a principal branch of the Senegal, he arrived at MALACOTTA; and after a journey of 500 miles reached

Medina, the capital of the king of Woolli's dominions, on the 4th of June 1797, which he had left in December 1795. From hence he proceeded to Pilana, and afterwards returned to England.

All the inhabitants of the African continent, though distinguished under a variety of denomination, according to their different situations, origin, tribes and governments, are commonly included under the twofold distinction of Africans and Arabs, or Whites and Blacks. The white Africans, according to Leo Africanus, (l. i. c. 9.) and Marmol, (l. i. c. 24.) are divided into five nations or tribes, viz. the ZANHAGIANS, MUSMUDANS, ZENETTE, GUMERANIANS, and HOARES; and to these 600 capital families of BERBERS, and the most considerable ones in Africa, owe their origin. They first settled in Barbary, and from thence gradually dispersed themselves over the greatest part of Africa. For an account of the black Africans, see BLACKS and NEGROES.

The Ancients and Moderns have concurred in giving a very unfavourable representation of the disposition and character of the native Africans. Lucan (l. iv.) Virgil (Æn. viii. cum not. Servii) and many others, describe them as proud, indolent, thievish, revengeful, addicted to all kinds of lust, cruel, inconstant, superstitious and cowardly. So general has been the unfavourable opinion entertained concerning these people, that it has given occasion to a common proverb, that all the inhabitants of the globe have some good as well as ill qualities, except the Africans. But this degeneracy of character is owing more to their bad education, their tyrannical governments, and their unsettled state, than to their country; for this has produced several distinguished persons, among whom we might enumerate St. Cyprian, Augustin, and Tertullian, in the class of divines; Hanno, Hannibal and Asdrubal, in the list of heroes; Terence among the poets, and many others. We might also appeal to the industry with which they have formerly cultivated their lands, and applied to commerce and the useful arts. If they are now, too generally, ignorant and depraved, idle, dishonest or superstitious, we are to seek the cause of the evil in the nature of their governments, and the inattention and neglect with which they have been treated. The religion of the native Africans has been the grossest kind of idolatry, blended with the magical and superstitious rites of the ancient Egyptians. Nevertheless we discover many relics of Judaism not only in ABYSSINIA, but in many other parts of Africa; where many Jews, driven there at a very early period, or by the dispersion after the destruction of Jerusalem, or by the persecutions of later times, have settled and maintained their religious worship and ceremonies. Christianity was also introduced at an early age of the Christian era into this country, and has subsisted, under one form or other, and amidst great dissensions and corruptions, in various districts of Africa to the present day. The interior parts of Africa remain still in the darkness of Paganism, as they have been in a great degree inaccessible to the most adventurous of the Europeans. Indeed, in the maritime provinces of this great peninsula, and especially where the Portuguese have their settlements, there are several districts in which the religion of Rome has prevailed over the native superstitions of that barbarous region. But the ingenuous historians, even of the Roman Catholic persuasion, who have given accounts of the African colonies, acknowledge, that of the profelytes made to the faith of the gospel few deserve the denomination of Christians; as most of them retain the abominable superstitions of their ancestors, and the best among them dishonour their profession by various practices of a most vicious and corrupt nature. The missions in Africa have been much neglected by the Portuguese; and the few

missionaries that were sent thither were men void of learning, and destitute almost of every qualification that was necessary to conduct successfully in such an important undertaking. What may be the result of Protestant missions, more lately undertaken and prosecuted with a considerable degree of zeal, time alone must discover. Those who liberally patronize and encourage them, argue from circumstances that have already occurred increasing success. But the most prevalent religion in Africa (if we except Paganism) is that of Mahomet, which is blended and intermixed with tenets and practices, that are more or less of Pagan, Jewish and Christian original. See *MARABOOTS*. Of the habits and manners of the Africans, an account will occur under the appellation of *ARABS*, under the different denominations by which they are distinguished, as *MOORS*, *NEGROES*, &c. and in the description of the different countries in which they reside.

The interior parts of Africa are inhabited, according to Mr. Park's report, by three distinct races of men; *viz.* the *MANDINGOES* or proper negroes, native children of Nigritia; the *FOULAHs*, or white *Æthiopians* of Ptolemy and Pliny, who have neither the crisped hair, the thick lips, nor jetty blackness of the Mandingoes; and the *MOORS*, natives of Arabia, who, in their persons and complexions, exactly resemble the *MULATTOES* of our West Indies, and who are devoted followers of Mahomet, and the most intolerant, perfidious and sanguinary of the human race. Though these three nations are frequently intermixed, yet the negroes, whether Mandingoes or Foulahs, generally inhabit to the south of the moors. The negroes are for the most part husbandmen: the moors, like their Arabian ancestors, are roving shepherds, or wandering merchants; who seem, from the earliest times, to have overspread the habitable parts of the great African Desert, and the Oases or fertile islands, thinly scattered through that sandy ocean. Hence they extended their arms southwards, and made themselves masters of several of the negroe kingdoms on the Niger; so that their dominions form a narrow belt running from west to east on the skirts of the Desert, from the Atlantic coast to the mountains of Abyssinia. The common boundary of the moors and negroes forms a striking feature in the moral, as well as in the political and physical geography of Africa. Herodotus (compare Euterpe, c. 32, and Melpomene, c. 197—pp. 117 and 368. Ed. Wessell.) fixed the boundary of the Libyans and *Æthiopians*, *i. e.* of the moors and negroes, near the banks of the Niger; and in this respect circumstances do not seem to have been materially altered since his time.

Mr. Park observes, that the population in the countries which he visited was not very great, considering the extent and fertility of the soil, and the ease with which lands were obtained. He found many extensive and beautiful districts entirely destitute of inhabitants; and, in general, the borders of the different kingdoms were either very thinly peopled, or entirely deserted. Many places, such as the banks of the Gambia, the Senegal, and other rivers towards the coast, were unhealthy, and on this account unfavourable to population. To this circumstance, it is chiefly owing, that the interior countries abound more with inhabitants than the maritime districts; for the negro nations, observed by this traveller, though divided into a number of petty independent states, subsist chiefly by the same means, live nearly in the same temperature, and possess a wonderful similarity of disposition. Perhaps the circumstance of the slave-trade may suggest another cause of the poverty of native inhabitants towards the sea-coast. Our traveller concurs with others in representing the disposition of the women as uniformly benevolent; in proof of this

the following incident is related. When Mr. Park was prohibited by the king of Bambarra from crossing the Niger, and ordered to pass the night in a distant village, none of the inhabitants would receive him into their houses, and he was preparing to lodge in the branches of a tree. In this state, exhausted with hunger and fatigue, and unprotected from a storm, he was relieved by a woman who was returning from the labours of the field. To her hut he was kindly invited; and his distress was alleviated by the tender attention which he experienced. The female part of the family, says Mr. Park, lightened their labour by songs, one of which was composed extempore; for I was myself the subject of it. It was sung by one of the young women, the rest joining in a sort of chorus. The air was sweet and plaintive; and the words, literally translated, were these: "The winds roared, and the rains fell.—The poor white man, faint and weary, came and sat under our tree. He has no mother to bring him milk; no wife to grind his corn.—*Chorus*. Let us pity the white man; no mother has he, &c. &c." These words have been since formed into verse by the Dukes of Devonshire, and set to music by Ferrari; and the song is as follows:

I.

The loud wind roar'd, the rain fell fast;
The white man yielded to the blast:
He sat him down, beneath our tree;
For weary, sad, and faint was he:
And ah! no wife or mother's care,
For him, the milk or corn prepare:

CHORUS.

*The white man shall our pity share:
Alas! no wife or mother's care,
For him the milk or corn prepare.*

II.

The storm is o'er; the tempest past;
And mercy's voice has hush'd the blast:
The wind is heard in whispers low,
The white man far away must go:—
But ever in his heart will bear
Remembrance of the negro's care.

CHORUS.

*Go, white man, go;—but with thee bear
The negro's wife, the negro's prayer:
Remembrance of the negro's care.*

From Mr. Park we further learn, that with respect to the property in the soil, the lands in native woods were considered as belonging to the king, or, where the government was not monarchical, to the state. When any individual of free condition had the means of cultivating more land than he actually possessed, he applied to the chief man of the district, who allowed him an extension of territory, on condition of forfeiture, if the lands were not brought into cultivation by a given period. The condition being fulfilled, the soil became vested in the possessor; and, for aught he knew, descended to the heirs. The Africans appear to have no astronomical knowledge; and the little geography to which they pretend is erroneous; for they suppose, that the earth is an extended plain beyond which is the sea, or river of salt-water; and on the farther shores of which are situated two countries, called *Tobaudo doo*, and *Jong sang doo*, "the land of the white people;" and "the land where slaves are sold." Park's Travels in the interior districts of Africa in 1795, 1796, 1797. *passim*.

AFRICA, the name of a sea-port of Tunis on the coast of Barbary,

Barbary, 30 leagues south-east from Tunis, N. lat. 35° 36'. E. long. 11° 10'. The fortifications were demolished by Charles V.

AFRICA, in *Antiquity*, is represented on medals by the head of a woman, dressed in the skin of an elephant, with the trunk projecting forward in front. This kind of attire is peculiar to some queens of Egypt. Near the figure of Africa we frequently see a scorpion, serpent, or lion, animals belonging to this part of the world, and mountains alluding to the seven mountains of Mauritania Tingitana.

AFRICAN Association was formed in 1788, with a view of promoting the discovery of the interior parts of Africa. Out of 95 members, of which this society appears to have consisted, a committee of five gentlemen was elected, for directing its funds, conducting its correspondence, and the choice of the persons to whom the geographic mission was to be assigned. These gentlemen were Lord Rawdon, the Bishop of Landaff, (Dr. Watson) Sir Joseph Banks, H. Beaufoy, Esq. and Mr. Stuart. The two first persons that were appointed for accomplishing the laudable object of the society were Mr. Ledyard and Mr. Lucas. The former undertook, at his own desire, the perilous task of travelling from east to west in the latitude attributed to the Niger, the widest part of the continent of Africa. With this view he arrived at Cairo in August 1788; but death disappointed the hopes that were formed from his projected journey. For a short account of the singular adventures of this extraordinary man, see LEDYARD. Mr. Lucas embarked for Tripoli in October 1788, with instructions to proceed over the desert of Zaara to Fezzan, to collect, and to transmit by way of Tripoli, whatever intelligence he could obtain respecting the interior of the continent, and to return by way of Gambia, or the coast of Guinea. The peregrinations of this traveller terminated at Mefurata, in Feb. 7, 1789; and he was able to transmit to the society only the result of his conferences with persons who were travelling with him to Fezzan. See FEZZAN, BORNOU, and CASHNA. The object of Mr. Park's mission was to ascertain the course, and, if possible, the rise and termination of the Niger, and to use his utmost exertions for visiting the principal towns in its neighbourhood, particularly TOMBOCTOO and HOUSSA; and of the result of it some account is given in the preceding article, and will be farther found under the several heads to which we have referred.

AFRICAN Company. See COMPANY.

AFRICAN Islands are distributed into those which lie in the Eastern or Indian Ocean, and those of the Western or Atlantic Ocean. The former are ZOCOTRA or SOCOTORA, BABELMANDEL, COMORRA islands, MAURITIUS, MADAGASCAR and BOURBON. The latter are ST. HELENA, ASCENSION, ST. MATTHEW, ST. THOMAS, ANNABOA, PRINCE'S island, FERNANDO PO, GOREE, CAPE VERD islands, ARGUIN island, CANARY islands, MADEIRA, PORTO SANTO, and the AZORES.

AFRICANUS, JULIUS, in *Biography*, an eminent christian writer and chronologer, who flourished in the beginning of the third century. It is not certain, whether he was a native of Palestine, or of Africa; but as he was employed in an embassy to the emperor Heliogabalus, between the years 218 and 222, for the restoration of Emmaus, which was afterwards called Nicopolis, and as he attended the lectures of Heraclius, at Alexandria, some time before the year 231, there can be no doubt concerning the time in which he lived. Suidas says he was of Africa; but his more constant residence seems to have been in Palestine, where he was probably born. The works ascribed to this author by Eusebius and Photius

are "the Cesti," a collection of passages from various authors, chiefly on physical topics, of which only a few fragments remain; "Chronology," in five books, containing a recital of events from the creation to the year of Christ 221; and two letters, "one to Origen," concerning the history of Sufanna, annexed to the book of Daniel, which he considers to be a forgery, and "another to Aristides," for reconciling the disagreement between Matthew and Luke, on the genealogy of Christ. The Cesti is ascribed by Valerius, J. Scaliger and Du Pin, to another person called Sextus, who was an African and a Gentile philosopher. Jerom does not include it in the list of the works of Africanus; but Vossius and Wetstein believe it to have been written by him. Julius Africanus was undoubtedly a christian, nor does antiquity justify the opinion that he was originally a heathen. The chronology is much commended by Photius, as concise and yet comprehending every thing necessary to be related. Some fragments of it are preserved; and have been freely used both by Eusebius in his chronicle and by other historians. Of the letter to Aristides, there is a large fragment in Eusebius's Ecclesiastical History, and the entire letter to Origen is extant, which is learned and critical, and does great honour to its author. Africanus affords a valuable attestation to the two Gospels of St. Matthew and St. Luke; and we have sufficient reason to believe, that this great and learned man received as scripture the books generally received by Christians in his time. "We may glory," says the excellent Dr. Lardner, "in Africanus as a christian. For it cannot but be a pleasure to observe, that in those early days there were some within the inclosure of the church of Christ, whose shining abilities rendered them the ornament of the age in which they lived; when they appear also to have been men of unspotted characters, and give evident proofs of honesty and integrity." Lardner's works, vol. ii. p. 431—441.

AFRICANUS, LEO. See LEO Africanus.

AFRICANUS, Scipio. See SCIPIO.

AFRICERONES, a people, according to Ptolemy, of Libya, a province of Africa.

AFRICTA denotes a kind of wafers, which the ancients used in their sacrifices. Arnob. lib. vii.

AFRIQUE, in *Geography*, a small town of France, in the department of Aveyron, six miles east of Vabres.

AFRIQUE, a mountain of France in Burgundy, extending between Dijon and the small town of Chagny about ten leagues. At the foot of these mountains the vines are found which yield the Burgundy wine.

AFSHAR, the denomination of a Turcoman tribe, which is divided into two or three clans, of one of which the father of Kuli Khan was chief.

AFSLAGERS, persons appointed by the burgo-masters of Amsterdam, to preside over the public sales made in that city. They must always have a clerk of the secretary's office with them, to take an account of the sale. They correspond to our BROKERS, or AUCTIONEERS.

AFT, the hinder part of the ship, or that nearest the stern. See ABAFT.

AFTER, is a term applied to any object in the hinder part of the ship, as after-hatchway, after-sails, &c.

AFTER-BIRTH, in *Midwifery*. See PLACENTA.

AFTER-grass, or **AFTER-math**, in *Agriculture*, denotes the second crop, or grass which springs up after mowing; or grass-math that is cut after some kinds of corn.

AFTER-noon, the latter half of the artificial day, or that space between noon and night.

The ancient Romans dedicated their afternoons to diversion,

tion, as their fore-noon to business; and their usual diversions were the game called *pala*, and other exercises of the body, especially walking or running. They fasted till the eighth or ninth hour, answering to our three o'clock, which was the time for the baths. After bathing, they anointed and perfumed themselves; and, about the tenth hour, went to *cena*, *supper*, about three hours before sun-set; which done, the day was ended at the public spectacles, theatrical or amphitheatrical sports; with music, singing, and the like.

AFTER-fails usually comprehend all those which are extended on the mizen-mast, and on the stays, between the *main* and *main-masts*.

AFTER-pains, or *pains, cruxes post vi, dolores post partum*, in *Midwifery*, are pains resembling labour pains, though ordinarily less violent, which occur after the expulsion of the fetus and placenta. They are occasioned by the contraction of the uterus to expel congealed blood, parts of the membranes, or other foreign bodies from its cavity, as well as to reduce the capacity of the blood vessels, which during pregnancy acquire a considerable magnitude, to the size they had prior to conception. They are more or less severe in different women, but are found very rarely to occur after first labours. They are more frequent, severe, and lasting, after the birth of large, than of small or middling sized children, or after labours that have terminated in an unusually quick and rapid manner, particularly if the placenta has been extracted almost immediately after the birth of the child. Mr. White, of Manchester, to whom we are indebted for many valuable practical observations, on the manner of conducting labour, is of opinion, that after-pains are almost entirely occasioned by extracting the shoulders and body of the child, immediately after the birth of the head, instead of waiting and suffering them to be expelled by the pains; and says, that by pursuing a different course, and leaving the whole of the process to nature, in ordinary cases, he had been so fortunate, that, in the course of several years, he had neither been under the necessity of introducing his hand into the uterus to extract the placenta, nor to give opiates or other medicines to quiet after-pains, except in a single instance, "the after-pains having been so trifling, under his management, both with regard to violence and duration, as not to deserve notice." *Treatment on the management of pregnant and lying-in women*, p. 111. See more on this subject, under the word **LABOUR**. After-pains, even when most severe, are still unattended with danger. They are best relieved by the application of warm cloths, with gentle friction to the abdomen, by giving internally twenty-five or thirty drops of the tincture of opium, or by assiduously rubbing upon the region of the uterus, a mixture composed of four parts volatile liniment, and one of the tincture of opium, by administering frequent draughts of warm gruel, and giving castor oil, or some other gentle purge on the following day. See **LABOUR**.

AFTER-swarms, in speaking of bees, are secondary or posterior swarms, frequently found to quit the hives within a fortnight after the first.

Butler tells us, that the after-swarms differ from the prime, in that the latter are directed by the vulgar, or crowd of bees, whose only rule is the fulness of the hive; whereas the former are appointed by the ruling bees, and indicated by a noise or call, which these make for the space of two or three days, as it were to give warning to the common herd to prepare for a march. Within eight or ten days after the prime swarm is gone, if the princefs next in order find a competent number fledged and ready, she begins to tune her

treble voice, in a mournful and begging note, as if she prayed the queen-mother to let them go; to which voice, if she vouchsafe a reply, by tuning her base to the other's treble, it marks her consent; in consequence of which, within a day or two after, if the weather allow, the new swarm appears. If the *prime* swarm be broken, the *after* will both call and swarm the sooner, perhaps the next day; in which a third, sometimes a fourth, succeeds in the same season: but all usually within a fortnight after the prime swarm. See **SWARM**.

AFTO, in *Botany*, a name given by the natives of Guinea, to a plant of the *erysimum* kind, which they grind to powder, and take as snuff, to cure the head-ach. Petiver has called this plant the woody and wooly *erysimum*, or hedge-mustard, of the coasts of Guinea. Phil. Trans. N. 232.

AFUERA, in *Geography*. See **AFFUERA**.

AFWESTAD, a large copper-work, belonging to the crown of Sweden, situate on the river Dal-Elbe, in the province Thalland or Dalecarlia. It resembles a town in its extent, and has its own church. Copper-plates are manufactured, and the small copper money is coined in this place; which has also a royal post-house.

AFZELIA, in *Botany*, a genus of the *didynamia angiospermia* class and order; the characters of which are, that the calyx is quinque-partite, the corolla campanulated, and the capsule rotundated, acuminate, double-celled, gaping at the apex and polyspermous; with hemispheric receptacles. There is one species, viz. the *Afzelia Cassioides*. This is the *Afzelia* of Gmelin, which Dr. Smith says is too uncertain to be honoured by such a name, after that of Adam Afzelius, professor of botany in the academy of Upsal; and therefore he has appropriated it to a new species of the *decandria monogynia* class and order, near the *Hymenaea*, and of the natural order of *leguminosæ*: the essential characters of which are, that the calyx is tubulose with a limb quadrifid, deciduous; the petals are four, unguiculated, with a very large head; the filaments are two, superior, sterile; the legumen many-celled; the seeds arillated at the base. It is found in Africa, near the equinoctial. Linnæan Transf. vol. 4. p. 221.

AGA, in the language of the Moguls, &c. signifies a great man, lord, or commander.

In this last sense, the term is also used among the Turks: thus, the *Ag* of the Janizaries is their colonel; and is the only person who is allowed to appear before the Grand Seigneur, without his arms across his breast, in the posture of a slave. The *capi aga*, is the captain of the gate of the seraglio.

The title *aga* is also given, by way of courtesy, to several persons of distinction, though not in any office, or command, to entitle them to it; as to the eunuchs of the seraglio.

The chief officers under the *KHAN* of Tartary are called by this name. And among the Algerines, we read of *agas* chosen from among the *boluck laskis* (the first rank of military officers), and sent to govern in chief the towns and garrisons of that state. See **ALGIERS**.

On some occasions, in lieu of *aga*, they say *agasi*, or *agassi*. Thus the *aga*, or governor of the pages, is called *capi agassi*; and the *aga* or general of the horse, *spahilar agassi*.

AGA, or **ADJA**, in *Geography*, a village about half a mile from Anamaboa, on the *GOLD coast* of Africa, where the Dutch formerly had a fort; and where, it is said, they have now one factor. Its situation is by no means favourable to commerce, as the landing is difficult and dangerous; but the adjacent country produces several valuable commodities, and among others a very fine cotton.

AGA Cretensium, in *Botany*, signifies the Spanishmilk-thistle.

AGA.

AGA. See AGAR.

AGAAZI, or AGAGI, in *Geography*, a denomination given in Abyssinia to a class of those shepherds, who are said to have been employed by the descendants of Cush, the first inhabitants of the country, in dispersing the produce of Arabia and the eastern coast of Africa over the Continent, and who thus acquired wealth and influence. The noblest and most warlike of all the shepherds were those that inhabited the mountains of Habab, a considerable ridge reaching along the Red Sea, from the neighbourhood of Maluah to Suakem, and who by degrees extended themselves through the whole province of Tigré. *Ag-ag*, says Mr. Bruce, denoted the nobles and chiefs of the armed shepherds, whence came their title, *king of kings*; and the plural of this is *Agagi*, or, as it is written in the Ethiopic, *Agawzi*. The king of Amalek, mentioned 1 Samuel, ch. xv. and slain by Samuel, was, according to this writer, an Arab shepherd. Bruce's Trav. v. i. 387. Of this appellation, Ludolf (Hist. Æthiop. b. i. c. 1.) gives a different etymology. The Agaazi assumed this denomination, and called their country *Geez*, either on account of the liberty they enjoyed, or because they transported themselves from one place to another: the radical word *Geeza* admitting both these significations. Their language is *Geez*; they have always had letters among them; and they are all circumcised, both men and women. This right they profess to have derived from the family of Ishmael and his descendants, with whom they were connected at an early period in their trading voyages.

AGABENI. See AGUBENI.

AGABUS, in *Scripture history*, a prophet, and as the Greeks say, one of the 70 disciples of our Saviour (Acts xi. 28) A. D. 43. He predicted a great famine, which, as St. Luke informs us, occurred in the 4th year of Claudius, A. D. 44. It is also mentioned by profane historians, Sueton. in Claud. c. xviii. t. i. p. 668 ed. Pitisc. Josephus, ant. l. xx. c. ii. Oper. t. i. p. 960. ed. Haverc. On this occasion the Christians at Antioch sent their contribution by Paul and Barnabas to Jerusalem, for the relief of their distressed brethren. Helena, queen of Adiabene, also assisted the Jews with corn and other provisions from Egypt and Cyprus, as Josephus (*ubi supra*) informs us. Several years after this period (*viz.* A. D. 58) Agabus had an interview with St. Paul, at Cæsarea, and foretold the sufferings that awaited him at Jerusalem, whither he was determined to proceed, Acts xxi. 10. From the Greeks we learn, that Agabus suffered martyrdom at Antioch, and they observe his festival, March 8. The Latins, since the 9th century, have kept it, Feb. 9.

AGABRA or ÆGABRA, in *Ancient Geography*, a town of Boetia, in Spain.

AGADEK, one of the Fox islands in the Northern Pacific Ocean.

AGADEZ, in *Geography*, a kingdom of Africa, placed by Leo Africanus and Marmol, directly east of Yguida, and by De Lisle, south and south-east of it. On the east it has the kingdom of Bornou; on the north-north-east, the desert of Lempta, and Yguida; on the south, Cano; and on the west, the provinces Zapara and Guber, and a lake north of the Niger. This province is divided into two districts, the northern, called on account of its sterility, the Desert, and the southern, fertile in grass, corn and cattle. De Lisle mentions three considerable towns in the latter division, *viz.* *Agad*, the capital of the whole province, Deyhir and Secmana, little inferior in wealth and population to the metropolis. He adds, that sena is produced here in great abundance, and that the principal trade of the natives consists in this article and manna. The southern inhabitants feed

cattle, live in the open country, and resemble in their manners the wandering Arabs. Agad, the capital, called also by the Arabs Andegail, is situated in a valley between two high mountains, and at the spring of a considerable river that waters the southern country and discharges itself into the Niger. According to La Croix's account, the inhabitants are chiefly merchants, and strangers, who have settled there, enclosed the town with walls, and built their houses in the Moreisco fashion. The sovereign is said to be tributary to the king of Tombucto, and yet to preserve the state of a powerful, independent and despotic prince. Mod. Un. Hist. vol. xiv. p. 260. 8vo. The province of Agadez is placed by Major Rennell, in his map of North Africa, in the eastern division of the Great Desert, or Sahara, and the capital in N. lat. 20° 15'. E. long. 13° 14'. In the proceedings of the African association, Agadez is made a province of the Calhna empire, and the inhabitants are said to load their immense caravans with the salt of Bornou, and to engross the profits of this invaluable trade. The only acknowledgment they make for it is the trifling price which they pay in brass and copper (the currency of Bornou) to the neighbouring peasants.

AGADNA, a small town in the island of Guam.

AGAG, or AGAGA, a kingdom of Africa, which depends on the empire of Monomotapa. It is bounded on the east by the country of the Negroes, and on the north by the kingdom of Tacua. The capital is of the same name.

AGAGEER, a name given in Abyssinia to those whose business it is to hunt and kill elephants. Their appellation is formed from the word Agar, which signifies to hough or hamstring with a sharp weapon. These persons dwell constantly in the woods, and live entirely upon the flesh of the beasts which they kill, chiefly on that of the elephant and rhinoceros. They are light and agile, both on horseback and on foot; of a swarthy complexion; and have European features. None of them are woolly-headed. The manner in which they kill the elephant is as follows: two men, altogether naked, mount the same horse; the foremost manages the horse, and the hindmost has a broad sword, such as the Slavonians use, and procured from Trieste; the handle of which he grasps with his left hand, whilst with his right he takes hold of a part of the blade, round which whip-cord is twisted. The edges of the sword are as sharp as a razor, and yet he thus carries it without a scabbard. When the elephant is found feeding, the horseman runs before him, and when he flies, crosses him in all directions, using at the same time a variety of expressions and exclamations, which he is foolish enough to believe the elephant understands. The animal incensed by this noise, attempts to seize the horse and rider with his trunk, or proboscis; and for this purpose he turns himself about in every direction, instead of making his escape. The horseman after some evolutions of this kind, rides up to the side of the elephant and drops his companion on the off-side; and whilst the rider engages the attention of the animal, the other person gives him a stroke above the heel, in that part which in the human subject is called the tendon of Achilles. At this moment the horseman turns round and takes up his companion; and runs with full speed after the rest of the herd; and sometimes an expert Agageer will kill three out of one herd. The blow commonly separates the tendon, or at least wounds it to such a degree that the weight of the animal breaks it. In this state the horseman, and his companions, speedily dispatch the animal with their javelins and lances; when he is slain, the flesh is cut off the bones into strings, and these are hung on the branches of trees to dry, without salt; and are then laid by for their stock of provision in the season of the rains.

The elephant sometimes reaches the most dextrous riders with his proboscis; and having dashed the horse to the ground sets his feet upon him, and soon tears him limb from limb. Bruce's Travels, vol. iv. 297. &c. See ELEPHANT.

AGAI. See AGIO.

AGAI, in *Geography*, a small port of Provence, about two leagues from Fréjus.

AGALACTIA, in *Physic*, signifies a deficiency of milk in a mother, who is therefore called by Hippocrates *agalactica*.

AGALLEGA. See GALLEGA.

AGALLOCHUM, a medicinal wood imported from the East Indies, usually in small bits, of a very fragrant scent. The word is derived from the verb *αγαλλομαι*, *I boast*, in allusion to the excellency of its odour. This wood is otherwise called *lignum aloes*, and *xyloaloe*, q. d. *aloe-wood*, not that it is produced from the common aloe-plant, which yields the inspissated juice of that name. It is the produce of a tree of a very different kind, growing in the East Indies, particularly Sumatra and Cochinchina, or the EXÆCARIA *Agallocha* of Linnæus. Some call it likewise *lignum paradisi*. It yields a concrete oil. See its chemical history in Neumann's Works, p. 420.

It is of a bluish purple colour, marked with veins and spots, very heavy and bitter; when burnt it yields drops of an astringent liquor, and a sweet aromatic fume. It is hot and drying, and esteemed a great strengthener of the nerves in general, but particularly of the head and stomach.

The various names and accounts given of the agallochum are so very different, as well as the specimens of it common in our shops, that it does not seem to be properly known amongst us.

Bauhin and the Moderns distinguish three sorts of agallochum, which differ either as to the excellence of their quality, or to the country that produces them; accordingly they call the *first* CALAMBAC, which is the most excellent agallochum, denominated also calambac Indorum, kanam Cochinchensium, and fokio. The *second* is the agallochum of the shops, denominated *lignum ALOES*. The *third* is also called CALAMBAC, agallochum sylvestre, and lignum aloes Mexicanum.

M. de Loureiro, whose long residence in Cochinchina, whence the real and most esteemed agallochum is exported to all the Asiatic markets, led him to an acquaintance with this substance, has described the tree which produces it, and gives a history of its formation. To the genus of plants, of which this is a species, he gives the name of ALOXYLUM, and the particular species he calls *aloexylum verum*. The resinous concretion which is found in these trees, when in a decayed state, is the true agallochum, the history of which is satisfactorily detailed in a Memoir, on its true nature and origin, in vol. i. of the Memoirs of the Royal Academy of Sciences, at Lisbon.

AGALMATA, in *Antiquity*, originally denoted the ornaments of temples and statues; but came afterwards to be popularly used for the statues and temples themselves, and for the impressions and images on a seal.

AGAMA, in *Zoology*, a species of LACERTA, with a long round tail, the upper part of the neck and under part of the head aculeated, with reverse scales. There is a variety of this called *iguana salamandrina*, with the tail imbricated by large scales, as the former is denominated *iguana cordylina*. It is found in America.

AGAMASKA or VINERS, in *Geography*, an island in James's bay, in North America.

AGAMEDA, in *Ancient Geography*, a place in the isle of

Lesbos, near Pyrrha. Here was a fountain of the same name, which had been also that of a woman, who was distinguished by her skill in preparing poisons.

AGAMEMNON, in *Classical Biography*, one of the heroes engaged in the Trojan war, was the son according to Homer, and according to Herodotus, the grandson of Atreus, whom he succeeded in the government of Argos and Mycenæ. Homer calls him and his brother Menelaus Atreides, the sons of Atreus; but Hesiod and others say, they were the sons of Plithenes, the brother of Atreus. Agamemnon, having engaged the succour of Tyndarus, king of Sparta, drove Thyestes, his uncle, from Argos; killed his son Tantalus, and married Clytemnestra, his wife, by whom he had four daughters, but according to Euripides only two, viz. Iphigenia and Electra, and one son, the famous Orestes. To him was entrusted the command of the confederate army against Troy, which expedition commenced, according to the chronology of Blair, 1193 years before Christ. At Aulis, where the fleet was detained by contrary winds, Calchas, the soothsayer, enjoined the sacrifice of Iphigenia, the daughter of Agamemnon, as a propitiatory offering to Diana; but his compliance with this superstitious and cruel order, produced a fatal hatred between him and his wife Clytemnestra. In the Trojan war, he distinguished himself as a prince and general; though his unjust treatment of Achilles, from whom he took Briseis, occasioned many evils to the Greeks. Upon his return he brought with him, as a concubine, Cassandra, the daughter of Priam, and was insidiously received by Clytemnestra, who had formed a criminal connection with Egisthus, and who assisted that prince in assassinating him. His son Orestes afterwards took revenge on the murderers; and the calamitous events that marked the history of this family have been favourite subjects of the tragic muse of ancient Greece, and of its imitators in modern times. The death of Agamemnon is the subject of a tragedy of Æschylus and of Seneca.

AGAMEMNON, in *Entomology*, a species of *Papilio*, with black wings, spotted with green, and the hinder ones having on the under part a lunated ocellus and red spots. It is found in Asia.

AGAMEMNON's fountains were situated in Ionia, about 5000 paces from Smyrna.

AGAMENTICUS, in *Geography*, a high mountain of America, in the district of Maine, distant about six miles from Bald-head and eight from York harbour, which is a noted mark for seamen, particularly in the entry of Pascataqua harbour. It is covered with wood and shrubs, and affords pasture to its summit, whence the prospect is enchanting. N. lat. 43° 16'. W. long. 70° 39'.

AGAMENTICUS is also a river in the center of York county and district of Maine. It receives its waters from the ocean through the bay of Pascataqua, and has only a scanty supply from streams of fresh water. Its mouth is about four miles south from Cape Neddick river, and admits small vessels.

AGAMI, in *Ornithology*, a name given by the French at Cayenne, and applied by Buffon to the *Psophia crepitans* of Linnæus, the *grus psophia* of Pallas, the *Phasianus Antillarum* of Brisson, and the *gold-breasted trumpeter* of Latham; the specific character of which is, that its head and breast are smooth and shining green. This bird is 22 inches long, with a short tail concealed by the upper coverts and not projecting beyond the wings, and legs five inches high, covered with small scales, reaching two inches above the knees, which are not feathered. Its head, throat, and superior half of the neck, are covered with a short, close and soft down; the fore-

fore-part of the lower surface of the neck and breast are covered with a beautiful gorget of brilliant colours, varying between green, gold green, blue and violet: the upper part of its back and adjacent portion of the neck black, and the plumage of the hinder part of the back changes into a tawny-rufous; but the under-side of the body, and also the wings and tail are black, the great feathers which extend on the rump and tail are light ash-coloured; and the legs are greenish. The most characteristic property of these birds is the singular noise, called trumpeting, which they make, as some have commonly supposed by the anus, but as others have ascertained, by means of their lungs and the capacity of their membranous cells. The wind-pipe, before its entrance into the breast, is about the thickness of a swan's quill, bony and cylindrical. In the breast it is more slender and cartilaginous, and divides into two semicircular canals, formed of membranes, and capable of extension. The air-bag on the right side descends to the pelvis, and within the breast is divided into three or four cells by transverse membranous diaphragms. That on the left side is much narrower, and terminates in the loins. The common food of these birds is grain; but they also eat small fish, flesh and bread. In their natural state, they inhabit the forests in the warm climates of America, and associate in large flocks on the mountains; and they escape, when surprised in their haunts, by the swiftness of their feet rather than by the use of their wings, as they never rise higher than a few feet. They form a bed for their eggs, of which they lay from 10 to 16, by scraping the earth at the roots of large trees, but construct no nest. In their domestic state, they manifest a wonderful attachment to their benefactors, and are no less fond and faithful than dogs. By their intercourse with men, their instincts are moulded like those of dogs; and it is said that they may be trained to tend a flock of sheep. They are jealous of rivals; fight with dogs, cats and birds of prey, and keep the poultry in great subjection. They follow persons through the streets and out of town, and it is difficult to get rid of them. Of all the feathered tribes the agami is the most attached to the society of man, and indeed is the only bird that has a social turn. In this respect it is as eminently distinguished above other birds, as the dog is above quadrupeds. Buffon's Birds, vol. iv. p. 390, &c. Eng. Transl.

AGAMI is also a species of ARDEA, in the Linnæan system by Gmelin, found in Cayenne, about 31 inches long, and having long feathers in the tail. These feathers are of a deep blue; the under side of the body is rufous; the neck is of the same colour before, but bluish below, and dark blue above. The head is black, the occiput bluish and crested, the temples and the portion above the eyes white.

AGAMIA, in *Ancient Geography*, a promontory and port of Asia Minor, near Troy. Steph. Byz.

AGAMINA, or AGAMANA, *Kabem*, a borough of Mesopotamia, situate, according to Ptolemy, on the Euphrates, towards 33° 55' lat.

AGAMUS, a town of Asia Minor, near Heraclea.

AGAMIUM, a borough of Italy, belonging to the Infubres.

AGAN, in *Geography*, one of the Ladrone islands. Here Magellan, the famous navigator, was assassinated in 1521.

AGANAGRA, in *Ancient Geography*, a town of India beyond the Ganges, according to Ptolemy.

AGANGINÆ, a people of Ethiopia.

AGANIPPE, a fountain of Helicon, sacred to the Muses, whence they derived the appellation of *Aganippides*. Ovid (*Fast.* l. v. v. 7.) makes *Hippocrene* and *Aganippe* the same; but Solinus, and others, distinguish them and ascribe their being united to poetic licence. The water

of this fountain was, to those who drank it, the test of the furor poeticus.

AGANLY river, a branch of Kuban river, which falls into the sea of Asoph from the south.

AGANZAVA, a town of Asia, in the interior part of Media, situate, according to Ptolemy, in long. 89° and lat. 39° 30'.

AGAPÆ, or AGAPUS, formed of the Greek *ἀγαπᾶν*, *love*, in *Church History*, a kind of religious festival, celebrated, in the ancient church, to keep up a harmony and concord among its members. To these *agapæ*, we have a reference by St. Jude, v. 12, and also by St. Peter (2d Epistle c. ii. v. 13.) if with the Alexandrian copy, vulgar Latin and Arabic versions, we read *ἀγαπαίς* for *ἀγάλας*. Tertullian is the first author who has particularly described these feasts. Apolog. c. xxxix. Oper. p. 35. Ed. Rigalt. Having taken notice of some luxurious suppers among the Heathens, he adds, "the nature of our supper is indicated by its name; it is called by a word, which, in the Greek language, signifies love. We are not anxious about the expence of the entertainment; since we regard that as gain which is expended with a pious purpose, in the relief and refreshment of all among us that are indigent.—The occasion of our entertainment being so honourable, you may judge of the manner of its being conducted; it consists in the discharge of religious duties; it admits nothing vile, nothing immodest. Before we sit down, prayer is made to God. The hungry eat as much as they desire, and every one drinks as much as can be useful to sober men. We so feast, as men, who have their minds impressed with the idea of spending the night in the worship of God; we so converse, as men, who are conscious that the Lord heareth them.—Prayer also concludes the feast; and every one departs to his own concerns, &c." Pliny also (*Ep.* xvii. cited by Tertullian, Apolog. c. ii. *ubi supra* p. 3.) evidently refers to these feasts, when he informs Trajan, that it was their custom, on a stated day, to hold their assemblies before the morning-light, and to bind themselves by a sacrament (or oath) to do no wickedness, &c.; which things being performed they departed, and came again to partake of a common and innocent meal; from which however they desisted, after I published my edict against clubs or assemblies. Lucian (*de Morte Peregrini* § xii. Oper. t. iii. p. 335. Ed. Reitzii) says, that when Peregrinus, a Christian, was in prison, various suppers were brought in and their sacred discourses were delivered. These suppers seem to have been the *agapæ* of the ancient Christians. It appears, therefore, that they were of early original, and had been long in use; but they were not considered as an institution of the Gospel, or observed in obedience to a divine command. If this had been the case, they would not have been discontinued in consequence of the edict of a Heathen magistrate, or refused in future times. They were conducted with decorum, and afforded opportunities for the exercise of devotion and charity; and therefore do not warrant the reproach insinuated by a celebrated historian, who, in his usual sarcastic manner, says (*Gibb. Hist.* vol. ii. p. 346. 8vo.) that "the feasts of love or *agapæ*, constituted a very pleasing part of the public worship." The ingenious Mr. Hallett in his discourse on the *agapæ* (*Notes on several texts of scripture*, &c. vol. iii. p. 235, &c.) maintains, in opposition to some other writers, that these *agapæ*, being suppers, were not concomitants, or appendages of the eucharist. They were entirely distinct and independent things, celebrated about twelve hours after the eucharist, which was celebrated in the morning. To which may be added the testimony of Justin Martyr, who, in his account of the public worship of the church, and particularly

laly of the eucharist, does not say one word of the *agapæ*, or love-feasts, as connected with it either before or after. They continued in the church during the fourth century; but the council of Laodicea, about the middle of the fourth century, banished them from the churches, and still allowed them in private houses. The third council of Carthage, A. D. 397, ordains by a canon, which is repeated by the African council, in the beginning of the fifth century, that they should not be held in churches, except in cases of peculiar necessity: with which the decree of the council of Auxerre, in the beginning of the seventh century agrees. Photius, about the middle of the ninth century, and Arsenius, in the middle of the thirteenth century, represent the matter accordingly; or that the *agapæ* were prohibited in churches, but allowed and encouraged in private houses. When they were totally abolished, we have no account. When they were occasionally charged with impunity by the Heathens, they were restrained and regulated.

The kiss of charity, with which the ceremony used to end, was no longer given between different sexes; and it was expressly forbidden to have any beds, or couches for the convenience of those who should be disposed to eat more at their ease. Notwithstanding these precautions, it was found necessary to discontinue them; for as they were introduced when Christians had all things common, or with the community of goods, which under wise restrictions their first circumstances required, they remained long after the disuse of the custom, which was the original occasion of them. See ABYSSINIA.

Some authors imagine the *agapæ* to have been, not a commemoration of our Saviour, but a custom borrowed from the Heathens: *Mos vero ille, ut referunt*, says Sedulius, on the xith chapter of the Epistle to the Corinth. *de Gentili adhuc superstitione veniebat*. And Faustus, the Manichee, is represented, by St. Augustine, as reproaching the Christians with converting the Heathen sacrifices into *agapæ*: to which he replies, we do not borrow our love-feasts from the sacrifices of the Gentiles; our love-feasts feed the poor. Cont. Faust. Manich. l. xv. c. 20. Some have thought that St. Paul speaks of the *agapæ*, when he reproves the Corinthians for their disorderly practice. 1 Cor. xi. 17, &c. These *agapæ*, as Chrysostom, Theophylact, Pelagius, Oecumenius, &c. imagined, immediately succeeded the eucharist; and at these feasts the disorders happened. Mr. Hallett (*ubi supra*) contends, that they occurred in celebrating the eucharist itself. It may be observed, that the Christians did not consider the *agapæ* as religious or divine institutions, like the Lord's supper. If they had, their councils would no more have banished them out of the churches than the eucharist itself.

AGAPANTHUS, (*quasi ἀγαπῶν ἄνθος*, pleasant flower) in Botany, a genus of the *hexandria monogynia* class and order, of the natural order of *Liliaceæ*, the *Spathaceæ* of Linnæus, and the *Narcissi* of Juslieu. Its characters are, that the calyx is a Spathe common gaping at the side; the corolla is one-petalled, funnel-shaped and regular; tube cornered, as if composed of six claws, the border six-parted, with the parts oblong and spreading; the stamina are six filaments inserted into the throat, shorter than the corolla, declinate; the anthers kidney-shaped and incumbent; the pistillum is a superior germ, oblong, three-cornered: the style filiform, of the length of the stamens and declinate; the stigma simple or trifid; the pericarpium is an oblong capsule, three-sided, three-celled, three-valved: valves navicular, with contrary dissepiment; the seeds numerous, oblong, compressed and enlarged with a membrane. There is one species, viz. *agapanthus umbellatus*, the *CRINUM Africanum* of Linnæus, or

African blue lily. This is the African tuberose hyacinth, with a blue unbellated flower.

The root of this plant is composed of thick fleshy fibres; from the same head arises a cluster of leaves, which are thick and succulent, and of a dark green colour. Between these issues the flower stalk, supporting an umbel of blue flowers in a sheath, and each flower standing on a pedicle, about an inch long. The umbel being large, the flowers numerous, and of a light blue colour, make a fine appearance. They come out at the end of August or beginning of September, and frequently continue in beauty till spring. The flowers are those of the *hemerocallis*, but this genus is distinct from it in its spathe. It is a native of the Cape of Good Hope, from whence it was brought to Holland, and in 1692 it was cultivated at Hampton Court.

This plant is propagated by offsets, taken off at the latter end of June, planted in separate pots, with light kitchen-garden earth, and placed in a shady situation. In five weeks the offsets will put off new roots; and the pots should then be removed to a more sunny situation, and have more water. In September they will put out their flower stalks, and toward the end of the month the flowers will begin to open, and should be removed under shelter in bad weather, but in good weather exposed to the free air. Toward the end of October they should be removed to the green-house and have the benefit of free air, and be occasionally watered during winter in mild weather, but in frost they should be kept dry. It requires only protection from frost and moisture; and should not therefore have any artificial warmth in winter, and in summer it should be placed in the open air. Martyn's Miller's Dict.

AGAPE, in Antiquity, signifies an afternoon, or evening's meal.

AGAPETÆ, in Ecclesiastical History, a name given to certain virgins and widows, who, in the ancient church, associated themselves with, and attended on ecclesiastics, out of a motive of piety and charity.

In the primitive days there were women instituted **DEACONESSES**; who, devoting themselves to the service of the church, took up their abode with the ministers, and assisted them in their functions.

In the fervour of the primitive piety, there was nothing scandalous in these societies; but they afterwards degenerated into libertinism: inasmuch, that St. Jerom asks, with indignation, *unde agapetorum pestis in ecclesias introiit?* This gave occasion to councils to suppress them.—St. Athanasius mentions a priest, named Leontius, who, to remove all occasion of suspicion, offered to mutilate himself to preserve his beloved companion.

AGAPETUS, in Biography, a deacon of the church of Constantinople in the 6th century, who addressed a letter, called *σχίσιν βασιλικήν*, *Scheda Regia*, to the emperor Justinian, on the duties of a prince, and thus obtained rank among the most judicious writers of the century. This letter was printed at Basil by Frobenius in 1521, 8vo., and at Cologne in 1604. It is included in the *Bibliotheca patrum*. Mosheim, Eccl. Hist. v. ii. p. 120. Fabric. Bibl. Græc. t. vi. p. 570.

AGAPETUS, Pope, was a native Roman, and raised to the papal see by the interest of Theodotus, king of Italy, in 535. This pope resisted the interference of the emperor Justinian, in ecclesiastical concerns, asserted the supremacy of the papal authority in the church, and maintained its independence on the civil power. He was firm and resolute, notwithstanding the threats of the emperor in opposing a measure which he disapproved, and boldly said, "when I came to Justinian, I hoped to meet a Christian prince, but I have found a Dioclesian." He died at Constantinople in 536, and

and was enrolled among the saints ; and the Roman see was at this time so poor, that in order to defray the expences of his journey thither, he was obliged to pawn the sacred vessels of the church of St. Peter. Power and Dupin.

AGAPUS II. Pope, a Roman by birth, obtained the papacy in 946, and held it till the year 956. He exerted himself in terminating the dissensions of Italy, and sent for the emperor Otho to oppose Berenger II. who assumed the regal power in this country. He was reputed a man of extraordinary sanctity. Dupin. Fabric. Bibl. Græc. t. vi. p. 570.

AGAPHONOVA, in *Geography*, a river of Siberia, which runs into the Frozen Ocean.

AGAPIS lapis, in *Natural History*, a name given by ancient writers, to a stone of a dusky yellow, or the colour of a lion's skin ; it was held in great esteem in many nations, on account of its supposed virtues, as an anodyne and vulnerary.

AGAPIUS, in *Biography*, a Manichæan writer, mentioned by Photius, who is supposed to have lived about the middle of the 4th century. Some say, that he was a disciple of Manes towards the close of the third century, that he opposed the sentiments of Eunomius concerning the Trinity, and that he wrote three books in defence of the Manichæan principles ; one a work of twenty-three books, another consisting of 102 chapters, inscribed to a woman of the same sect, named Urania ; and a third, intitled Heptalogus, preserved in the Anathemas against the Manichæes, or form of abjuring Manichæism, by Fabricius, Cotelierius and Tollius. His work, says Photius, was so absurd and impious, that it could only shame and confound those who followed him and the Manichæan doctrines ; and he is denominated by the same writer, a detestable and impious man, and distinguished as one of the twelve disciples of Manes. Gen. Dict. Lardner's works, vol. iii. p. 306. Fabricius (Bibl. Græc. t. x. p. 383) has mentioned several other persons of this name ; such as a monk of mount Athos, who lived about the year 1640, and published a book entitled ἀμαρτωλὸν σωτηρία, the salvation of sinners ; Agapius, a bishop of Cæsarea, the predecessor of Eusebius ; Agapius, an Athenian philosopher, a disciple of Proclus, and supposed to be the same with the eminent physician and rhetorician of Alexandria and Constantinople, whose distinguished talents are noticed by Suidas.

AGAR, in *Ancient Geography*, a town of Byzacium, defined by Hirtius, a few miles westward of Lempta or Leptis parva, and sixteen miles from Thapfus. It was one of Cæsar's stations ; the village which now occupies the rocky situation in which it stood is called by the Arabs Boohadjar, i. e. the father of a stone, or the stony city. Shaw's Trav. p. 109.

AGARA, a town of the Phylliates, in India, on this side of the Ganges, according to Ptolemy.

AGARAFFO, or AXARAFFE, a small, pleasant and fertile country of Andalusia, in Spain. Its principal town is San-Lucar-la-Major, erected into a duchy by Philip IV. in favour of Count d'Olivarez.

AGARD, ARTHUR, in *Biography*, a learned antiquary of this country, was born at Toston, in Derbyshire, A. D. 1540 ; and having been educated for the law, was appointed deputy-chamberlain of the Exchequer in 1570, which office he held 45 years. By means of this office he was enabled to pursue those curious researches, of which he produced several valuable publications. Having directed his particular attention to the Dooms-day book, he wrote a learned treatise on the use and true meaning of the obscure words that occur in it ; he also compiled a book, containing " a catalogue of the records preserved in his Majesty's four treasures," and

" an account of all leagues, treaties of peace, intercourses and marriages with foreign nations." This work, with eleven other treatises in MS. relating to matters of the Exchequer, he ordered by his will to be delivered to the office. His other collections, amounting to twenty volumes, were bequeathed to Sir Robert Cotton, and deposited in his library. His essays read to the Antiquarian Society were published by Mr. Hearne, in his " collection of curious discourses by eminent antiquaries," and are as follow, viz. " Opinion touching the Antiquity, &c. of Parliament," the genuineness of which is doubted :—" The Antiquity of English Shires :—" On the Dimensions of the Land of England :—" Of the Authority, &c. of Heralds in England :—" Of the Antiquity and Privileges of the Inns of Court and of Chancery :—" Of the Diversity of Names of this Island." By his established reputation for the knowledge of antiquities he was one of the most conspicuous members of a Society of ANTIQUARIES, which subsisted from 1572 to 1604. He died in 1615, and was buried in the cloister of Westminster Abbey. Mr. Camden denominates him a most excellent antiquary. Biog. Brit.

AGARENI, or AGARENIANS, a name given by some to the followers of the religion of Mahomet.

The word is derived from Agar, or Hagar, handmaid of Abraham, and mother of Ishmael ; and properly denotes the Arabs, called also Ishmaelites, and more lately Saracens.

AGARENUM, the capital of the Agareniens, in Arabia ; it was attacked by Trajan, but without success.

AGARIC, AGARICUS, called *Amanita* by Dillenius, in *Botany*, a genus of the order of *fungi*, and class of *cryptogamia*; the characters of which are, that the pileus or cap has gills underneath ; that the gills differ in substance from the rest of the plant, being composed of two lamina ; and that the seeds are in the gills. Gmelin, in the 13th edition of the Linnæan system, 1791, enumerates 390 different species ; and Dr. Withering, in the third edition of his arrangement of British plants, 1796, (vol. iv. p. 154, &c.) ascertains and describes 282 British species, besides several varieties. He distributes them into three general classes, comprehending those which have central stems, those with lateral stems, and those which have no stems ; and he again subdivides the two former classes into such as have solid, and such as have hollow stems, with decurrent, fixed and loose gills respectively. Under these heads he arranges the species, by the colour of the gills, into those whose gills are white, brown, red, buff, yellow, grey, green, and purple. As this ingenious author has formed a system, that serves to facilitate the investigation and description of the several species of agarics, we shall here give a brief sketch of the principles upon which it is founded. Agarics are composed of a cap or pileus, with gills underneath, and are either with or without stems. The stems are either central or lateral. They have also a root, which is more or less apparent, and some of them, in their unfolded state, wholly enclosed in a membranaceous or leather-like case, called a *wrapper*. Some of them have also a *curtain*, or thin membrane, extending from the stem to the edge of the pileus, which is rent as the pileus expands, and soon vanishes ; but the part attached to the stem often remains, and forms round it a *ring*, which is more or less permanent, as its substance is more or less tender. These parts are seen in Plate V. BOTANY, fig. F, which exhibits the vertical section of an agaric in its egg-state. The wrapper is seen at m, m, m, m, m ; the pileus at n, n ; the gill at o, o ; p is the stem before it shoots up ; and q, q, the curtain. On the section of a stem at B, may be seen the remains of a

curtain,

curtain, then called a ring. The curtain, ring and wrapper are of little use in the determination of the species. The two former are common to all the secondary subdivisions of agarics with central stems; but the latter is confined to plants with solid stems, nor does it pertain to those whose gills are decurrent. The stem of an agaric is either solid or hollow: the former is represented at A; the latter at B. In examining an agaric, it will immediately appear whether the stem be solid or hollow, by cutting it across about the middle with a sharp knife. Next to the gills, the stem of an agaric is the part least liable to variation. The gills are the flat, thin substances, found underneath the pileus, and attached to it, and are of a different texture from that of the stem or pileus. They assume different colours in different species, and vary much in their respective lengths. Each gill consists of two membranes, between which the seeds are formed. The gills are always attached to the pileus, and sometimes to that only, as at *fig. E. c, c*. They often shoulder up against the stem, and are fixed to it, as at *fig. A, b*; and they are also extended along it downwards, as at *a*. This is called a *decurrent* gill. The *fixed* and *decurrent* gills are attached to the stem only by their ends, which are next to the center of the pileus, and not by their edges, as is sometimes the case in agarics, whose pilei are nearly cylindrical. The gills, as they contain the fructification of these plants, are peculiarly important. They vary in length, always extending to the edge of the pileus, but seldom reaching to the stem; and they are sometimes forked or divided, and sometimes connected or anastomosing with one another. These circumstances are illustrated by *fig. C* and *fig. G*. The gills are uniform at *d*; and below it they are connected at the edge of the pileus; at *e* they appear in pairs, at *f* there are four, and at *g* eight in a set; at *h* they are seen irregular, or without any determinate number; at *i* they are branching, and at *k* branching and anastomosing. *Fig. C* exhibits the gills loose from the stem, with the inner end fixed to a collar which furrounds the top of the stem, though not in contact with it. These several circumstances are subject to such variation, that they do not serve to distinguish the different species. The colour of the gills, however, is obvious and permanent; and as the colour is principally, if not solely, caused by that of the seeds within them, this affords the most fixed and certain characteristic, on which to found the distinctions of the species; and together with the structure, the colour, particularly of the flat sides of the gills, will be at all times sufficient to furnish permanent specific distinctions. The stem is a less variable part than the pileus; its shape, the proportions of its length to its breadth, and of both to the pileus, afford tolerable distinctive marks; and its colours, though more changeable than those of the gills, are perhaps rather more fixed than those of the pileus. The pileus, or cap, is the part of an agaric, that is the least certain. Its shape is either conical (as at *E*), convex (as at *D*), flat, or hollowed at the top like a funnel, and is constantly varying in the same plant, though it is much the same in the same species, when the plant is in perfection, or when it is fully or almost fully expanded. Its colour is uncertain; and so is also the viscosity or clamminess on the surface of the pileus and stem, which has sometimes characterised agarics. The lactescence of some agarics, or their property of yielding a milky juice, which in some species is mild, and in others acrid, is very precarious and inconstant. Such as we have briefly recited, are the principles upon which Dr. Withering's system is founded; and it seems well adapted for extending our acquaintance with the va-

rious species of agaric that occur, and rendering the knowledge already acquired more accurate. Withering's Arrangement, vol. i. p. 375—380. See CRYPTOGRAMIA, FUNGUS, and MUSHROOM.

Of all the species of agaric, one only has been selected for cultivation in our gardens, viz. the *A. campestris*, or common mushroom, or *champignon*. The gills of this species are loose, pinky red, changing to a liver-colour, in contact with the stem, but not united to it; very thick set, irregularly disposed, some forked next the stem, some next the edge of the pileus, some at both ends, and in that case generally excluding the intermediate smaller gills. The pileus is white, changing to brown when old, and becoming scurfy; regularly convex, fleshy, flatter with age, from two to four inches, and sometimes nine inches in diameter, and liquefying in decay; the flesh white. The stem is solid, white, cylindrical, from two to three inches high, half an inch in diameter; the curtain white and delicate. When this mushroom first makes its appearance, it is smooth and almost globular; and in this state it is called a button. This species is esteemed the best and most savoury of the genus, and is much in request for the table in England. It is eaten fresh, either stewed or boiled, and preserved either as a pickle or in powder; and it furnishes the sauce called KETCHUP. The field plants are better for eating than those raised on artificial beds, their flesh being more tender; and those who are accustomed to them can distinguish them by their smell. But the cultivated ones are more lightly, may be more easily collected in the proper state for eating, and are firmer and better for pickling. The wild mushrooms are found in parks and other pastures, where the turf has not been ploughed up for many years; and the best time for gathering them is August and September. Dr. Withering mentions four varieties. The *A. Georgii* of Linnæus resembles the former, but is much inferior to it in flavour. Its gills are yellowish white; the pileus yellow, convex, hollow in the center; the stem yellow thickish and smooth; the juice yellow, which flows plentifully from it when wounded. It is gathered in September in woods and pastures. A variety of this is found on the sea coast of Cornwall, of a large size, with the button as big as a potatoe; the expanded pileus 18 inches over, the stem as thick as a man's wrist, the gills very pale, the curtain tough, and thick as leather, and the juice yellowish. A plant of this kind, as Dr. Withering informs us, was gathered on an old hot-bed in a garden in Birmingham, which weighed 14 pounds. The *A. procerus*, or tall mushroom, is not uncommon on hedge banks and dry pastures, and is sometimes exposed to sale in Covent-garden market. It may be distinguished from the genuine sort by the sponginess of its flesh, and from others by its fine and large horizontal ring. The gills are white, uniform, and fixed to a collar; the pileus is a broad cone, bossed, white brown, and scaly; the stem is scaly, and the ring loose. This plant, when preserved in pickle, is very apt to run into the vinous-fermentation. Dr. Withering enumerates four varieties of this species, one of which is the *A. excoriatus* of Schæffer and Hay, which is a beautiful plant, approaching in structure to the former, but of a smaller size. It is gathered in September. *A. serampelinus* is the most splendid of all the agarics. Its gills are fixed, bright golden yellow, and nearly orange under the edge of the pileus, regularly disposed four in a set; fleshy, brittle, and serrated at the edge with a paler cottony matter: the pileus is a fine lake red, changing with age to a rich orange and buff, and every intermediate shade

of these colours, which render it very beautiful; convex, center bossed, edge turned down, three to four inches diameter, clothed to the touch; flesh pale buff; stem solid, nearly cylindrical, but gradually tapering upwards, rich buff, shaded with fine rose red, three to five inches high, half inch in diameter; flesh pale, buffy, spongy and elastic. This is common in Italy, and brought to the markets for sale. The ancient Romans esteemed it one of the greatest luxuries for the table. It was made the vehicle for poison to Claudius Cæsar by his wife Agrippina, and has therefore been celebrated by Juvenal and Martial. Schæffer and Clusius have recited several curious circumstances respecting it. Dr. Withering apprehends that these authors have mistaken the species, and that their account should be transferred to the *A. deliciosus*. The *A. xerampelinus* is eatable, but its taste is not at all agreeable. It is the *A. cæsaræus* of Schæffer, and first found by Dr. Withering's daughter, on the red rock plantations at Edgbaston, July 6th 1791; and afterwards in Sept. 1793; and in July 1792, amongst moss in the fir plantations at Tottenhall, Staffordshire. Dr. W. enumerates five varieties.

A. deliciosus has gills decurrent, flame-coloured, narrow, regularly branched; pileus rich red brown; flesh nearly flat, but somewhat hollowed at the centre and the edge turned in, from one and a half to three inches over; orange-colour; stem orange, solid, tapering downwards, from one to two inches high, and a quarter to three-eighths inch diameter: hollow with age. The juice is rich yellow, which soon turns green. It is found in the fir-plantations of Scotland, and in those of the barren hills at Barr, in Staffordshire. Dr. Smith also found it at Hillingdon, Middlesex, under some fir-trees, and it also grows near Guildford. It is much esteemed in Italy, and exposed in the markets, and supposed to have been the *A. agaricus* mentioned by the authors cited under the preceding article. Dr. Withering enumerates three varieties, one of which affords, from every part of it when wounded, a copious discharge of yellow acid juice. They are gathered in woods and dry pastures in Sept. and Oct.

A. cinnamomeus has gills, four in a set, broad about the middle, deep tawny red, and fixed by claws; pileus convex but bossed, of a rich cinnamon colour, from one and a half to three and a half inches diameter; the stem hollow, cylindrical, silky, shining, two inches high, thick as a goose quill, of a fine full yellow colour. This is a species that is readily distinguished by its cinnamon-colour. It is found in woods in September and October; and has a good flavour. It is the *A. cinnamomeus* of Bolton. The *A. cyathiformis* of Schæffer is a variety of this.

A. bulbosus has white, loose, irregular gills; pileus convex, white, smooth, sometimes fringed at the edge, four or five inches over; flesh white, spongy and very thick; stem solid, cylindrical, smooth, white, four inches high, and half inch or more in diameter: ring permanent, broad, and white. This species possesses all the parts belonging to the genus, and is well adapted to instruct the learner in understanding them. It is found from spring to the end of autumn in rich soil, and also in gardens, on the sides and at the base of hot-beds. Dr. Withering enumerates four varieties, found in woods about the roots of trees, and in pastures; and he refers the *A. bulbosus* of the Fl. angl. to the *A. glaucopus* of Schæffer, with brown gills, from four to eight in a set, chestnut and semi-globular pileus, thick stem of a white or pinky colour, and curtain resembling a cobweb, white flesh with a pinky tinge, solid whitish stem, and very large bulbous root. The *A. bulbosus* of Hudson and Ray is referred by this author to *A. violaceus* of Linnæus; which has fixed purple gills, numerous, eight in a set; long gills sometimes cloven, and a few of them

decurrent; purple pileus, soft, smooth, firm, convex, but centrally depressed with age, and cracking at the edges, which is somewhat turned down, from half inch to five inches over; stem solid, cylindrical, purple, bulbous at the base, from one to four inches high, and from a quarter to one inch in diameter; and curtain like a cobweb. In maturity, it plentifully emits a powder of the colour of Spanish chalk. It is not uncommon from October to December, in Edgbaston and Barr plantations, in the wood near Bath, and at Powick near Worcester. With much broiling and duly seasoned, it is esteemed delicious as an oyster. *A. candidus* of Linnæus is small and white, with an hemispherical pileus having its margin turned inwards and flexile gills, and stem cylindrical and flexuous. Dr. Withering refers the *A. candidus* of Hudson to the *MERULIUS umbelliferus*. *A. roseus* has gills decurrent, white, few, short and in pairs; pileus white; boss yellowish, at first conical, then flat, and lastly inverted, two inches in diameter; stem solid, whitish buff, bending, three inches high, and a quarter of an inch in diameter. The whole plant is very viscid, but dries when gathered. Dr. W. suspects it to be an unusually large plant of the *A. eburneus*. It is found in autumn in Packington Park, Warwickshire. *A. mutabilis* of Schæffer has loose, yellow brown gills, four in a set; brown orange pileus, convex and bossed; stem hollow, cylindrical, red brown and scaly below, and whitish above the ring; curtain thready; ring permanent and imperfect. It is common in August, on decaying and rotten wood. The *A. mutabilis* of Hudson, Ray, &c. is referred by Dr. W. to the *A. velutipes* of Curtis, with pale yellow gills, eight in a set; pileus brown orange, nearly flat; stem yellow above, velvety and dark brown below. It is not uncommon in April and October, grows in clusters, and is generally attached to rotten wood. *A. crassipes* has gills white, brownish at the edges, fleshy, distant, four in a set; pileus reddish brown, bossed and cracking; stem tapering downwards and ribbed. It grows in clusters, at the base of decaying trees. The *A. crassipes* of Schæffer is made by Dr. W. a variety of the *A. elasticus* with white gills, four in a set; pileus chestnut and semi-globular; stem buffy, white and tapering. This agaric is tough and strong, with a considerable elasticity, and found under oak trees in August, September and October. *A. varius* has white gills, not numerous, two or four in a set; pileus conical and scored; stem cylindrical, glossy, stiff, and about the size of a crow-quill. Of this species Dr. W. has enumerated eight varieties, most of which are found at the roots of filbert trees. The *A. varius* of Schæffer is in Dr. W.'s arrangement a variety of the *A. glaucopus*, and that of Bolton a variety of the *A. semi-putris* of Bulliard, which has gills dark brown to black, four or eight in a set; pileus pale brown, conical, blunt, with polished apex, and white stem. It is found in October, in gardens. A variety of it, with four gills in a set, and a pileus grey to black, is found among rotten leaves in grass-land. Another variety, which is the *A. varius* of Bolton, is found on grass-plats and new mown fields in July. It has chocolate gills from brown to black, mottled, and in pairs; pileus mouse-colour, conical and pointed; stem of the same colour, cylindrical and firm. This, though a common, is a very beautiful species. In a summer morning it is covered with a bloom like that of a plumb, having often a glittering spangled appearance; its form is regular, and the fringe of the curtain peculiarly delicate. Another variety, with the stem of a dark mulberry colour, is found in wet gravel where no grass grows, and sometimes on cow-dung, in which case the stem, under the shelter of long grass, is covered with a white hoariness, which is easily rubbed off.

A. integer of Linnaeus has gills white, mostly uniform; pileus of various tints, crimson, pink, blue, or earthy brown, changing to dirty yellow or to lead colour; stem tend. cylindrical and white. It is very common and beautiful; found in woods and pastures, under trees, and many are very fine of it. Dr. Withering enumerates nine varieties. *A. muscaria* has loose gills, with the part attached to the pileus joining up very close to the stem, so as to give them almost the appearance of being fixed, watery brownish white, two or four in a set, the small ones very minute, and the large ones four or five, splitting at the outer end; not numerous, rather broad for the size of the plant; frequently connected to the stem by ligaments; pileus pale buffy brown, convex, and even, with a sudden depression of the border at the distance from the center, often giving the appearance of a large rounded boss in the middle; central colour gradually deeper; from one to one and three quarters inch over; and the edge turning up with age: stem solid, white, changing to watery brown, cylindrical, but thicker and flattened just under the pileus, very tough, mostly crooked, twisted when dry, rarely central, one and half inch high and thick as a crow-quill. This is the 27th fungus of Ray's Synopsis, ed. 3. p. 6. *A. praeceps* of Hudson, and *caninus* of Lightfoot. There are two varieties; one with cream-coloured gills, buff pileus, and mealy stem, and another with yellow brown, more fleshy and more regularly convex pileus, found in groves. Mr. Woodward says, that this species has a much higher flavour than the common mushroom, but he suggests, that from its leathery nature it is indigestible, except in the form of powder, in which it is admirable. Dr. Withering, however, observes, that he has seen the pileus and gills of this agaric very brittle and tender, when fully saturated with moisture in rainy seasons, and in that state it is sufficiently digestible. Professor Martyn informs us, that he has eaten these mushrooms for 40 years without injury, and without perceiving that toughness like leather, of which others have complained, except in very dry weather, or when they are in too advanced a state. They should be gathered young and early in a morning, and properly dressed. They are found in hedge banks, upland pastures, and sheep commons, particularly in those patches called *Fairy rings*. Those that are found in woods and hedges are of inferior flavour to such as are gathered in dry pastures, which have a very pleasant smell and luscious flavour, either when stewed alone, or in ragouts, &c. This sort makes excellent ketchup, and is much valued in the form of powder. It is in season during September and October, but may be dried so as to be in use for table all the winter. Mr. Lightfoot supposes that this species is the *mousson* of the French, who use it in ragouts, instead of that, and acknowledge it to be equal in flavour, but more tough. The *mousson*, however, has a very thick and fleshy pileus, its gills are very narrow and numerous, and fixed to the stem, and the stem is thick and short. Dr. Withering has carefully distinguished several other species from this *poisoning* agaric, or *Scotch bonnets*, as it is called by Mr. Ray. *A. cantharellus* of Linnaeus, is the *merulius cantharellus* of Dr. Withering, and may be eaten with safety; but it is more tough and less highly flavoured than either the *A. muscaria* or *A. campestris*. Allione enumerates the following species as edible, viz. *A. candidus*—*bulbosus*—*cantharellus*—*muscaria*—*deliciosus*—*matellus*—*brunneus*—*escoriatus*—*georgii*—*crispus*—*varius*—*scutellus*—*syriacus*. But he has omitted *A. campestris*. In many parts of Europe several other sorts are eaten, which are thought with us to be poisonous. Of this number we may reckon the *A. piperatus*, which, though it be the most acid and suspicious of all the agarics,

is eaten in great quantity by the Russians. They fill large vessels with these mushrooms in the autumn, season or pickle them with salt, and eat them in the ensuing Lent. The *A. piperatus* of Linnaeus has gills, pale pinky red, numerous, in pairs; pileus dirty yellow white, woolly, depressed in the centre; and stem pale yellow. This is the *A. torquatus* of Schaeffer. The *A. piperatus* of Polak, and *A. luteus* of Bulliard is referred by Dr. W. to the *A. luteus*, which has gills whitish, numerous and narrow; pileus smooth, irregular, flattened, depressed in the centre; stem white, eccentric; and juice like milk. Lister first found it in England. This plant, with its varieties, is met with in plantations of wood. It is much eaten by insects and snails. *A. clypeatus* is described by Dr. W. as having gills fixed slightly to the stem, greyish watery brown, four or eight in a set: pileus brown, convex, bossed, border scored, very viscid, so that flies lighting upon it cannot escape; paler in colour when divested of this viscid matter, one to one inch and half over; stem hollow, white, viscid, tender, easily broken, splitting, three or four inches high, and thick as a crow quill. This species is found in woodland pastures in September. Dr. Percival, in the last vol. of his Essays, p. 267, relates the case of a man, who was poisoned by eating a mushroom, which Mr. Hudson thinks was one of this species. *A. muscarius*, or reddish mushroom, has a large pileus, varying much in colour, white, red or crimson, convex, sprinkled with downy warts, which are raised, compact and angular, or thin, flat, and ragged, turning up with age, from two to seven inches over; flesh white, reddish in decay: gills fixed, white, yellowish with age, mostly uniform, but a shorter one sometimes intervening; the shorter gills varying much in length, but rarely less than one third the length of the long ones: the stem solid and cylindrical, but the internal substance shrivelling with age, leaves irregular hollows; scaly, bulbous at the base, from three to five inches high, and from three quarters to one and a half inch in diameter; ring, broad, permanent, and turned down upon the stem. This plant rises out of the ground inclosed within its brown fluted wrapper. It is found in pastures. The juice rubbed on the walls and bed-posts destroys bugs; and in the north of Europe the inhabitants infuse it in milk, and set it in their windows, in order to poison the flies who taste it. This is the *moucho-more* of the Russians, Kamtschadales, and Koriars, who use it for intoxication. They sometimes eat it dry, and sometimes immerse it in a liquor made with the epilobium; and when they drink this liquor, they are seized with convulsions in all their limbs, followed with that kind of raving which attends a burning fever. They personify this mushroom; and if they are urged by its effects to suicide, or any dreadful crime, they pretend to obey its commands. To fit themselves for premeditated assassination, they recur to the use of the *moucho-more*. A powder of the root, or of that part of the stem which is covered by the earth, is recommended in epileptic cases, and externally applied for dissipating hard globular swellings, and for healing ulcers. The dose is from half a scruple to one, taken thrice a day in water; and a dram administered once a day in vinegar, has been thought more efficacious. Murray, App. Med. vol. v. p. 560. Dr. Withering enumerates ten varieties of this species.

The agarics, with lateral stems, and those without stems, are chiefly found on rotten wood, or stumps and fragments of decayed trees. Of the latter sort we shall mention only the *A. quercinus*, or agaric of the oak: the gills are brown, very much branched and anastomosing, thick, forming oblong angular, and nearly circular cavities, especially towards the edges; the pileus brown, woody, nearly semicircular,

or of no regular shape, marked with circular tiled ridges, as well as with different shades of colour, lost to the touch like buff leather or fine cork, from one to five inches over, or more. This species, of which Dr. W. enumerates two varieties, seems to connect the agarics with the boletus. For a further account of the distictical and medical qualities of agarics, and for the method of cultivating and propagating those which are chiefly used, see MUSHROOM.

AGARIC, in *Pharmacy*, a kind of fungous excreescence, growing on the trunks and large branches of several trees; but, chiefly on the larch-trees and upon some kinds of oak, when old and decayed. Three-fourths of it consist of a resinous substance, and the remainder is a slimy mucilaginous earthy matter, so tenacious, as scarcely, by any method, to be dissolved by water. It comes forth on the tree in the beginning of the spring, and continues to increase till autumn. The best is easily cut with a knife, friable betwixt the fingers, and has no hard, or gritty, or coloured veins. It has no pedicle, and is internally of a simple uniform structure throughout its whole substance. Agaric is brought from different places; the best comes from the Levant; that which comes from Savoy and Dauphiny being less esteemed. Holland also supplies some, but that is reckoned the worst; because it is grated, and whitened at top with chalk. By a chemical solution it passes almost wholly into oil; it yields no volatile salt, but abounds with a sort of starchy earth, and acid phlegm; as to texture, it seems much to resemble *COLOCYNTH*. Agaric is an ingredient in the *theriaca Andromachi*, where it is admitted in quality of a cordial: though its cardiac virtue is excepted to as much as its purgative. Agaric was a purge in much esteem among the ancients, but has deservedly fallen into disrepute of later years, as it occasions unsupportable nausea; and as no preparations of it appear to be equal to the more common and experienced cathartics. The druggists consider only that which grows upon the larch-tree to be the right sort. For its chemical history, see Neumann's Works, p. 349. The *Agaric of the oak*, so denominated, because the best is supposed to be produced on the oak, sometimes also called false or bastard Agaric, is the *BOLETUS Igniarius* of Linnaeus. This fungus has been specifically named *Igniarius*, and also touch-wood or spunk, from its readily catching fire, and from its being used in some places as tinder. For this purpose the Germans boil it in strong ley, dry it, and boil it again in a solution of salt-petre. It is externally of an ash-colour, and internally dusky-coloured, soft and tough. In Franconia pieces of the inner substance are beaten so as to resemble leather, and sewed together for making garments: this agaric has been much used by surgeons as an external styptic. The mode of preparing this substance is as follows: Take a piece of fresh agaric, which has been removed from the oak or larch-tree in autumn, and pare off its exterior rind; the coat underneath, being of a compact texture, is then to be separated from the porous part, and well beaten with a hammer until it becomes extremely pliable. The outer hard part, and the inner loose surface, are of very little use; but the middle portion, thus prepared, must be kept dry in slices of a convenient size. A small piece is to be laid exactly over the bleeding artery, and over that a second, or even a third, somewhat larger; and lastly a compress, to retain the whole in its place. Its application to this purpose was derived from the French, and it was successively recommended, first by Brossard in 1750, afterwards by Morand, Bouquet, Faget, Rochard, and De Mey, who employed it not only to restrain the bleeding of wounds, but to prevent hæmorrhages after amputations, which it is reported to have done as effectually as the ligature. Several English surgeons have also published

cases in which the agaric was successfully used, as Sharp, Warner, Gooch and others. Some have remarked that, where it seemed to succeed, the subjects were brought so low before the operation, that little danger was to be apprehended from the hæmorrhage, though no other application had been made than that of dry lint and flour. Neale's Obs. on the use of agaric, &c. It has now lost its reputation both in France and England; nor does it appear, from its sensible qualities, to be possessed of any truly styptic power, at least to any considerable degree. This fungus probably acts no otherwise than as a pliable soft substance, adhering to the orifices of the vessels, till they have contracted spontaneously. Some other fungi have been employed with the same intention; such as the lycopodon, or dusty mushroom, and the fungus vinosus, found on the casks and walls of wine-vaults. Lewis's Mat. Med. Woodville Med. Bot. vol. iv. p. 160. Since it possesses no efficacy without a firm compress, we believe the *LIGATURE* will be generally preferred, as more secure, and less troublesome to the patient. See HÆMORRHAGE.

AGARIC, *Female*. See *BOLETUS*.

AGARIC MINERAL, *Bergmilch*, *Bergmilch* Germ. *Gusta farinacea*.—This mineral substance is always found in a loose or semi-indurated state in the fissures of rocks or at the bottom of lakes; it almost floats on water, is entirely soluble in nitric acid with effervescence, and probably consists wholly of carbonat of lime: it is not applied to any particular use. There are two varieties of this species, of which the following are the essential characters.

Var. I. *Bergmilch* of Werner.

Dusty—colour whitish red or yellow; very friable; of a dry feel, does not adhere to the tongue, and gives no gloss to the skin when rubbed on it.

Var. II. Colour white, composed of scaly particles, very friable; of a greasy feel, and communicates a gloss to the skin; falls to pieces in water, and adheres to the tongue. Mr. Kirwan (*Elem. Miner.* vol. i. p. 76) mentions a third variety, of a silvery white colour, resembling mica in its structure, of a soft feel and somewhat unctuous like tale, almost entirely soluble in nitrous acid; and the solution has all the properties of a solution of calcareous earth. This substance was formerly used internally against hæmorrhages, strangury, gravel, and especially in dysenteries; and externally to dry and heal old ulcers, stop defluxions of the eyes, &c. See *Silvery CHALK*.

AGARICITES, in *Natural History*, a species of *Madrepore*, stemless, and furrowed, with carinated furrows and concatenated stars. It is found in the sea, between the islands of America.

AGARICUM, a species of *Aleyonium*, with a filiform stem, and a kidney-shaped case. This is the kidney-shaped purple *Sea-PEN* of Ellis, found in the sea that washes the coast of South Carolina. Its body is about an inch long, and half an inch across the narrowest part, with a small roundish tail, an inch in length, proceeding from the middle of the body, full of rings from one end to the other, like an earth-worm, with a small groove running along the middle of the upper and under part, from one end to the other. The upper part of the body is convex, and near a quarter of an inch thick; the whole surface is covered with minute yellow starry openings, through which are protruded little suckers, like polypes, each furnished with six tentacles or filaments, which seem to be the proper mouths of the animal. The under part of the body is flat, and the surface is full of the ramifications of fleshy fibres, which, proceeding from the insertion of the tail, as their common centre, branch out so as to communicate with the starry openings on the exterior edge and upper surface of the animal. See

Phil. Trans. vol. 111. p. 147.

AGALICUS, in *Antient Geography*, a people of India, on the East Sea, according to Ptolemy.

AGARON, in *Antient Geography*, a name given to Aden, a town of Arabia; the Hebrew or Arabic name of it is *Yemen*.

AGARUA, in *Antient Geography*, a town of India, in Asia, placed by Ptolemy in long. 83° 40'; and lat. 2°.

AGARUM, a promontory of Asia, Samaria, near the river *Taurus*, which runs from north to south, and discharging itself into the *Palmus*. According to Ptolemy, it was situated in long. 63°, and lat. 49° 40'. Ovid. (*Pont. lib. 1.*) calls the river, *Sagoris*; and it is now *Sagor*.

AGARUM, a port mentioned by Pliny, situated between the promontory of Garganus and the river Cerebalus; and supposed to be the same with *Porto Græco*. Agafus, or Agassia, was also a town of Macedonia in Europe.

AGASYLLIS, in the *Materia Medica*, a name given by some of the ancient Greek writers to gum ammoniac; and by Dioscorides, to the tree which produces that gum. By their description of this medicine, it appears not to have been the same which we know by this name.

AGATA, in *Antient Geography*, a small town and bishop's see of Naples in the *Principato Ultra*.

AGATE, *Axares*, *Achates*, of Theophrastus and Pliny; *Agath*, Fr. *Achat*, Germ. *Agater*, Swed. This word is used by modern mineralogists not as denominating any particular species of stone, but a siliceous mixture of quartz, hornstone, flint, calcedony, amethyst, jasper, carnelian, or heliotrope, aggregated into binary or more complex combinations. It has nevertheless several peculiar characters by which it may readily be distinguished from other minerals. Although it consists of parts differing in colour and transparency, yet these possess a certain uniformity of arrangement, and slide into each other by such nice gradations as show them to have been all of simultaneous formation; and hence it differs from *siliceous Breccia*, in which angular fragments of siliceous pebbles are cemented by a siliceous paste: for in all these the cement, whether quartz, calcedony, or flint, is wholly distinct from the fragments that it invests, and the arrangement of the whole is merely casual. As it differs in the colour of its constituent parts, so it does in their transparency; it is never wholly opaque like jasper, nor transparent as quartz crystal: it takes a very high polish, and its opaquer parts usually present the appearance of dots, eyes, veins, zones, bands, or ramifications. Its colours are yellowish, reddish, bluish, or milk white, honey-orange, or ochre yellow, flesh blood, or brick red, reddish brown, violet blue, and brownish green. Specific gravity from 2.55 to 2.7. It gives fire with steel very plentifully.

It is found in the form of irregular rounded nodules, from the size of a pin's head, to more than a foot in diameter; or in strata, and sometimes, though rarely, stalactitic. Several varieties of agate are distinguished by the lapidaries: the finer semi-transparent kinds, consisting principally of calcedony, are called oriental: in the banded agates the colours are disposed in strict parallel lines or bands; while in the fortification agate, the most beautiful of all the varieties, they are arranged in waved and angular concentric zones: the landscape agate, by the name alone, sufficiently declares its irregular appearance: the moss agate, or Mochoa stone, is filled with dendritical crystallizations of iron ore, so nearly resembling some kinds of moss, as to have been actually mistaken for real vegetables by Daubenton.

Agates are found, for the most part, in argillaceous porphyry, occasionally in gypsum, near the river Wolga they

occur between the strata of secondary limestone, and certain rocky tracts in Siberia consist almost entirely of a pudding-stone, of which agates and calcedony form an essential constituent part. The argillaceous porphyry being a rock that is easily disintegrated by the action of the air and moisture, the agates and other siliceous pebbles that it contains fall out and are washed by the rains into the beds of rivers; here, by friction upon each other, the asperities on their surface are worn off, and in this state they are generally found on the sea-shore and in gravel beds. The most beautiful agates that this island produces, are commonly known by the name of *Scotch pebbles*; these are met with in various parts of Scotland, but principally in the vicinity of Dunbar. The agates of Germany are the largest, especially those from Kunersdorf in Saxony. The Dutchy of Deuxponts, the Palatinate, Hesse, Thuringia, Wirtemberg, Bavaria, Bohemia, and Silesia also furnish them in great abundance. The river Achates in Sicily was of old celebrated for these pebbles, and hence they have acquired their name: the other parts of Europe, where they are found, are principally Tuscany, Candia, and Iceland. Some exquisitely fine specimens have been brought from Siberia, and the island of Ceylon; and they have lately been discovered in great plenty in the bed of a river at the eastern extremity of the settlement at the Cape of Good Hope.

The uses of agate are principally for ornamental works; the engraved gems, those precious remains of ancient art are principally agate, and much ingenuity has been shewn in the accommodation of the natural veins and marks to the figures engraven upon them; it is also much esteemed by modern lapidaries for seals. Small mortars are made of agate, and are used by the enameller, and in the laboratory for grinding substances that are too hard to be triturated any other way.

A dark stain approaching to red, or red purple, may be communicated to agate, by heating it in warm ashes, and then moistening its surface with nitro-muriat of gold, or nitrat of silver; when the stone is become dry, it must be set for a day or two in a dark moist place, and then exposed to the full sun: by this method the most delicate zones and ramifications, which are not visible in the natural state of the stone, are made to appear in a very beautiful manner; this tinge is, however, destroyed by nitrous acid, or a moderate heat: and thus artificial stains may be distinguished from the native colours. A deep black is given to agate by soaking it when heated, in boiling nitrat of copper, and then heating it nearly to redness in a covered crucible. Mochoa stones are imitated by spreading a solution of nitrated copper over the surface of a plain agate, and then setting a small iron nail on its head in the middle; the nitrous acid unites with the iron, and deposits the copper in beautiful arborescent radiations from the centre; the nail must then be removed, and the surface carefully washed, by dipping the stone in warm water; afterwards on the application of a moderate heat, the copper becomes black.—This deposition, however, being merely superficial, requires to be covered with a plate of polished crystal, in the manner of a doublet. If the ramifications are required to be very fine, the agate should be moistened with a dilute nitrat of silver superaturated with the metal, or a solution of lunar caustic in water, a small piece of zinc is to be placed in the middle till the ramifications are sufficiently far advanced; the stone must then be washed carefully in warm water, and afterwards exposed to sulphurated hydrogen gas, till the silver is become black.

Agate is said to be imitated very successfully in glass; and Neri, in his "*Art de la Verrerie*," gives three different receipts for this purpose: of these the following is recommended

mended both by the author and by Kunkel, as producing a composition for splendour and vividness of colour often superior to real agate. Take seven ounces of granulated silver, and five ounces of mercury, four drams of minium, one ounce of verdegris, and scales of copper, crude antimony, and black manganese, of each half an ounce; dissolve the silver by itself in nitrous acid, and having ground the rest of the materials together, add first two pounds of nitrous acid, and then the nitrated silver, mixing both liquors evenly and intimately with the other substances; then dissolve two drams of gold in nitro-muriatic acid, and grind together the following ingredients; viz. cinnabar twelve drams; sulphurated oxyd of copper, twenty drams, sulphurated oxyd of iron, four drams, and white oxyd of tin, oxyd of iron, iron scales, zaffre, orpiment, and white arsenic, of each half an ounce; mix the solution of gold with this compound powder, and then add thrice its weight of nitro-muriatic acid: digest in separate glass vessels for twenty-four hours in a sand-bath the above nitrous and nitro-muriatic mixtures, then add them together, and distil to dryness; there will remain a powder of a reddish green colour. Also take twenty pounds of clear flint glass, and reduce it to a fine powder, in a clean steel mortar, add to this two ounces and a half of the above colouring composition, and flux them together; when the whole is in clear fusion, stir it up from the bottom and let it continue melted for twenty-four hours, then stir it again, and allow it to cool very gradually; its colour will then be a middle tint between yellow and blue. Place the crucible again in the furnace, and when the glass is melted, add, at five or six different times, the following mixture; calcined tartar, eight ounces, vitrified wood foot, two ounces, and half an ounce of perfect oxyd of iron: this will make the glass swell considerably, and therefore requires much care to prevent it from flowing over: when all is quiet, heat it well for twenty-four hours longer without touching it, and it will then be fit for use. Kirwan Mineralog.—Kirwan Geolog. Efs.—Lametherie Theorie de la Terre.—Lewis's Commerce of Arts.—Neri sur la Verrerie.

Some writers have distributed agates, with regard to the objects that are represented upon them, into arborescent, as DENDRACHATES and DENDRITES; horned or CERACHATES; aphrodisian, a term given by Velschius to an agate in his custody, of a flesh colour, with a half moon on one side represented by a milky semicircle, and on the other, the phases of Vesper, or the evening-star; corseid, with human hair; arithmetical, with the numbers 4191, 191 (Settala. Mus. 81.); astronomical, with the hemisphere and its several orbs, and the earth in the middle; anthropomorphous, with the figures of men or women, one of which, mentioned by Kircher, represents a heroine armed; and another, in the library of Francfort, exhibiting the heart, lungs, and part of the veins of a man; but the most celebrated of this kind is that of Pyrrhus, representing the nine Muses with their attributes, and Apollo in the middle, playing upon the harp (see Plin. l. xxxvii. c. 3. Hard. Not.); leucophthalmous, bearing the figures of eyes, as of birds, fishes, and wolves, called by Cardan and others lycophthalmi, of goats denominated ægophthalmi, of oxen boophthalmi, &c.; the Tiberian agate in the treasury of the French king's chapel, representing the apotheosis of Augustus, and the series and portraits of the family of Tiberius and Julia, with divers foreign nations subdued in war, concerning which, many different conjectures and explications have been advanced by the learned; and the Isaac agate, a curious antique at Rome, so called, because it represents the head of Isis, and distinguished by the epithet annularis, as being set in a ring. However, in this kind of

distribution, and in the denominations to which it has given occasion, the imagination has often misled the judgment.

Beccaria observes, that the electric spark will not be conducted by the surface of polished agates; and M. Bose has shewn, that the agate was very early known to possess electrical powers.

AGATE, among *Antiquaries*, denotes a stone of this kind, engraven by art.

In which sense agates make a species of antique gems; in the workmanship whereof, we find eminent proofs of the greatest skill and dexterity of the ancient sculptors. Several agates of exquisite beauty are preserved in the cabinets of the curious. The facts, or histories, represented in antique agates, with how much address soever conducted, are become, at this distance of time, many of them obscure and dubious, and their explication difficult enough; whence divers mistakes have been committed, and numerous conjectures and disputes raised. Hist. Acad. R. Infer. tom. i.

AGATE, is also the name of an instrument used by gold-wire drawers; so called from the agate in the middle of it, which forms its principal part.

AGATHA. See AGATHES.

AGATHA, *St. in Geography*, a small town of Naples, in the farther principality, on the confines of Terra di Labora, between Capua and Beneventum, eight leagues, north-east of Naples. N. lat. 40° 55'. E. long. 14° 22'.

AGATHA, in *Ancient Geography*, a city of Gallia Narbonensis, built by the Massilians, mentioned by Pliny, (lib. iii. c. 4.) and by Strabo, (tom. i. p. 272. 276.) See AGDE.

AGATHA, in *Natural History*, a species of the PAPILIO *Nymphalis*, with dentated wings, the upper part yellow, the under grey; and the posterior wings have one black spot above, and three spots beneath. It is found in India.

AGATHARCHIDES, or AGATHARCHUS of Cnidus, in *Biography*, a Greek historian, grammarian and rhetorician, mentioned by Josephus, (antiq. l. xii. c. 1. tom. i. p. 585. Cont. Appion. l. i. tom. ii. p. 457. Ed. Hard.) Diodorus Siculus, (Bibl. Hist. tom. i. p. 50. p. 181. Ed. Wessel.) Strabo, (tom. ii. p. 969. p. 1125. Ed. Casaub.) Lucian, (tom. iii. p. 222. Ed. Reitz.) and other ancient writers, was contemporary with Eratosthenes, though younger than him, and flourished under Ptolemy Philometor, about 177 years before Christ. He was reader to Heraclida, and president of the Alexandrian Library, and wrote several historical treatises; of which Photius mentions 49 books, concerning the affairs of Europe, 10 of Asia, five of the Red Sea, and an epitome of what had been written on this subject in one book. Some fragments of his writings may be found in Josephus (*ubi supra*), and Photius in his Bibliotheca, 213. 250. Fabric. Bib. Græc. tom. ii. p. 207. The testimony of Agatharchides is alledged by a learned writer to prove, that in the reign of Ptolemy Philometor, 146 years after the death of Alexander, the Greek sovereigns of Egypt had not yet traded directly to India, but imported the commodities of India from SABA, the capital of Yemen. This ancient writer's description of the western coast of the Red Sea closes at Ptolemais, as if there were no regular commerce beyond that point. See Vincent's Periplus of the Erythrean Sea, part i. p. 31.

AGATHEMER *Orionis*, a geographer, who lived, as some say, near the time of Septimius Severus, and according to others, in the 15th century. He wrote in Greek two books of a compendium of Geography for the use of his pupil Philo, which is commended by J. Vossius, L. Holstenius and G. Wendelius, and which was first published in 8vo. with a translation and notes, by Tennulius, at Amsterdam, in 1671; afterwards by Gronovius in 4to. at Leyden, 1697; and

and by Hudson in the 2d vol. of the *Geographi Minores* Oxon. 1777. Fabr. Bib. Græc. tom. iii. p. 40.

AGATHIAS, one of the Byzantine historians, was born at Myrina, a city of Æolis; and having studied the law at Alexandria, exercised the profession of an advocate at Samos, and acquired the appellation of *Scholasticus*, from the schools in which lawyers were instructed. Allusion to the introduction to his history, he speaks favourably of the Christians; it does not appear that he himself was of this number: Vossius and others believe that he was a pagan; Pagi and Fabricius maintain, that he was a Christian. It is certain that no invectives against Christianity have escaped either him or Procopius. He was undoubtedly a man of candour and moderation. In speaking of the Germans, who had a multitude of deities, and offered cruel sacrifices, he says, they who are in error are rather objects of commiseration, than of contempt and hatred; for all men aim at truth: if they are in error, it is not the fault of their will but of their judgment, as they are attached to opinions once embraced by them. He also laments, in the introduction to his history, that wars and battles are so much the subjects of poems and histories; which, as he says, he cannot ascribe to the stars, nor to fate, as some do: for if the world were governed by fate, there would be an end of choice; and there would be no longer virtue among men, nor any room for instruction or improvement in arts and sciences. Nor are wars and contentions, he adds, agreeable to the mind of God, who is supremely good: they must therefore be ascribed to the avarice and ambition of men. His history was written after the year 565, when Justinian died, and published after the year 593. It was undertaken at the desire of Eutychianus, secretary of state, who is supposed to have furnished materials; commences with the 26th year of the emperor's reign, A. D. 553, where Procopius ends, and closes with the slaughter of the Huns in 559. He investigates the causes of the events which he records, and often gives his opinion of them without disguise. His style is easy and florid, though Sigonius has represented him as a low and unpolished writer. He also wrote 80 Epigrams, which are preserved in the *Anthologia*; and, as Suidas informs us, other pieces, partly in prose and partly in verse, intitled, "*Daphniaca*." Agathias's history was published by Vulcanius, with a translation and notes, at Leyden, in 4to. A. D. 1594; and elegantly reprinted at Paris in fol. in 1660. Fabr. Bib. Græc. tom. vi. p. 260. Lardner's Works, vol. ix. p. 85.

AGATHIAS, a very famous Grecian statuary, born at Ephesus. According to some accounts, this was the sculptor who executed the celebrated Apollo Belvidere; and the Gladiator Repellens; but other accounts, more to be relied upon, state, that the artists who produced those works are certainly unknown.

AGATHO, the *Athenian*, a tragic and comic poet, was the disciple of Prodicus and Socrates, applauded by Plato, in his *Protagoras*, (*Oper. tom. i. p. 315. Ed. Seriani*) for his beauty and virtue, and described by Aristophanes in his comedy of the *Frogs*, (p. 124. *Ed. Kufteri*) as a good poet and the darling of his friends; but severely censured for his morals in the comedy, intitled *Theinophorizusæ*, (p. 483.) He is represented as the favourite of Euripides, and also of Pausanias the Ceramian, whom he accompanied, as Ælian informs us (*Var. Hist. l. ii. c. 21. tom. i. p. 120. Ed. Gronov.*), to the court of Archelaus, king of Macedon, where he continued till his death. Ælian says, that he often quarrelled with Pausanias for the sake of enjoying the exquisite pleasure which a reconciliation afforded him. His first tragedy obtained the prize; and he was crowned in the presence of 30,000 persons, in the 4th year

of the 90th olympiad, B. C. 417. There is nothing now extant of Agathos, except a few quotations preserved by Aristotle, Athenæus, Ælian and others. His compositions abounded so much with antitheses, as to give him occasion for saying to a person, who wished him to expunge them, "you do not consider that you would rend Agathos from himself." See Ælian (*Var. Hist. l. xiv. c. 13. tom. ii. p. 947.*) Athenæus (*Deipnosophist. l. v. p. 211. Ed. Casaub.*) cites the following antithesis: "If I tell you the truth, I shall not please you; and if I please you, I shall not tell you the truth." The antitheses recorded by Aristotle, (*Eudemiorum. l. v. c. 2. and c. 4. tom. ii. p. 243. 244. and Rhetor. l. ii. c. 24. tom. ii. p. 581. Ed. Du Val.*) are the three following: "The only thing impossible to God, is to cause that not to be made that has been made:" "fortune loves art, and art loves fortune:" "it is probable, that a great many improbable things may happen to mortals."

AGATHO, *Pope*, a native of Palermo, who was advanced from a monastery to the papal see, in 679. At this time the controversy occasioned by the MONOTHELITES agitated the Christian church, and the first exercise of Agatho's pontifical authority was that of convening synods in the western provinces, to decide concerning their doctrine. These synods having declared the Monothelite doctrine to be heretical, Agatho sent legates on behalf of the western church to the general council held at Constantinople in 680. At this council the Monothelites were solemnly condemned. Thus Agatho, by his legates, renounced a doctrine which had been confirmed by the edict of a former council, and sanctioned by the approbation of his predecessor, Pope Honorius; and he concurred in the condemnation of Honorius, and enforced by penal laws the sentence of the council. In this instance the infallibility of Honorius, and that of Agatho and the sixth council, are in direct opposition. It is observed, likewise, as a fact worthy of notice in the history of the papal power, that this council was summoned by the emperor; that no appeal was made to the decision of former popes; and that no peculiar deference was manifested to the authority of the bishop of Rome. After the dissolution of this council, Agatho directed his attention to the temporal interest of his see, and particularly to the remission of the fine paid to the emperors on the election of a new pope. He died, A. D. 682. His sanctity was held in such veneration that, if we credit the account of Platina, his kiss was an instant cure for the leprosy. His letters against the Monothelites, addressed to the emperors Constantine, Heraclius, and Tiberius, Gr. and Lat.; and to Ethelred, king of the Mercians, and Theodore, archbishop of Canterbury, Lat.; and the abbot Sexulphus, which last is said to be supposititious and written by some English monk, are preserved in the records of the sixth council, A. D. 680. Harduin's *Concilia. tom. iii.* Another letter, granting peculiar privileges to the monastery of Weremouth, may be seen in Dugdale's *Monasticon Anglicanum. Dupin's Hist. Seventh Century, vol. iii. p. 37. Bower.*

AGATHOCLES, king, or tyrant of Sicily, was the son of Carinus, a potter, of Rhegium, and born at Thermae in Sicily. In consequence of strange dreams of his mother, whilst she was pregnant, to which the father paid a superstitious regard, the infant was exposed in the fields, as soon as it was born, and committed to the care of a person who was to watch it till it died. The mother, hearing of his condition, took the child and entrusted it with her brother Heraclides, and called it, after her father's name, Agathocles. At the age of seven years, he was introduced to the father, and the secret of his preservation was communicated to him by the mother. The distress occasioned by self-reproach in the recollection of his conduct, was soon succeeded

by the joy of having a son, who was singularly beautiful, restored to him. Soon after the discovery, Carinus, with his family, removed to Syracuse, and brought up his son to his own trade. Having joined Timoleon, who had routed the Carthaginians, both the father and son were enrolled among the Syracusan citizens. Upon the death of Carinus, Agathocles was recommended to Demas, a rich citizen, by whose favour and interest he was liberally supplied, and, in due time, advanced to the dignity of a chiliarch, an office which gave him the command of a thousand men. Agathocles, having distinguished himself by his military talents, married the widow of his patron, Demas, and thus became the most wealthy citizen of Syracuse. When the supreme power in this city was usurped by Sosistratus, Agathocles retired to Italy; but aspiring to the sovereignty, first of Crotona, and afterwards of Tarentum, he became an object of general hatred and terror; and being expelled from these cities, and finding no admission into any other, he assembled a band of exiles and robbers, and plundered the country. At Rhegium, he unexpectedly attacked Sosistratus, and compelled him to abandon his enterprise. When this usurper was forced to abdicate the sovereignty of Syracuse, and to quit the city, he and the exiles who accompanied him, had recourse to the Carthaginians, who espoused their cause. The Syracusians recalled Agathocles, and appointed him to the chief command of the forces that were raised for repelling the attack of Sosistratus and the Carthaginians. Having successfully discharged the trust that was reposed in him, he assumed a sovereign power, and by the measure he pursued convinced his fellow-citizens that he was aspiring to the monarchy. The Syracusians, in these circumstances of alarm and danger, applied to the Corinthians for a commander; and they deputed Aceforides to this office. Agathocles saved his life by a stratagem; and having made his escape, he proceeded to raise troops in different parts of Sicily, and was soon in a condition to approach the city at the head of a considerable army. The Syracusians, dreading a civil war, sent ambassadors to treat with Agathocles, who disbanded his forces; and being conducted by the citizens to the temple of Ceres, took a solemn oath, according to the established custom, that he would do nothing to the prejudice of the democracy. Being again restored to the chief command of the army, he indulged his ambitious views without regarding his oath, courted the favour of the populace, and massacred the nobles and chief citizens, so that in a few hours, more than 4000 of them were killed, and the streets were covered with dead bodies. Although he pretended to resign the command and to retire, he conducted his artifice with so much skill and success, that he was unanimously proclaimed king, and appointed to govern with an absolute and uncontrolled power. In order to render himself popular, the first law he enacted was, that all former debts should be cancelled, and the lands equally divided among the rich and the poor; and such was his behaviour, that he gained the attachment and confidence of his subjects. With their cordial concurrence he reduced, in two years, the whole island; a few cities held by the Carthaginians excepted. His progress alarmed the Carthaginians, and they deputed Hamilcar, with a powerful fleet and army, to restrain it. The first encounter, near the river Himera, terminated in favour of Agathocles; but the loss which Hamilcar had sustained by a storm in his voyage, and by the first engagement, being repaired by a powerful reinforcement, the attack on the part of the Carthaginians was renewed, and Agathocles was compelled to save himself, first in Gela, and afterwards within the walls of his metropolis, to which they laid close siege; proposing by the reduction of this city to gain possession of the whole island. Thus pressed

by the Carthaginians, and abandoned, on account of his former cruelties, by all his allies in Sicily, Agathocles formed the bold design of transferring the war into Africa, and besieging Carthage, when he himself was besieged in the metropolis, which was the only city of Sicily in his possession. Without communicating his design to any confidential person, he informed the Syracusians in general terms, that he had conceived a plan which would be effectual for their rescue: and collecting together the most intrepid of the soldiers and citizens, and incorporating the slaves, whom he emancipated, among his troops, he embarked all his forces on board 60 galleys, sailed directly for Africa, and landed on the coast, in the third year of the 117th olympiad, B. C. 310. Here he disclosed his views to the army, and animated them to vigorous efforts by assurances of success. The soldiers received his address with loud acclamations. He then determined to burn all his ships, except one or two, which he reserved for carrying dispatches. When he communicated this daring resolution to the army, he told them, that when they left Syracuse and were pursued by the enemy, he applied in the moment of danger to Ceres and Proserpine, the tutelary goddesses of Sicily, and promised to burn all the vessels of his fleet, if they delivered his men from the enemy, and enabled them to land safe in Africa. "Aid me, therefore, O fellow soldiers!" said he, "to discharge this vow; for the goddesses can easily make us amends for this sacrifice." When these words were uttered, he allowed no time for deliberation; but taking a torch in his hand, he set fire to his own ship; the officers imitated his example, and were cheerfully followed by the soldiers. He then led them against an important place, called the Great City, that was subject to Carthage, which they took by storm; they then proceeded to Tunis and took it. Having enriched themselves with the plunder, he caused both cities to be levelled with the ground, that there might be no place of retreat, and no hope of safety but in victory; and encamped in the open fields. He next proceeded towards Carthage; and charging the Carthaginian army with incredible vigour, killed Hanno, one of their chief generals; and at last, by the treachery of Bomilcar, another general, obtained a complete victory. When the news of this victory was conveyed to Syracuse, Hamilcar raised the siege, and was afterwards taken by the Syracusians, who made an unexpected sally and routed his army, consisting of 120,000 men, and put to a cruel death. His head was sent to Africa, as an acceptable present to Agathocles. Whilst Agathocles was preparing for the siege of Carthage, he was joined by Ophellus, prince of the Cyreneans, who had been one of Alexander's captains; but the deluded prince was perfidiously murdered. The savage tyrant, being now at the head of a numerous army, assumed the title of the king of Africa; and invested Carthage, with a view of reducing it by famine. During this interval, he passed over into Sicily with a detachment of 2000 men, in order to reduce those inhabitants of the cities, who had taken up arms and associated in defence of their liberties. His purpose was speedily accomplished; and he hastened his return to Africa. He found his army in great distress; and in an attempt for obtaining relief, he was defeated, and then deserted by the Africans, so that he was under a necessity of leaving the country. Upon his return to Sicily, he perpetrated the most horrid acts of cruelty. He first marched against the Egestines, who had revolted in his absence, and having taken their town by storm, he put all the inhabitants to death, without distinction of age or sex, and with circumstances of the most savage barbarity. He also ordered all those to be massacred who were related to the Syracusians, who attended him in the Carthaginian expedition,

... from the great-
... some temporary changes;
... and long of a slender pro-
... into his intimate
... totally reduced the
... he had re-
... over into Italy and
... over to the
... tribute of 100 talents of
... temple, and for his fortynine
... with the gold and spoils, which were all
... in which he himself escaped.
... at the intig-
... he was poisoned by
means of an envenomed tooth-pick, prepared by one Moenon;
and, as history reports, if it may be credited, hurried away
to the funeral pile, and burnt whilst alive, in the 28th year
of ... and 72d, according to Diodorus Siculus, and
according to others, 95th of his age.

Agathocles was distinguished by his intrepidity and val-
lour, and by a certain greatness of mind, which forbad his
being ashamed of his mean extraction, and which induced
him, at public entertainments, to use earthen-ware, whilst
his guests were served in gold and silver plate; alledging,
that though he wore a diadem, yet he was still a potter.
Polybius (l. xv. p. 720. Ed. Casaub.) deduces from the
meanness of his condition an argument to prove his capa-
city and talents; and when Scipio Africanus was asked,
who were the most prudent in the conduct of their affairs,
and most judiciously bold in the execution of their designs,
replied—Agathocles, and Dionysius the elder. Neverthe-
less, his acts of cruelty were numerous and so atrocious,
that they obscure the lustre of his talents and exploits; and
whilst we admire his conduct on many occasions, we cannot
forbear execrating his memory. Diod. Sicul. l. xix. t. 2.
p. 317, &c. l. xx. t. ii. p. 408, &c. p. 492. Ed. Wesscl.
Justin. l. xxii. Anc. Univ. Hist. vol. vi. p. 455. 470.

AGATHOCLIS *infelis*, in *Ancient Geography*, two small
islands of the Red Sea, placed by M. d'Anville, at a small
distance to the west of Dioscorides, or Socotra; and north-
east of the cape Aromata.

AGATHODÆMON, in *Mythology*, a beneficent GE-
NIUS, or DEMON. The word is compounded of *agathos*,
good, and *dæmon*, *demon*. This name was given to the di-
vinity, which the Egyptians called Cneph, by the Greek
writers who travelled into Egypt; and Vulcan was the
emblem under which the Greeks represented Cneph in
their temples. The Egyptians gave also the same name to
the Nile and to its symbols.

Among ancient writers, *agathodemon* is a denomination
given to a kind of serpents, bred up and revered by the
Egyptians, from an opinion of some sanctity residing in them.

They are also called dragons, *Dracones*, or *dracunculi*,
and fabulously described as having wings.—They appear to
be the same with those otherwise called SIRENES. Lamprid.
in Helioq. cap. xxviii. Casaub. Not. in Suet. ed. 2. Bochart.
Hiero. p. ii. lib. iii. cap. 14. We find upon the abraxas and
some medals of Adrian the representation of a serpent,
bearing the head of Serapis instead of its own: which is an
evident allusion to the Serapis of the Nile, or divinity of
Canopus, and a second emblem of that river which was first
represented by Agathodæmon. The head of the Agathodæ-
mon is often covered with rays on the abraxas. The ap-
pendages to the head of the agathodæmons remind us of the
anguis cerastes of Linnaeus.

AGATHODÆMON, in *Biography*, an artist of Alexandria,
prepared a series of maps for the illustration of Ptolemy's

Geography, in which the position of all the places men-
tioned by this eminent geographer, with their latitude and
longitude, is laid down precisely according to his ideas. Fabr.
Bib. Græc. tom. ii. p. 412.

AGATHONIS *infula*, in *Ancient Geography*, an island
of Africa, in the Arabian gulf; according to Ptolemy, in
long. 65° 15', and lat. 23° 20'.

AGATHONISI, a small island of the Grecian Archi-
pelago, about a league south of Samos.

AGATHIOS-DIMON, was a nome given by Ptolemy
to the left branch of the Nile, which extended from the
upper part of the Delta where was the town of Cereefura,
to the canopic mouth, situate to the east of the town of
Canopus. This is also the name given by Steph. Byz. to
an island in the Indian sea.

AGATHOPHYLLUM, in *Botany*, a name given by
Professor Martyn to the RAVENSARA of the Linnæan system.

AGATHOPOLIS, in *Geography*, an episcopal city of
Thrace, under the archbishopric of Adrianopolis.

AGATHYRNUM, or AGATHYRSUM, in *Ancient Geo-
graphy*, a town of Sicily, built, according to Diodorus, (tom.
i. p. 337.) by Agathyrmus, the son of Æolus, in the time
of the Trojan war. It is supposed to have stood near the
place now called *San-Marco*, at a small distance from the
promontory, called by the Sicilians *Capo d'Orlando*.

AGATHYRSIANS, in *Ancient History*, the inhabitants
of a district of Scythia, or European Sarmatia, mentioned
by Herodotus (lib. iv. c. 104. p. 328. Ed. Wesseling.) who
were very rich, and who had their women in common, for
the sake of binding the men more intimately to one another,
and preventing jealousies and other ill effects of matrimony.
In other respects they conformed to the customs of the
Thracians. From Virgil (*Æneid*. iv. v. 146.) who calls them
"—picti Agathyrii," it appears, that they had the common
practice of painting their bodies. They also are said to have
used gold in their ornaments. They pretended to be de-
scended from Agathyrsis, the son of Hercules the Libyan.

AGATTON, in *Geography*, a town of the kingdom of
Benin, in Africa, situate on a small eminence, forming an
island, at the entrance of the river Formosa, near the sea.
It is more healthy than any other part of the country, and sur-
rounded with fruit trees. It has several circumjacent villages,
whose inhabitants resort to it at every principal market,
which is held for five days. It was formerly very con-
siderable, but has suffered much from wars. N. lat. 6° 30'.
E. long. 5° 44'.

AGATU, one of the Fox islands, in the Northern Pa-
cific Ocean.

AGATY, the name of a Malabar tree, bearing a fruit
in taste and shape like the kidney-bean. Ray's Hist.

AGAU, or AGAW, in *Geography*, a small kingdom of
Africa, dependent upon Abyssinia. It lies between the
lake Dembea and the Nile.

AGAVA, in *Ancient Geography*, a town of Africa,
placed by Ptolemy in the Pentapolis, or Syrtis.

AGAVE, formed from *αγαυος*, *admirable*, in *Botany*, a
genus of the *hexandria monogynia* class and order, of the
natural order of *coronaria*, and of the *bromelia* of *Jussieu*.
Its characters are, that it has no calyx; that the corolla is
one-petalled, and funnel-shaped, with a six-parted equal
border, and lanceolate erect parts; the stamina are filiform,
erect filaments, longer than the corolla; the anthers linear,
shorter than the filaments and versatile; the pistillum is an
oblong germen, growing thinner towards both ends, inferior;
the style filiform, of the length of the stamina, and three-
cornered; the stigma headed and three-cornered; the peri-
carpium is an oblong, three-cornered, three-celled, three-
valved capsule; and the seeds are numerous. The species
enumerated

enumerated by Martyn are six, and in the Linnæan system by Gmelin seven. The first is the *A. Americana*, or Great American aloe, whose stems, when vigorous, rise upwards of twenty feet high, (one in the king of Prussia's garden rose to 40 feet), and branch out on every side, so as to form a kind of pyramid, composed of greenish yellow flowers, which stand erect and come out in thick clusters at every joint. The seeds do not come to maturity in England. When this plant flowers, it makes a beautiful appearance; and if it be protected from the cold in autumn, a succession of new flowers will be produced for near three months, in favourable seasons. It has been a common error, that this plant does not flower till it is 100 years old: the truth is, that the flowering depends on its growth; so that in hot countries it will flower in a few years; but in colder climates the growth is slower, and it will be much longer before it shoots up a stem. The first European who possessed an American aloe, is said to have been Cortus, who had one in 1561; and Parkinson reports that it was first brought into Spain. The first that flowered in England is said to have been Mr. Cowell's, at Hoxton, in 1729, but they have occurred so often since that time, that they are now scarcely considered as rarities. Few of the variety with yellow-edged leaves have yet blossomed. There are hedges of the common agave in Spain, Portugal, Sicily and Calabria; it flourishes also about Naples, and in other parts of Italy. The juice of the leaves, strained, and reduced to a thick consistence by being exposed to the sun, may be made up into balls, by means of lye-ashes. It will lather with salt-water as well as fresh. The leaves, instead of passing between the rollers of a mill, may be pounded in a wooden mortar, and the juice brought to a consistence by the sun or by boiling. A gallon of juice will yield about a pound of soft extract. The leaves are also used for scouring pewter, or other kitchen utensils, and floors. In Algarvia, where pasture is scarce, they are cut in thin transverse slices, and given to cattle. The inward substance of the decayed stalk will serve for tinder. The fibres of the leaves, separated by bruising and steeping in water, and afterwards beating them, will make a thread for common uses. The process for this purpose at Loule, in Portugal is as follows: Having plucked the largest and best leaves, one of them is laid on a square board which a person presses obliquely between his breast and the ground, and he scrapes it with a square iron bar held in both hands; thus all the juices and pulp are pressed out, and the nerves of the leaf only remain, which may then be divided into very fine threads. These are hung over a thin cord to dry. This thread is not strong, and easily rots in water, but it consists of straight fibres, and is applicable to many purposes. Link's Travels in Portugal by Hinckley, p. 445. Varieties of the common American agave, with gold and silver striped leaves, are not now uncommon in the English gardens. The Karatto agave is a variety brought from St. Christopher's, and the name is given to other species of this genus, and has leaves from 2½ feet to 3 long, and about 3 inches broad, ending in a black spine, and more erect than those of the others. This sort has not flowered in England. 2. *A. vivipara*, or *childing* agave or aloe, stemless, with toothed leaves, never grows to a large size; as it produces no suckers from the root, it cannot be increased till it flowers. This plant grows in St. Domingo and Jamaica, and its resinous juice forms a part of the caballine aloes of the shops. It was first cultivated by Mr. Miller, in 1731. 3. *A. virginica* resembles the first so much as not to be distinguishable from it, except by good judges. The leaves are narrower and of a paler colour; the stems are not so high, nor do they branch in the same manner; but the flowers are collected into a close head at the top. It

was introduced in 1765, into the Kew garden, by Mr. J. Cree. 4. *A. lurida* has two varieties, viz. the *Vera-Cruz* agave, which resembles the first, with thinner leaves, indentures at the edges much closer and not so deep, and blacker spines; and the *rigid* or *narrow-leaved* agave, with long, narrow, stiff leaves, entire and terminated by a stiff black spine. It was cultivated in 1731, by Mr. Miller. 5. *A. tuberosa*, or tuberous-rooted agave, has the leaves indented at their edges, and each indenture terminates in a spine; the root is thick, and swells close above the surface of the ground; in other respects it agrees with the last species; it has two varieties, viz. the *single-thorned* and *double-thorned* agave. It grows in the Antilles, and has been cultivated at Paris under the name of *A. angustifolia*. 6. *A. foetida* has long, narrow, stiff leaves, of a pale green colour, waved on their edges, those on the side spread open, and those in the centre closely folded over each other, and encompassing the bud. The juice of the leaves has a bad smell. It is seldom more than 3 feet high, but the flower stem rises near 20, and branches out in the manner of the first, but more horizontally, and the flowers are smaller and of a greener colour. This species grows in the woods of St. Domingo. A plant of this species, which flowered in 1755, and then died, was cultivated in 1690 in the Royal garden at Hampton Court. Of the leaves are formed ropes and various kinds of cloth, which serve for garments and other purposes. 7. *A. cubensis* has ciliato-spinose leaves and an hexapetalous corolla. M. La Marck makes this a variety of the *A. mexicana*, the Metl, or Magueli of the Mexicans; it grows in Mexico and the island of Cuba. The mucilaginous juice is used as soap for washing, and the leaves are formed into a thread, which serves them for ropes, cloth, and other uses.

The first and third species are hardy. Those of the former sort will bear the open air in mild seasons; but require being sheltered in the winter. They are propagated by off sets. The third species generally puts out suckers enough for propagation. They should be planted in pots filled with light sandy earth, housed in winter, and have little wet. In the summer they may be exposed to the open air, and remain thus till October. The Vera-Cruz agave should be longer in the house, as it is more tender. The second, fourth and sixth, never produce off-sets or suckers from the root; but when they flower, there will be abundance of them; but they may be propagated by taking off some of the larger roots, when the plants are shifted. The second, fifth and sixth, with the Karatto and rigid agaves, are more tender than the others, and cannot be preserved in winter, unless they are placed in a warm stove, nor will they thrive if set abroad in the summer. They require a light sandy earth, and should have little wet in winter; but in summer they may be gently watered twice a week. They must be shifted every summer into fresh pots; but the pots should be small, that their roots may be confined; otherwise the plants will not thrive. Linnaeus has separated this genus from the *Aloe*, because the stamina and style are extended much longer than the corolla, and the corolla rests upon the germ. Besides, all the agaves have their central leaves, closely folding over each other, and embracing the flower-stem in the centre; so that these never flower till all the leaves are expanded, and when the flower is past, the plants die. Whereas the flower-stem of the aloe is produced on one side of the centre, annually from the same plant, and the leaves are more expanded than in this genus. Martyn's Miller's Dict.

AGAVE, in *Mythology*, the name of one of the 50 Nereids.

AGAVE, in *Natural History*, a species of *PAPHIO DANEUS*, with roundish yellow wings; the anterior black above and brown below. It is found in Cayenne.

AGAVI, in *Ancient Geography*, a people of Mæzia, or of Thrace.

AGAUNA, now St. Maurice, a burgh of the Vallais, in the valley of Pennin, celebrated on account of the martyrs of the Theban legion, who suffered decimation rather than renounce Christianity. Sigismund, king of Burgundy, erected a monastery here in 515.

AGAUPE, in *Bosnia*, a name used by some authors for the common white *water-lily*.

AGAZZIRI, in *Geography*, an ancient people near the mouth of the Vidula.

AGBIENSUM *municipium*, *Belfont*, a municipal town of Africa, built upon a hill, about half a league from Thucca. Here are found the ruins of ancient temples.

AGDAMI, a town of Arabia Felix, placed by Ptolemy in long. 73° 30' and lat. 21° 20'.

AGDE, anciently ΑΓΑΘΑ, a small but populous city in the department of Hérault, and late province of Languedoc in France, in a diocese of the same name, situate on the river Hérault, at the distance of about half a league from the sea. The diocese is one of the richest districts of the country; it is within the province of Narbonne, and contains 18 parishes. The ancient Agatha was a small island; but the accumulation of sand at the mouth of the Hérault has now joined it to the continent. It produces fine wool, wine, oil, corn, and silk. The town has a harbour for small vessels, defended by a little fort at the mouth of the river. Most of the inhabitants are tradesmen or seamen. The houses are mean, the cathedral small, and the bishop's palace an old building. The bishop is lord of the city, and styled Count of Agde. The chapel of Notre Dame de Grace, in the vicinity of the town, attracts a great number of pilgrims and devotees. The Capuchin convent is also much resorted to on account of the image of the Virgin Mary, which is placed in a distinct chapel adjoining it: the convent has apartments for the accommodation of the pilgrims, who repair hither to perform their nine days' devotion. The vicinity of Agde abounds with extinguished volcanoes. Cap d'Agde is one of them; and the rock of Agde is nothing but a hard lava, so that the town is built and paved with this lava, which is very black. Buffon's Nat. Hist. by Smellie, v. ix. p. 201. N. lat. 43° 18' 57". E. long. 3° 28' 11".

AGDENAS Bay, is a part of that of DRONTHEIM, in Norway: in the neighbourhood the soil produces plenty of grain.

AGDENITES, a name given to a people of Carmania.

AGDERUINE, a small town in the island of Minorca, situate near a mountain south-east of Cape Bajoles. N. lat. 40° 15'. E. long. 4° 14'.

AGDISTIS, a mountain of Asia Minor, near the town of Pessinus.

AGDU, a rock on the frontiers of Asia Minor, famous in ancient mythology.

AGE, in *Antiquity*, a word which was proclaimed by a public crier whilst the Roman magistrates were taking the auspices, or whilst they were sacrificing, in order to command the attention of the people. The word was also an order to the priest or other person, for immolating a victim, as *age*, or *hoc age*, in reply to his question, *agon?* or *agone?* shall I strike? Thus Ovid Fast. i. 321. tom. iii. p. 33. Ed. Burm.

“ Qui calido strictos tincturus sanguine cultros
Semper agone? rogas; nec nisi iussus agis.”

See AGON.

AGE, in the most general sense of the term, denotes the

duration of any substance, animate or inanimate; and is applied either to the whole period of its existence, or to that portion of it which precedes the time to which the description of it refers. In this sense it is used to signify either the whole natural duration of the LIFE of man, or any interval of it that has elapsed before the period to which we refer. The ordinary age of mankind has been observed to vary in such a manner as to afford an instructive and pleasing display of the wisdom of divine Providence. When age is understood of a certain portion of the life of man, its whole duration is divided into four different ages, viz. infancy, youth, manhood, and old age: the first extending to the 14th year; the second, denominated youth, adolescence, or the age of puberty, commencing at 14, and terminating at about 25; manhood, or the virile age, concluding at 50; and the last ending at the close of life. Some divide the first period into infancy and childhood, and the last likewise into two stages, calling that which succeeds the age of 75, decrepit old age. Shakespeare has admirably described these different stages in his comedy of “As you like it.”

———“His acts being seven ages. At first, the infant,

Mewling and puking in the nurse's arms:

And then, the whining school-boy, with his fatchel,

And shining morning face, creeping like snail

Unwillingly to school: And then, the lover;

Sighing like furnace, with a woful ballad

Made to his Mistress' eyebrow: Then, a soldier;

Full of strange oaths, and bearded like the pard,

Jealous in honour, sudden and quick in quarrel,

Seeking the bubble reputation

Even in the cannon's mouth: And then, the justice;

In fair round belly, with good capon lin'd,

With eyes severe, and beard of formal cut,

Full of wise saws and modern instances,

And so he plays his part: The sixth age shifts

Into the lean and slipper'd pantaloon;

With spectacles on nose, and pouch on side;

His youthful hose well-sav'd, a world too wide

For his shrunk shank; and his big manly voice,

Turning again toward childish treble, pipes

And whistles in his sound: Last scene of all,

That ends this strange eventful history,

Is second childishness, and mere oblivion;

Sans teeth, sans eyes, sans taste, sans every thing.

See LONGEVITY.

Age is applicable to the duration of things inanimate or factitious; and in this use of the term we speak of the age of a house, of a country, of a state or kingdom, &c. It is likewise used in reference to vegetable substances, as of roots, leaves, corn, wine, &c. Trees are said, after a certain age, to waste and decay. An oak, at 100 years old, ceases to grow. The usual rule for judging of the age of wood, is by the number of circles which appear in the substance of a trunk or stock cut perpendicularly, each circle being supposed to be the growth of a year; though some reject this method as precarious, alledging, that a simple circle is sometimes the produce of several years: besides that, after a certain age, no new circles are formed. Phil. Trans. N° 43. Act. Erud. Lipf. 1713.

AGE, in *Chronology*, is used for a CENTURY, or a period of 100 years: in which sense it is the same with *seculum*, and differs from GENERATION. It is also used in speaking of the time past since the creation of the world.

The several ages of the world may be reduced to three grand epochas, viz. the age of the law of nature, called by the Jews the void age, from Adam to Moses.—The age of

the Jewish law, from Moses to Christ, called by the Jews the present age.—And the age of grace, from Christ to the present year. The Jews call the third age, the age to come, or future age; denoting by it the time from the advent of the Messiah to the end of the world. See INCARNATION and EPOCHÆ.

The Romans distinguished the time that preceded them into three ages: the obscure or uncertain age, which reached down as low as Ogyges king of Attica; in whose reign the deluge happened in Greece.—The fabulous, or heroic age, which ended at the first olympiad; and the historical age, which commenced at the building of Rome. Varro calls the period preceding the deluge, an age entirely unknown. The second he calls fabulous, on account of the numerous fables, with which the accounts of it, that have been transmitted to posterity, are interwoven. Diodorus Siculus, (tom. i. p. 8.) extends the fabulous age no farther than the Trojan war; from which time the mist which had overcast the preceding periods begins to clear up, and some rays of truth to break out. The commencement of the historical age is usually referred to the first olympiad, in the year of the world 3228, and still continues. This division, it is to be observed, only holds good with regard to the Greeks and Romans, who had no histories earlier than the first olympiad. The Jews, Egyptians, Phœnicians, and Chaldees, not to add the Indians and Chinese, pretend to much higher antiquity.

Among the poets, the four ages of the world are, the golden, the silver, the brazen, and the iron age. See the *Metamorphosis* of Ovid, lib. i. or rather Hesiod, in his poem, *Ἔργα καὶ ἡμέραι*, *Opera et Dies*, ver. 108, &c. He is the first that has described these four ages.

During the golden age Saturn reigned, and universal harmony and plenty prevailed. See SATURN. The silver age commenced when men began to deviate from the paths of virtue, and their lives became less happy. The brazen and iron ages denote periods of greater degeneracy. A late author, however, inverts the order of the poets; and thinks the first, which was a period of ignorance and barbarism, might be more properly denominated an *iron* than a *golden* age; when cities and states were founded, the silver age commenced; and since arts and sciences, navigation and commerce, have been cultivated, the golden age has taken place.

Bochart (*Geog. Sac.* l. iv. c. 12. t. i. col. 226. Ed. Villem.) has described these four ages of the poets in the following manner. The first, or golden age, lasted under the government of Saturn, or Noah, 100 years from the flood to Phaleg, in which period there was no division of the land. Thus Tibullus represents it, (lib. i. eleg. iii.)

—“Non fixus in agris,
Qui regeret certis sinibus arva, lapis.”

And Virgil (*Georg.* i. v. 126.)

“Nec signare quidem aut partiri limite campum
Fas erat.”

In the silver age, the lands were divided and cultivated, houses were built, and the tower of Babylon was erected.

“Tum primum subierê domos, &c.”

The third, or brazen age, was marked by the insurrection of Nimrod, the Bacchus of the ancients, first a hunter and afterwards a warrior, who transferred his power from wild beasts to men, and established a tyrannical government. Thus described by Virgil, (*ubi supra* v. 139.)

“Tum laqueis captare feras, et fallere vifeo.
Inventum: et magnos canibus circumdare saltus.”

And by Ovid: *Metam.* lib. i. v. 125.

“Tertia post illas successit ævæa proles,
Sævior ingeniis, et ad horrida promittit arma.”

And also by Hesiod, (*Op. and Dies.* v. 143. p. 134. Ed. Robinf.) thus translated:

“Tertia deinde ætas summi Jovis edita nutu,
Vilior argento, de duro constitit ære.
Fraxinea et vehemens robustaque, Martis amore
In pugnas et bella ruens.”

This was succeeded by the iron age in which we live.

On some ancient northern monuments we find the rocky or stony age, which corresponds to the brazen age of Hesiod, and the Greeks; being called rocky, on account of Noah's ark, which rested on mount Ararat. The northern poets also denominate the fourth age the ashen age, from a Gothic king, Madenis or Mannus, who, on account of his great strength, was said to be made of ash; or because in his time people began to make use of weapons made of that wood. *Phil. Trans.* N° 301.

Age is sometimes used among the ancient poets in the same sense with GENERATION, for a period of 30 years. Thus Nestor is said to have lived three ages, when he was 90 years old.

The East Indians also reckon four ages since the beginning.—The first, which they represent as a sort of golden age, lasted according to them, 1728000 years: in this the god Brahma was born, and the men were all giants; their manners were innocent: they were exempt from diseases, and lived 400 years.—In the second age, which lasted 1296000 years, their rajas were born: vice now crept into the world; mens lives were fallen to 300 years, and their size retrenched proportionally.—Under the third age, which lasted 8064000 years, vice being more increased, men only attained to 200 years.—The last age is that wherein we now live, of which 4027213 years are already gone; and the life of man sunk to one fourth of its original duration.

The period preceding the birth of Jesus Christ has been generally divided into six ages. The first extends from the creation to the deluge, and comprehends 1656 years. The second age, from the deluge to Abraham's entering the land of Promise, A. M. 2082, comprehends 426 years. The third age, from Abraham's entrance into the promised land to the Exodus A. M. 2512, includes 430 years. The fourth age, from the Exodus to the building of the temple by Solomon, A. M. 2992, contains 480 years. The fifth age, from the foundation of Solomon's temple to the Babylonish captivity, A. M. 3416, comprehends 424 years. The sixth age, from the Babylonish captivity to the birth of Jesus Christ, A. M. 4000, the fourth year before the vulgar æra, includes 584 years. Those who follow the Septuagint, or Greek version, divide this period into seven ages, viz. 1. From the creation to the deluge, 2262 years. 2. From the deluge to the confusion of tongues, 738 years. 3. From this confusion to the calling of Abraham, 460 years. 4. From this period to Jacob's descent into Egypt, 215 years; and from this event to the Exodus, 430 years, making the whole 645 years. 5. From the Exodus to Saul, 774 years. 6. From Saul to Cyrus, 583 years. 7. From Cyrus to the vulgar æra of Christians, 538 years; the whole period from the creation to this period, containing 6000 years. See CHRONOLOGY.

The Sibylline oracles divide the duration of the world into

ten ages; and, according to Josephus, each age contained 60 years; and it appears by Virgil's 4th eclogue, and by other testimonies, that the age of Augustus was reputed the end of those ten ages; and, consequently, as the period of the world's duration. The age of Augustus was appropriated by the senators in a peculiar manner to the time in which this emperor lived.

Other historians reckon from the creation to the taking of Troy, 2835 years; and to the foundation of Rome, 3250; from the conquest of Carthage, by Scipio, to Jesus Christ, 200; from Jesus Christ to Constantine, 312; and to the re-establishment of the empire of the West, 808 years.

The denomination of *middle age* is applied by some to the space of time, which commenced from Constantine, and ended with the taking of Constantinople by the Turks, in the 15th century; or, to the interval that elapsed between the fall of the western or Latin empire, near the close of the fourth century, and that of the eastern or Grecian about the middle of the fifteenth, comprehending near 1000 years. Others date the *middle age* from the division of the empire by Theodosius, at the close of the fourth century, and extend it to the time of the emperor Maximilian I., at the beginning of the 16th century, when the empire was first divided into circles. But this seems more accommodated to the state of Germany in particular, than to that of Europe in general. The *middle* is by some denominated the *barbarous age*, and the latter part of it the *lowest age*. Some divide it into the *non-academical* and *academical*. The former comprehends the interval from the 6th to the 9th century, during which schools or academies were lost in Europe. The latter denotes the period from the 9th century, when schools were restored, and universities established, chiefly by the care of Charlemagne.

AGE, in the *History of Literature and the Arts*, is applied to a period peculiarly distinguished by the cultivation of learning, and the extraordinary productions of genius. Accordingly learned men have marked out four of these happy ages. The first is the *Grecian age*, which commenced near the time of the Peloponnesian war, and extended till the time of Alexander the Great; within which period we have Herodotus, Thucydides, Xenophon, Socrates, Plato, Aristotle, Demosthenes, Æschines, Lyfias, Isocrates, Pindar, Æschylus, Euripides, Sophocles, Aristophanes, Menander, Anacreon, Theocritus, Lyfippus, Apelles, Phidias, Praxiteles. The second is the *Roman age*, included nearly within the days of Julius Cæsar and Augustus; affording us, Catullus, Lucretius, Terence, Virgil, Horace, Tibullus, Propertius, Ovid, Phædrus, Cæsar, Cicero, Livy, Sallust, Strabo, Dionysius of Halicarnassus, Varro, and Vitruvius. This period, or at least a considerable portion of it, has been denominated by way of eminence the *Augustan age*, or the *age of Augustus*, which has been regarded as the age of genius, elegance and politeness. The *third age* is that which followed the taking of Constantinople by Mahomet II., or that of the restoration of learning, under the popes Julius II. and Leo X., which produced the following eminent characters, viz. Ariosto, Tasso, Sannazarius, Vida, Machiavel, Guicciardini, Davila, Erasmus, Paul Jovius, Michael Angelo, Raphael, Titian. The *fourth age* comprehends that of Louis XIV. and Queen Anne, when France was distinguished by Corneille, Racine, De Retz, Moliere, Boileau, Fontaine, Rousseau, Bossuet, Feneion, Bourdaloue, Pascal, Malbranche, Massillon, Brayer, Bayle, Fontenelle, Vertot; and when England exhibited Dryden, Pope, Addison, Prior, Swift, Parnell, Arbuthnot, Congreve, Otway, Young, Rowe, Atterbury, Shaftsbury, Bolingbroke, Tillot-

son, Temple, Boyle, Locke, Newton, Clarke. Those who lived in the two first of these periods are generally distinguished by the appellation of the antients, when a comparison is instituted between the antients and the moderns, including also under the first class one or two who lived in a more early age, as Homer in particular; and the moderns comprehend those who flourished in the two last of the ages above-mentioned, including also the eminent writers down to our own times. Voltaire's *Age of Louis XIV.* vol. i. p. 1, &c. Blair's *Lectures on Rhetoric and Belles Lettres*, vol. iii. p. 4.

There are other periods, which, on account of the extreme ignorance that prevailed, have been denominated *ages of ignorance*. Such are the 9th, 10th, and 11th centuries, in the modern history of Europe; when few kings and nobles, much less the common people, were able to write or read. These were ages of slavery, civil and religious, as well as ignorance.

AGE of *Medals*. See MEDAL.

AGE, in *Horsefanship*, forms a very important branch of knowledge, and consists in being enabled to judge of the progress of a horse's years from correspondent alterations in his body. The teeth are usually examined for this purpose, as they exhibit in almost all horses the same changes in appearance and form at stated periods. This becomes necessary, as there are but few whose knowledge is sufficiently extensive to enable them to judge of the age by any other means; but where it can be done it is more useful than by this ordinary mode; for in this country, where horses are ridden very hard, and consequently early ruined, it is not uncommon to find a horse at six years old, feeble, debilitated, and exhibiting all the marks of old age, except in his mouth; on the contrary, when the animal falls into other hands, at 10 or 12 he has all the vigour of youth, and his teeth are the only parts that present an indication of age: it is therefore more useful to examine the general appearance of the animal, than to be guided altogether by the marks in the teeth; for, provided the horse has not been too early worked, nor too hard rode, and has no natural nor accidental defects, his nominal age should be but a secondary consideration. It is the custom of some excellent horsemen never to hunt their horses, till they are eight or nine years old, a period at which other horses are usually refused as aged, and unfit for fatigue.—Horses, when aged, usually become hollow above the eyes, the hoofs become rugged, the under lip falls, and if grey, they become white. La Fosse, the younger, recapitulates the appearances of the teeth nearly in the following manner.—The horse is foaled with six molar or grinding teeth in each jaw; the tenth or twelfth day after the two front nippers appear above and below, and in fourteen or fifteen days from this, the two intermediate are pushed out; the corner ones are not cut till three months after. At ten months the incisive or nippers are on a level with each other, the front less than the middle, and these again less than the corners; they at this time have a very sensible cavity. At twelve months this cavity becomes smaller, and the animal appears with four molar teeth on each side, above and below, three of the temporaneous or colts, and one permanent or horse tooth; at eighteen the cavity in the nippers is filled up, and there are five grinders, two of the horse, and three temporaneous; at two years, the first of the colts molar teeth in each jaw, above and below, are displaced. At two years and a half, or three years, the front nippers fall and give place to the permanent ones; at three and a half the middle nippers are likewise removed, at which period the second milk-molar falls; at four years the horse is found with six molar teeth, five of his new set, and one of his last; at four years and a half the corner nippers of the colt fall and give place

place to the permanent set, and the last temporary grinder disappears. At five years old the tushes in the horse usually appear; at five and a half they are completely out, and the internal wall of the corner nippers, which before was incompletely formed, is now on a level with the rest; at this period the incisive or nippers have all of them a cavity formed in the substance between the inner and outer wall, and it is the disappearance of this that marks the age. At six years those in the front nippers below are filled up, the tushes are likewise slightly blunted; at seven years the mark or cavity in the middle nippers is filled up, and the tushes a little more worn. At eight years old the corner nippers are likewise plain, and the tushes are round and shortened. At this period the horse is said to be aged, and to have lost his mark; but among good judges the teeth still exhibit sufficient indications. At nine the groove in the tushes is worn away nearly, and the nippers become rather rounded: at ten these appearances are still stronger; at twelve the tushes only exhibit a rounded stump, the nippers push forward, become yellow; and as the age advances, appear triangular and usually uneven.

Monsieur St. Bel, the late professor of the English Veterinary College, used to assert, that after eight years the cavities in the anterior or upper incisive teeth filled up with equal regularity; thus from eight to ten the front ones were filled up, from ten to twelve the two middle, and from twelve to fourteen those of the corner; but though some pains have been taken to ascertain this, it does not appear that the disappearance of the cavities in these teeth is attended with sufficient regularity to warrant confidence. It is a custom with dishonest dealers to draw the colts nippers, particularly the corner ones, by which means the permanent set which are underneath, immediately appear, and the horse is considered much older than he is; but if the other appearances detailed here are attended to, this may be readily detected. See Plate where the age from the appearance of the teeth is accurately represented. See also **TEETH**, and **ANATOMY of the Horse**.

AGE, in *Hunting*, is an article of consequence.—Deer, and other beasts of game, have different denominations according to their age.

The age of a hart, &c. is chiefly judged of by the furniture of his head, which is annually enlarged both in height and thickness, from the second to the eighth year, and then continues nearly in equal beauty during the vigour of life. But, when he grows old, *i. e.* from eight years forward, his horns decline.

The first **HEAD**, called, in fallow deer, *broches*, and, in red deer, *pricks*, does not come till the second year of their age: the next year, they bear four or six small branches; the fourth year, eight or ten; the fifth, ten or twelve; the sixth, fourteen or sixteen; the seventh year they bear their heads beamed, branched and fumed, as much as ever they will be. The number of antlers or palms is by no means constant, when the animal is in the highest degree of vigour and perfection; for it varies according to the quantity of nourishment and repose the animal has enjoyed, and the size of the horns depends upon the same cause. The huntmen have several other marks, whereby to know an old hart without seeing him; as, the slot, entries, abatures, soils, fewmets, gate, and fraying posts. See **SLot**, &c.

The age of other beasts that are chased, is estimated by their appearance: as a fox and a hare by their colour. In birds of the game kind, it is usually distinguished by the colour of the legs and wing-feathers.

AGE of neat cattle, *viz.* the *ox*, *cow*, and *bull*, is known

by their teeth and horns; but from long habit and the greater convenience, the horns are more usually studied; but in that breed without horns, the teeth must be nearly the sole criterion. The ox has no upper incisive teeth, but a few days after calving eight nippers appear in the lower jaw, which remain till ten months, when the second dentition commences by the displacement of the two front teeth, to which succeed two permanent ones, larger but not so white.—At 12 months, the grinders are some of them changed; at 15 or 16 months, the incisive on each side next the front is changed; at two years the third incisive on each side; and at three years the corners are replaced by the permanent, which complete the set. These are for the first years of the animal's life, even, long, and white; but in advanced age become yellow, or black, and uneven: between these periods all the grinders are changed.

The horns are likewise a permanent, and a temporary pair. The temporary pair are changed at the end of three years, and the permanent pair appear small, smooth, and terminated at the end with a small tubercle or button. In the following year this button grows from the head, and the line of growth is marked by a horny circle; the horns continue growing through life, and every succeeding year adds a circle, so that the age may be readily gained by counting three years for the first button, and an additional one for every remaining circle.

AGE of Sheep is learned likewise from the horns in those which have them, in others from the teeth. M. Buffon says they have, in the third year, four broad teeth before, in the fourth year six broad teeth, and in their fifth year eight of the same kind: but our farmers reckon, that when a sheep is one shear, or year, it has two broad teeth before, when two shear, it will have four; when three shear, six; and when four shear, or years, it will have eight. The age of the horned sheep is most conveniently learned by the horns, which shew themselves in the first year, soon after birth, and are not changed, but continue to protrude a ring or circle annually, as long as they live, so that as many circles as their horns present, so many years are they old. In goats, the teeth and horns follow the same laws; and therefore their age may be learned in the same way.

AGE of the moon, in *Astronomy*, is understood of the number of days elapsed since the last conjunction, or new moon; called also her **QUARTER**. The method for discovering her age is mentioned under the article **MOON**.

AGE, in *Law*, is particularly understood of a certain state or time in life, wherein a person is qualified for certain offices of civil society, of which before, for want of years and discretion, he was incapable.

By the Roman law we find different ages ascertained for different purposes; as, *consular age*, or that wherein a person might regularly hold the consulship, which was the 43d year, so that he might sue for it in the 42d. Where it is to be observed, that it was not necessary either of those years should be expired, but only begun: besides, that men of extraordinary merit towards the republic, were in this matter exempt from the ordinary laws. Hence Corvinus was consul at 23 years. Scipio Æmilianus at 36, and Pompey at 35: others broke through the laws by violence, as Caius Marius the younger, and Octavius Cæsar, who procured themselves to be made **CONSULS**, before 20 years of age. Machiav. Disc. in Liv. lib. i. c. 60. p. 210.

Judiciary age, or that wherein a person was capable of sitting as judge, was not always the same; for by the *Law*

Lex Serrilla Glancia, none were allowed to be chosen under 30 years of age, or above 60. By some other laws that age seems to have been limited to 35, but reduced afterwards by Augustus to 30; though Pufseus supposes a mistake here in the text: and that, instead of 35 and 30, it ought to be read 25 and 20. *Lex. Ant. tom. i. Military age*, or that wherein the Romans were obliged to enter themselves in the army, was at 17 years; at 45 they might demand their dismissal. *Aquin. Lex. Milit. tom. i.* This age was subject to considerable variation. The ancient practice, as Vegetius informs us, was to arm young men when they attained the age of puberty: and this subsisted before and under the first kings. Servius Tullius (about the year of Rome 178) fixed the period of military service from 17 to 46 years: those who had not reached this last term were called *juniores*, and those who had passed it *seniores*. Manlius, however, who saved the capitol, had served from the age of 16 years. Adrian commenced his military service at the age of 15 years; and instances occur, in the Roman history, of persons who were called forth to military service within the age of 50 years. But the age established by Servius Tullius was confirmed by Caius Gracchus, A. U. C. 632. The Gauls and Germans served from the age of puberty to extreme old age. The Persians fixed the period of military service from 20 to 50 years. The Scythians and Lacedæmonians extended it from the age of puberty to 60 years. The Athenians commenced at 18 years to guard the city and frontiers, and at 20 they engaged in foreign service, and continued to the age of 40 years. Aristotle fixed the military age at 17 years; (*Polit. lib. viii.*), and Plato in his *Republica* determines it from 20 to 60 years. Among the Lombards, the age of entry was between 18 and 19; among the Saxons at 13.

The *age for holding offices in the city*, as *quæstor*, *ædile*, *tribune of the people*, &c. is not determined by the annual laws of Villius, but appears to have been the 27th year. For it was necessary that the person who claimed any urban employment, had first served ten years without interruption in the army, commencing from the 17th year. Though some think the *quæstorship* might have been held at 25 years. *Polyb. lib. vi. cap. 17.* The *prætorian age*, or that wherein a person might solicit for the *prætorship*, was at 40; two years earlier than the age required for *consul*. But M. Brutus was *prætor* with Cassius, two years before his death; *i. e.* at the age of 35 years; and Dion (*lii. p. 477*) fixes this age at 30 years. *Legitimate age*, denotes the age of 25; so called, as some imagine, because youth were then by law allowed to take the direction of their affairs into their own hands. *Briss. Select. Ant. ex Jur. Civ. lib. iii. c. 2.* *Dispensation of age, ætatis venia*, is a right which a person obtained from the prince, or sovereign, of setting aside a tutor or curator, and taking the administration of his affairs into his own hands, before the legitimate age. *Calv. Lex. Jur.* The *adoptive age*; called also *plena pubertas*, requires the adopter to be eighteen years older than the person adopted, that there may appear a probability of his being a natural child. *Pitisc. Lex. Ant.* See *ADOPTION*.

By the common law, there are two principal ages in a man: at 14, he is at the *age of discretion*; at 21 years, at *full age*.

With respect to a woman, there were anciently six ages observed: at seven years, her father might distrain the tenants of his manor for aid to marry her; for at those years she may consent to matrimony.—At nine years old she is

dowable; for then, or within half a year after, she is said to be able *promereri dotem*, & *virum sustinere*.—At twelve years, she is able finally to ratify and confirm, or annul her former consent to matrimony; and, if proved to have sufficient discretion, may bequeath her personal estate.—At 14, she may take her lands into her own hands; and should be out of ward, if she were at this age at her ancestor's death: at this period she is at years of legal discretion, and may choose a guardian.—At 16, she should be out of ward, though at the death of her ancestor she was under 14: the reason is, that then she might take a husband able to perform knight's service: she may be executrix, at 17.—At 21 years, she may dispose of herself and alienate lands and tenements.

As for a man: the age of 12 years binds to appearance before the sheriff and coroner for inquiry after robberies, and impowers taking the oath of allegiance; 52 Hen. III. 14. At the age of 14, he may chuse his own guardian, and claim his lands held in socage; though Bracton limits this to 15 years; with whom Glanville agrees.—At 14, a man may consent or disagree to marriage.—At that age, likewise, he may dispose of personal estate by will, if his discretion be actually proved, though not of lands until 21: at 14 also, persons may be witnesses, though in some cases they have been admitted much younger. 2 Hawk. 434. Persons under 14 are not, in general, punishable for crimes; but they must answer for any trespasses. 1 Inst. 247.—At 15, he ought to be sworn to the peace, an. 24 Edw. I. stat. 3.—At 17, he may be an executor.—At the age of 21, a man was obliged to be a knight, if he had 20 pounds land per annum fee, or for term of life, anno 1 Ed. II. stat. 1. But this statute is repealed, 16 Car. I. cap. 20. The same age also enables him to make contracts and manage his own estate; which, till that time, he cannot do with security to those who deal with him; so that at this age he is at his own disposal, and may claim his lands, goods and chattels. Full age, in male or female, is 21 years; and this age is completed on the day preceding the anniversary of a person's birth (*Salk. 44. 625. Lord Raym. 480.*) who, till that time, is an *INFANT*, and so stiled in law. Among the antient Greeks and Romans women were never of age, but subject to perpetual guardianship, unless when married; and when that perpetual tutelage wore away in process of time, we find, that, in females as well as males, full age was not till 25 years. By the constitution of different kingdoms, this period is fixed at different times. Scotland agrees with England in this point; but in Naples they are of full age at 18; in Holland at 25; and formerly in France, with regard to marriage, not till 30.

With regard to capital crimes, the age of 12 years was established, by the ancient Saxon law, for the age of possible discretion; and from thence till the offender was 14, it was *ætas pubertati proxima*, in which he might, or might not be guilty of a crime, according to his natural capacity or incapacity. Under 12 it was held, that he could not be guilty in will, neither after 14 could he be supposed innocent of any capital crime which he committed. But by the law, as it now stands, and has stood, at least ever since the time of Edw. III., the capacity of doing ill, or contracting guilt, is not so much estimated by age, as by the delinquent's maturity of understanding, so that *malitia supplet ætatem*. Under seven years of age, an infant cannot be guilty of felony; but at eight years old he may be guilty. Under 14, though an infant shall be *prima facie* adjudged, to be *doli incapax*, yet, if it appear to the court and jury, that

that he was *doli capax*, and could discern between good and evil, he may be convicted and suffer death. Thus, a girl of 13 has been burnt for killing her mistress; and one boy of ten, and another of nine years of age, who had killed their companions, have been sentenced to death, and the boy of ten years of age was actually hanged; because it appeared upon their trial, that the one hid himself, and the other hid the body of the person he had killed. An instance occurred in the 17th century of a boy eight years old, who was tried for firing two barns; and it appearing that he had malice and cunning, he was found guilty, condemned and hanged. In later times a boy, ten years old, was convicted on his own confession of murdering his bed-fellow, and by the unanimous opinion of all the judges capitally punished. In such cases, however, the evidence of that malice, which is to supply age, ought to be clear and strong beyond all doubt and contradiction.

The age of 24 years enabled a man to enter into an order of religion, without consent of parents, anno 4 Hen. IV. cap. 17. At 24, he may be ordained a priest; and at 30, he may be a bishop. No person can be a member of parliament under the age of 21 years. Though the age of 21 is the full age of either man or woman, yet they may under that age contract for necessities suitable to their quality and proper instruction, and the contract shall bind them. An infant, who has an advowson, may present to the benefice when it becomes void. He may also purchase lands, though the purchase be incomplete; and when he is of age, he may agree or disagree to it, without assigning any reason; and so may his heirs after him, if he should die before the completion of the agreement. In some cases, he may bind himself apprentice, by indenture, for seven years. 5 Eliz. c. 4.—43 Eliz. c. 2. and he may, by deed or will, appoint a guardian to his children, if he has any. 12 Car. II. c. 24. If either man or woman do any act before the time prescribed by law, they may retract it when they come to the proper age; but if they do not, they are supposed to ratify it, and it shall be deemed valid. Thus, if a man marry before fourteen, or a woman before twelve, they may either agree or disagree to the marriage, when they attain those respective ages. See MARRIAGE. But the age of marriage has undergone divers modifications: in princes, it is allowed earlier than in private persons; in some countries than in others. In Persia, girls are married at nine, boys only at thirteen: in Holland, males are not allowed to marry without consent of parents or curators, before twenty-five; girls not before twenty: the Romans chose to marry their wives young, for the advantage of having them innocent and tractable. Others declaim against premature marriages. Some have pretended to limit the other extreme of marriageable age to forty-five; but this too will be variable in different constitutions. We meet with instances of generation from 60 to 104, or even 121 years of age. Plott. Nat. Hist. Staff. chap. viii. § 3.

Various methods have been in use for determining this age. One sect of ancient Roman lawyers, called Cassiani, fixed it by the state of the body, which Justinian and others after him, suppose to have been done by search, or inspection of the genital parts, at least in the male sex; for as to the female, it is pretended the twelfth year was the only guide, though others alledge that the eruption of the menses served instead of it. The Proculiani, on the contrary, determined the puberty of males by the expiration of the fourteenth year. Javolenus took a middle course, and made use of both methods.

The Canon or Ecclesiastical Law also denotes divers ages,

viz. of baptism; of ordination to priesthood, and confirmation to episcopacy.

The Civil Law distinguished the age of minors, or those under 25 years old, into three stages: *infantia*, from the birth till seven years of age; *pueritia*, from seven to 14; and *pubertas*, from fourteen upwards. The period of *pueritia*, was again subdivided into *etas infantie proxima*, from seven years to 10½, and *etas pubertatis proxima*, from 10½ to 14 years. During the first stage of infancy, and the next half stage of childhood, *infantia proxima*, they were not punishable for any crime. During the other half stage of childhood, approaching to puberty, from 10½ to 14, they were indeed punishable, if found to be *doli capaces*, or capable of mischief; but with many mitigations, and not with the utmost rigour of the law. During the last stage (at the age of puberty, and upwards) minors were liable to be punished, as well capitally, as otherwise. Blackst. Com. vol. i. 463, vol. iv. 22.

AGE *prier*, *etatem precari*, a petition, or motion made in court, by one in his minority, having an action brought against him for lands coming to him by descent; requesting that the action may rest till he come to full age.—This the court, in most cases, ought to grant.—But minors, as purchasers, shall not have it: nor intent of assise, dower, or partition; though they may in debt. Hob. 342. D. Alr. 259.

It is otherwise in the Civil Law, which obliges children in their minority to answer to their TUTORs or CURATORS. See PAROL DEMURRER.

AGEA, in Geography, a town of Irak, in Persia, 35 leagues east of Ispahan.

AGED of the mountain, is a title, or denomination, given to the chief, or prince, of the people called ASSASSINS.

AGEDA, in Geography, the name of a plain about 30 leagues from Buda in Hungary, on which was held a general assembly of the Jewish Rabbies, A. D. 1650, in order to examine and debate the question, whether the Messiah was come. Three hundred Rabbies, with a great multitude of other Jews, from different nations, were collected together on this occasion; and R. Zachariah, of the tribe of Levi, was chosen their president and speaker. The negative of the question was carried by a majority of voices, and it was agreed that the advent of the Messiah was delayed on account of their sins and impenitence. They also agreed, after some debate, in the circumstances that would attend his appearance: and they were of opinion, that he would appear as a great conqueror, and deliver them from every foreign yoke—that he would alter nothing in the Mosaic religion—and that he was to be born of a virgin; and that his miraculous birth was to be a characteristic, by which he should be known to those who were strangers to the covenant. Some ecclesiastics, deputed from Rome, attended this meeting; and when they began to extol the worship, ceremonies and authority of their church, they excited a tumultuous outcry of “no Christ! no God-man! no intercession of Saints! no worship of images! no prayers to the Virgin!” accompanied with loud clamours, rending of clothes, &c. and thus the conference of that day terminated. On the 8th day, they agreed to hold another council, three years after this, in Syria. Some of the Jewish doctors are said to have hesitated in their opinion, and expressed a desire of conversing with protestant divines; but the interference of so many monks deterred them, and made them fear some tragical conclusion to their assembly. Brett’s Narrative in the Phoenix, tom. ii. p. 554.

AGEDAMA, a small island on the coast of Carmania.

AGEDINCUM, *Sens*, a town of Gaul, the capital of the Senones. See AGENDICUM.

AGEEG, a small island on the coast of the Red Sea, N. lat. $18^{\circ} 5'$. E. long. $38^{\circ} 30'$, which gives name to a nation inhabiting the adjoining district of the country.

AGELASTA, in *Antiquity*, formed of α priv. and $\gamma\epsilon\lambda\alpha\varsigma$, to *length*, and denoting *long*, a famous stone in Attica, near the well called Callichoras, upon which Ceres rested, when she was fatigued in the search for her daughter. Here, according to Pausanias, (Attic. p. 93) they commenced the Eleusinian feasts.

AGELNOTH, or EGELNOTH, *Achelnatus*, in *Biography*, succeeded Lavingus, in the see of Canterbury, in the reign of Canute the Great, A. D. 1020; he was the son of earl Agilmer, and obtained the appellation of *good*, for his acts of piety and benevolence. By his interest and influence with Canute, he restrained some of his excesses, and induced him to bestow large sums of money for the support of the foreign churches. In his way to Rome, for receiving his pall from pope Benedict VIII. he purchased at Pavia, with a large sum, a relic, which was the arm of St. Augustin, and transmitted it to England as a present to Leofric, earl of Coventry. By other more important services he is said to have given lustre to the Archiepiscopal see. Upon Canute's death, he refused to crown his son Harold; alledging a promise which he made to the late king, that he would place the crown only upon one of the issue of queen Emma. Neither threats nor promises could prevail with him to violate his engagement; and he laid the crown upon the altar, with an imprecation against those bishops who should dare to perform the ceremony. He died in the year 1038. His writings were "a Panegyric on the Blessed Virgin Mary,"—"a Letter to earl Leofric, concerning St. Augustin,"—and "Letters to several persons." *Biog. Brit.*

AGEM, in *Botany*, is a name given to the Persian *Lilac*.

AGEMA, in the *Ancient Military Art*, a kind of soldiery, chiefly in the Macedonian armies.

The word is Greek, and literally denotes vehemence; to express the strength and eagerness of this corps; or it may be derived from *αγω*, to lead; because it consisted of elephants, horse and foot, which preceded the king, and formed, as it were, the royal guard.

Some will rather have agema to have denoted a certain number of picked men, answering to a legion among the Romans, which is authorized by a passage in Livy, (l. xlii. c. 51. c. 58. tom. v. p. 673. 682. Ed. Drakenb. Not.); Arrian (De Exped. Alex. l. vii. p. 287. Ed. Gronov.) on the contrary, speaks of the agema as a wing of horse; but the term is also applied to foot. This body of troops is also mentioned by Q. Curtius, (l. iv. c. 13. tom. i. p. 271. Ed. Drakenb.) and by Polybius, (l. v. p. 372. 408. Ed. Casaub.) vid. Suidas in voc.

AGEMOGLANS, or AZAMOGLANS, children of tribute, raised every third year by the Grand Seignior, among the Christians whom he tolerates in his dominions.

The word, in its original, signifies a barbarian's child; that is, a child not a Turk.—It is compounded of two Arabic words, 1. **اژم**, *agem*, which among the Turks signifies as much as barbarous among the Greeks; the former people dividing the world into Arabs or Turks, and *agem*; as the latter divided it into Grecians and barbarians, 2. **بنی**, *child*.

The commissioners appointed for this levy take them by force even out of the houses of Christians; always claiming one in three, and pitching upon such as seem the handsomest, and promise to be the most serviceable.

These are immediately conveyed to Gallipoli, or Constan-

tinople; where they are first circumcised, then instructed in the Mahometan faith, taught the Turkish language, and the exercises of war, till such time as they become of age to bear arms: and out of these the order of JANIZARIES is formed.

Such as are not judged proper for the army, they employ in the lowest and most servile offices of the seraglio; as in the kitchen, stables, &c.

The agemoglaus only differ from the ichoglaus, as the former are bred up for the lower, and the latter reserved for the higher offices of the empire. Their pay does not amount to more than seven aspers and a half, or threepence halfpenny, a day.

AGEN, in *Geography*, an ancient large and well inhabited, but ill built, city of France, the capital of Agenois, in the late province of Guienne, and new department of the Lot and Garonne, and the episcopal see of the department of Aveyron. Its situation in a fertile country on the banks of the Garonne, is favourable for trade; but the indolence of its inhabitants deprives them in a degree of the advantage of it. Prunes are a considerable article of commerce; and the hemp which grows in the neighbourhood is manufactured into table linen, and sent from hence to Cadiz, and afterwards exported to the Spanish islands. Here are also manufactories of camblets, ferges, and sailcloth. The gates and old walls, which remain, mark the antiquity and extent of this town. The palace, which was formerly the castle of Montravel, and where the sessions is held, is situated without the walls of the old city; and there is another castle, called La Sagne, of which the ruins only exist. Agen is 108 miles south-east of Bourdeaux. N. lat. $44^{\circ} 12' 7''$. E. long. $0^{\circ} 35' 49''$.

AGENABAT, a town of Transylvania, ten miles north-east of Hermanstadt, N. lat. $46^{\circ} 32'$. E. long. $24^{\circ} 50'$.

AGENDA, in a general sense, denotes things to be done or performed, in consequence of a man's duty.

The word is Latin, formed from *agere*, to do; and divines speak of the agenda of a Christian, meaning the things to be practised, by way of contradistinction from *credenda*, or the things to be believed; the former imports the articles of obedience, the latter of faith.

AGENDA is also used for a book containing notes or memorandums of things necessary to be done; in which sense agenda amounts to much the same with table-book, &c. An anonymous French author has published the agenda of a man of the world, containing maxims, or rules, proper for the conduct of life. *Tablettes de l'Homme de Cosmop.* 1715.

AGENDA is more particularly used, among *Ecclesiastical Writers*, for the service or office of the church. We meet with *agenda matutina* & *vespertina*, morning and evening prayers; *agenda diei*, the office of the day, whether feast or fast day; *agenda mortuorum*, called also simply *agenda*, the service for the dead.

AGENDA is also applied to certain church-books, compiled by public authority, prescribing the order and manner to be observed by the ministers and people, in the principal ceremonies and devotions of the church.

In which sense agenda amounts to the same with what is otherwise called *ritual*, *liturgy*, *acalouthia*, *missal*, *formulary*, *directory*, &c.

AGENDICUM, in *Ancient Geography*, the chief city of the Senones beyond the Alps, thus written by Cæsar, but called *Agedicum* by Ptolemy, and by others *Agradicum*. See *SENS*.

AGENFRIDA, in *Ancient Customs*, denotes own lord, or one who has the absolute property and dominion of a thing.

The word is also written *agenfriga*, and *agenfric*. It is derived from the Saxon *agen*, *even*, and *fric*, *frid*.

AGENIINE, in our *Old Writers*, signifies a guest that has lodged at an inn for three nights, after which time he is accounted one of the family; and if he offended the king's peace, his host was answerable for him. It is also written *bogenbine* and *bogenhyne*.

AGENOIS, in *Geography*, a country of France, in the late province of Guienne, (now department of the Lot and Garonne) comprehending about 120 square leagues. It is a very fertile and healthy country, and was formerly inhabited by the Nitriobriges, mentioned by Cæsar. It formed a part of the kingdom of Aquitania, and was afterwards possessed by the counts of Toulouse, and successively by the English and French. See AGEN.

AGENOR, in *Fabulous History*, was the son of Neptune and Lybia, and the father of Cadmus. He reigned in Phœnicia and married Thelepassa, by whom he had three sons, Cadmus, Phœnix and Cilix, and a daughter called Europa. Jupiter carried away the daughter, and Agenor ordered his three sons to seek for her, forbidding them to return to his court without her. Their search was fruitless, and they were banished, and settled in different countries.

AGLOR, in *Natural History*, a species of *PAPILIO Eques*, with black wings, sanguineous at their base; the posterior having a white disc with black spots. It is found in China.

AGENORIA, formed of *aynos*, *strong*, in *Mythology*, the goddess of industry and courage, as *Vacuna* was of indolence.

AGENT, AGENTS, in *Physics*, that whereby a thing is done, or effected; or that which has a power whereby it acts on another; or by its action induces some change in it. The word *agent* is used promiscuously with EFFICIENT, and in contradistinction to PATIENT.

The schools divide agents into *natural* and *free*.

AGENTS, *natural* or *physical*, are those immediately determined by the Author of nature, to produce one sort of effect; with an incapacity to produce the contrary.

AGENTS, *natural*, are again subdivided into *univocal*, which are such as produce effects of the same kind and denomination with the *agents* themselves; and *equivocal*, whose effects are of a different kind, &c. from the *agents*.

The schoolmen reckon the following circumstances necessary to the being of an *agent*; viz. that it be contiguous to the object, distinct from it, have a power over it, a sphere of activity, and a proportion or rate of acting.

AGENT, *free* or *voluntary*, is that which may equally do any thing, or its opposite; as acting not from any pre-determination, but from choice.—Such is the mind supposed to be, which has a spontaneous power of choosing or refusing.

It is a celebrated question among *philosophers* and *divines*, whether man be a free, or a necessary agent? It may be thus stated: man is a necessary agent, if all his actions are so determined by the cause preceding each action, that no one past action could possibly not have come to pass, or have been otherwise than it was; nor one future action can possibly not come to pass, or be otherwise than it shall be. On the contrary, man is a free agent, if he be able at any time, in certain circumstances, to do different things; or, in other words, if he is not ever unavoidably determined in every point of time, by the circumstances he is in, to do that one thing he does, and not possibly to do any other.

Which of these two definitions agrees to man, is a question of fact to be determined by what we experience in ourselves, with regard to the operations of our own minds. See LIBERTY, NECESSITY, and WILL.

The term agent evidently implies a power of self-termination; and the epithet *free*, applied to *agent*, forms a locution both in sense and language. Price's Review, Sec. p. 315, &c.

AGENT is more particularly used for the minister of a prince, or state, at another court.

In which sense, agents are commonly reputed a species of public ministers, or AMBASSADORS: but they differ essentially, as agents are not invested with any representative character, although entrusted with the affairs and interests of their princes. See ENVOY.

AGENT is also used for a person intrusted with the management of affairs, either of a corporation, or private person. In which sense the word coincides with *deputy*, *procurator*, *syndic*, *factor*, &c.

Among the officers in the EXCHEQUER, there are four agents for taxes.

AGENTS of *bank and exchange*, are public officers, established in the trading cities of France, to negotiate matters between merchants relating to bills of exchange, and the buying and selling of goods: the same with those who, among us, are called EXCHANGE-BROKERS.

AGENTS of the *viaticall office*, are officers under the commissioners, appointed to buy and contract for provisions, &c. Some of these are settled in the ports, where they have much the same office and authority as the commissioners in London.

AGENT-viaticaller, is used in the same sense.

AGENT and patient, in *Common Law*, is where a person does, or gives, something to himself; so that he is at the same time both the doer and giver, and the receiver or party it is done to.—Such is a woman, when she endows herself with part of her husband's inheritance.

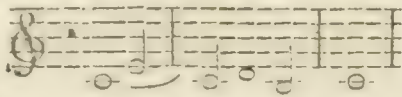
AGENT, in *Chemistry*. According to the ancient chemists, substances were composed of active and passive principles; the latter of which received impressions from and were modified by the former, without exerting any reciprocal action. Spirit, oil and salt, were considered as the active, and earth and water, as the passive principles. This distinction evidently arose from the phenomena of solution, and the apparent energy which acids and other fluids exhibit in their combination with metals and solids in general. It is now however universally allowed, and indeed necessarily follows from the doctrine of affinity, that whenever two substances combine together, it is in consequence of a mutual attraction, which belongs as much to one element as to the other of a compound; this definition therefore of chemical agent is no longer adhered to, and though we still continue to use the expression of one body having a powerful action on another, it is by no means intended to deny the equal reciprocity of chemical attraction.

The general term agent signifies, therefore, in strictness, any substance capable of producing chemical action; and when, in explaining a process, the quality of agent is attributed to a body, it is only used as a designation of the substance whose presence determines the combination or decomposition. In which sense it is sometimes attributed to menstrua, or such bodies as in mixture have the greatest share of activity and motion: and it is sometimes also used for what we more usually call *instrument*. Thus fire, water, air, earth, and menstrua, are chemical agents.

That internal agent in man, whereby all the vital motions necessary to the preservation and restoration of the body are managed, is by some called *nature*; by others *archæus*, *callidum innatum*, animal soul, vital spirit, or principle, &c.

AGENTE, in *Music*, a term which, in the infancy of counterpoint, was given, by the Italians, to the note of percussion,

that occasions, and accompanies a prepared discord upon a binding note; which note was termed the *passiva*.



In the preceding example, C is the *passiva*, E prepares the discord, D is the moving note or *agent*, and B its *resolvenda*.

AGENTES in rebus, one of the ranks of officers, in the court of the Constantinopolitan emperors, whose business was to collect and convey the corn, both for the army and household; carry letters and messages from court to all parts of the empire; regulate couriers, and their vehicles; to make frequent journeys and expeditions through the provinces; inspect any motions, disturbances, machinations tending that way, and give early notice thereof to the emperor. Aquin. Lex. Mil. tom. i. Pitisc. Lex. Ant. tom. i. Calv. Lex. Jur.

The *agentes in rebus*, are by some made synonymous with our post-chauffeurs, but their function was of great extent. They correspond to what the Greeks call *παραγίτες*, and the Latins *curatuli*.

There were divers orders or degrees of *agentes in rebus*, as *tribuni*, *primicerii*, *senatores*, *ducenarii*, *biarchi*, *circuitores*, *equites*, *agones*, &c. through all which they rose *gradatim*. Their chief was denominated *princeps*, which was a post of great dignity, being reckoned on a level with that of consul.

The *princeps agentium in rebus* resided at Constantinople, others of them were settled in every part of the empire; and are also said to have served as interpreters.

AGEOMETRIA, a defect in point of **GEOMETRY**, or a deviation from the strict principles and conclusions of that science.

This is otherwise called *ageometresia*.

Some have explained of the *ageometria* of the Scriptures, in respect of the proportions of the *brazen sea*, *ARK*, &c.

AGER *vestigialis privatus*, in *Roman Antiquity*, that whose property was granted to private persons on the reserve of a certain rent, or tribute.

AGER *vestigialis publicus*, that whose property was reserved to the public, and being let out to farm, the rents or profits accrued to the public treasury.

AGER is also used for a certain portion or measure of land, antiently allowed in the division of grounds to each citizen.

In the early days of the Roman state, the *ager* was only two *jugera*, amounting to $1\frac{1}{2}$ English acre. After the expulsion of the kings, seven *jugera* were allowed a plebeian. —Under the tribunate of C. Licinius Stolo, in the year of Rome 379, a law was made to limit estates to 500 *jugera*, or 330 English acres, and to decree the distribution of the surplus in the possession of any individual amongst those who had no land. Under Julius Cæsar another **AGRARIAN** law was published, by which those who enlarged their pittance of land were to pay 50 *aurei* to the public.

AGER is also used in *Middle Age Writers*, for what we now call an **ACRE**.

AGER, or **AGUER**, in *Geography*, a small town of Catalonia, in Spain, near the river Segra, north of Lerida, and 25 leagues west of Barcelona. N. lat. $41^{\circ} 55'$. E. long. $6^{\circ} 34'$.

AGER, a river of Austria, which runs into the Traun, about a league north from Schwannastatt.

AGER is also a district in a fief of **ACGERHUUS**, in Norway, called *Aggers-Herred*.

AGER *Pianus*. See **PICNUM**.

AGERATUM, compounded of the privative *a* and *geras*, *old*, *ag*, and denoting *never-old* or *ever-green*, in *Botany*, a genus of plants, of the *syngenesia polygamia equalis* class and order, of the natural order of *compositæ discoides*, and *corymbifera* of Jussieu; the characters of which are, that the common calyx is oblong, with many, lanceolate, sub-equal scales: the compound corolla is uniform, corollets hermaphrodite, tubulous, numerous, equal, scarcely longer than the calyx; proper monopetalous, funnel-shaped, border quadrifid and spreading; the stamina are capillary filaments, very short, the anther cylindric and tubular; the pistillum is an oblong germ, style filiform, of the length of the stamina, the stigmas are two, very slender and erect; no pericarpium, calyx unchanged; the seed solitary, oblong, angular, crowned with a chaffy, five-leaved, upright awned calycle; the receptacle naked, convex, and very small. It differs from **EUPATORIUM** in the crown of the seeds; and from **BIDENS** in the nakedness of the receptacle. Martyn enumerates two species, *viz.* 1. *A. conyzoides*, hairy *ageratum*, with ovate leaves and hairy stem, which flowers in July and August, and is a native of Africa, the islands of America, and the isle of Tanna, in the South Seas. This species is propagated by sowing the seeds on a hot bed in the Spring; and when the plants are strong enough to bear removing, transplanting them into another moderate hot-bed; where they should be watered, and shaded till they have taken root. In June they should be inured to the open air, and transplanted towards the middle of the month into the open ground, where they will continue flowering from July till the frosts in Autumn destroy them. The seeds ripen in September and October. 2. *A. ciliare*, with leaves ovate, crenate, obtuse, and smooth stem, which is a native of the East Indies, and of China, near Canton. The *A. Houssonianum* of Miller, found wild at La Vera Cruz, by Dr. Housfoun, does not differ from the first sort. In Gmelin's edition of Linnæus, we have a third species, *viz.* *A. Guianense*, with cordate, serrated, and petiolated leaves. See **ACHILLEA**, **ATHANASIA**, **CONYZA**, **ERINUS**, **EUPATORIUM** and **SENECIO**.

AGERATUM, in the *Materia Medica*, is a species of *Achillea*, with numerous, small, oblong, narrow leaves, called in English *sweet milfoil* and *maudlin*. It bears a near resemblance to the costmary, and is denominated *balsamita fœmina*, as that is called *balsamita mas*. It is also called *eupatorium mesues*, on account of its supposed virtue in diseases and obstructions of the liver. It is a native of Italy, the South of France, and of Spain; and is found by the road sides, where it flowers from August to October. As it is seldom used with us for medicinal purposes, it is not cultivated in the gardens for sale. There are two varieties of it, one having longer and more compact corymbs, the other with broader leaves and smaller flowers. It is sweet to the smell, and of a bitter taste, and aromatic. Linnæus reckons it obsolete and superfluous. Allione, on the contrary, thinks it an efficacious plant, and recommends it in all disorders arising from a debility of the nerves. Dr. Lewis says of this and the costmary, that these herbs have been used as mild corroborants and aperients, in weaknesses of the stomach, obstructions of the viscera, and coelestic dispositions; and though at present disregarded, they promise, from their sensible qualities, to be medicines of some utility. Riverius recommends *ageratum*, on account of its astringent quality, as an antidote to incontinence of urine; and Gesner has discovered a brisk purgative quality in its roots.

AGERATUS lapis, in the *Materia Medica* of the *Antients*,

clients, the name of a stone mentioned by Galen and other writers; and said to be of the nature of the Phrygian stone, but more atragent; and as that was used in dying, this was in dressing of leather. We have no account of its external appearance, but probably it contained vitriol, and perhaps alum.

The great use of vitriol or copperas in the management of leather is well known; and the stones which contain it, or pyrites, are every where common. The method used also in the preparation of the *Phrygian lapis*, which was the wetting and slightly calcining it, must be very proper to make the vitriol contained in this appear, and exert itself in the working with it. This stone is used by shoemakers to polish women's shoes.

AGERIUM. See **AGISTMENT**.

AGERSOE, in *Geography*, a small island of Denmark, in the Greater Belt; two leagues south of Corføer.

AGES, signifies the palm or hollow of the hand.

AGESANDER, in *Biography*, one of the three sculptors, who jointly executed the famous antique group of **LAOCOON**, was born at Rhodes, and flourished about the 88th olympiad. His name stands first upon the plinth of the group.

AGESILAUS, in *Ancient History*, one of the most illustrious kings of Sparta, succeeded his brother Agis against the competition of his nephew Leotychides, to whom by the laws the crown would have regularly descended. As he was a younger son of Archidamus II. he could have no view to the kingdom; and he was therefore educated in all the rigour of the Spartan discipline, and in the habits of self-denial, labour and obedience, from which those who were heirs to the throne were exempted. He thus acquired a degree of popularity, which, notwithstanding his low stature, and his being lame in one leg, secured his succession; more especially as he was patronized and supported by Lysander, whose influence in the state was very considerable, and his rival was suspected of being the son of Alcibiades, who was said to have corrupted the queen of Agis, by a present of a thousand darics. His disposition and manners, which combined resolution and activity, with condescension and gentleness, more than counterbalanced his natural defects; and though the oracle had warned the Spartans against a *same reign*, Lysander contrived to interpret the warning as a caution against the illegitimacy of Leotychides, and thus to facilitate the establishment of Agesilaus. By his subsequent conduct he ingratiated himself with persons of all ranks and parties to such a degree, that the Ephori are said to have checked his ambition by imposing a fine upon him, because he attached the affections of the citizens to himself alone, and thus alienated them from the republic to which they rightfully belonged. Such, however, were the attention and deference which he manifested towards the Ephori and the senate, that he obtained their entire confidence; and his authority was superior to that of any other king of Sparta. Soon after he ascended the throne, ante Christ. 396, the king of Persia fitted out a powerful fleet, in order to deprive the Lacedæmonians of their empire at sea. Agesilaus, at the instigation of Lysander, was appointed general of the forces that were destined to an expedition against Artaxerxes; and he accepted the office on condition, that a council of 30 Spartan commanders should accompany him, and that Lysander should be the chief of this council. During his delay at Aulis, he had a quarrel with the Bœotians about a sacrifice, which occasioned a war, that terminated in the subversion of the Spartan dominion. When he arrived at Ephesus, a message was addressed to him by Tissaphernes, the lieutenant of the Persian king, demanding his reason for

coming into Asia with an armed force; to which he replied, that his purpose was to aid the Greeks, who inhabited there, in recovering their ancient liberty. Tissaphernes, in order to gain time, promised in behalf of his master to grant liberty to the Grecian cities of Asia. Agesilaus acquiesced, and a truce was settled between them. In the mean while the Persian general, regardless of his oath, took advantage of the delay, assembled troops and prepared for war. Agesilaus, though apprized of his treachery, adhered to his engagement; and this religious observation of a solemn treaty gained him, as Xenophon informs us, the universal esteem of the cities, whilst Tissaphernes, by a different conduct, entirely lost their favour. This interval afforded the Lacedæmonian general an opportunity for acquiring an accurate knowledge of the state of the country and of the disposition of the inhabitants. In the course of his enquiry he found that Lysander arrogated a degree of power, which encroached on his authority and obstructed his influence. Agesilaus did not dissemble his disgust. Having given the most considerable commands and best governments to private officers, he appointed Lysander commissary of the stores and distributor of provisions, and for the purpose of further mortifying him and deriding the Ionians, he directed them "to consult their master-butcher." Lysander, afterwards returning to Greece, projected a variety of schemes for overturning the constitution of Sparta, but his death prevented their accomplishment.

When Tissaphernes had collected his forces, he commanded Agesilaus to retire from Asia, and upon his refusal declared war against him. The subordinate officers of the Spartan general were alarmed, but Agesilaus himself was composed and cheerful; and having transmitted his thanks to Tissaphernes "for having made the Gods, by his perjury, the enemies of Persia, and the friends of Greece," he made a feint of marching his army into Caria, the residence of the Persian lieutenant, but actually overran Phrygia, where he took many towns and amassed immense treasures, which he distributed among his officers and soldiers. Having wintered at Ephesus, he devoted the ensuing spring to the exercise and discipline of his army, which he encouraged by the distribution of prizes; and at the same time he inspired his soldiers with a contempt of their enemies, by stripping the prisoners and exposing them and their garments to sale. The latter were eagerly purchased; but the prisoners themselves were so delicate and feeble, that they were deemed of no service or value: "see there," says Agesilaus to his soldiers, "the persons against whom you fight;" and pointing to their rich spoils, "behold there for what you fight." As the season advanced, the Lacedæmonian army marched into Lydia, defeated the Persians near Sardis, and ravaged the whole country. This success terminated in the death of Tissaphernes; his command devolved on Tithraustes, who attempted to conciliate Agesilaus by rich presents, and to induce him to withdraw his troops and to return into Greece by the promise of liberty to the cities of Asia, upon their payment of the customary tribute. The Spartan king, however, deferred the proposed accommodation till he had submitted it to the consideration of the state, and received orders for this purpose. In the mean while he marched into Phrygia, which was the province of Pharnabazus, and the expence of his expedition thither was defrayed by Tithraustes. During his progress he received new powers from home, by which he was constituted sole commander both by sea and land; an honour which Sparta had never before conferred on any of its generals. From Phrygia, where he amassed large sums of money, he advanced as far as Paphlagonia, and formed an alliance with Cotys, the prince of that

country. Phrygia was at this time laid waste by Sythiades who had revolted from Pharnabazus and joined Agesilaus. In this clear time Pharnabazus demanded an interview with the Spartan king, whom he found sitting upon the grass; whilst the Persians spread rich carpets of various colours and magnificent cushions for the accommodation of their master. Overcome by the simplicity and modesty of Agesilaus, Pharnabazus sat down by his side upon the grass. At the close of this conference, they parted with mutual tokens of friendship and respect; to the expostulations of Pharnabazus, which the Spartans heard with downcast eyes and silent silence, Agesilaus replied, that war often aims at the destruction of each other for the defence of their country. "But," says he, "if you prefer the appellation of the friend and ally of the Greeks to that of the king of Persia's slave, you may reckon that all the troops you see here are yours, our arms, our ships, our persons, to the last man of us, are only here to defend your possessions, and secure your liberty, which of all blessings is the most precious and desirable." Pharnabazus pledged himself not to depart from the faith he had sworn to him, nor to quit his service; and Agesilaus taking him by the hand, and rising with him, replied, "that it was the pleasure of the Gods, that with such noble sentiments you should be rather our friend than our enemy;" and he promised to withdraw from his government, and never to return to it, whilst he could subsist any where else.

During the two years of Agesilaus's command in Asia, he exhibited all the talents of a warrior and statesman, and all the virtues of a Lacedæmonian. The remotest provinces trembled at his name, and resounded with the fame of his wisdom, disinterestedness, moderation, intrepid valour in the most pressing dangers, and invincible patience and firmness in enduring toil and fatigue. Such was the respect which his conduct and character commanded, that deputies were sent from all parts in order to form alliances with him; and his army increased continually by the accession of Barbarians that enlisted under his standard. Whilst he allowed his soldiers the advantage of pillage, he himself was not chargeable with any act of cruelty or injustice. His prudence and authority were so much esteemed, that he restored order and tranquillity to all the cities of Asia, and reinstated them in the possession of their liberty, not only without shedding of blood, but without even banishing a single person. Ambitious of extending the glory of his country, and of Greece in general, he had formed the design of attacking the king of Persia in the heart of his dominions, and of so occupying his time and attention, that he might have no leisure for directing his hostile views and schemes to distant provinces. But before he could execute his purpose, he was recalled by the Ephori to the defence of his own country. As soon as he received the order for returning, he instantly obeyed; alledging, that he received the command not for himself, but for his country and its allies. "I know," says he, "that a general does not deserve, or possess, that name really, but as he submits to the laws and the Ephori, and obeys the magistrates." On his departure, however, he said, "that 30,000 of the king's archers drove him out of Asia;" alluding in these words to a species of Persian coin, which had on one side the figure of an archer, 30,000 of which pieces of money had been dispersed in Greece to corrupt the orators and persons of greatest power in the cities.

Agesilaus, when he quitted Asia, was accompanied by Xenophon; and at Ephesus he committed half the gold he had brought with him from his expedition into Persia with Cyrus to the custody of Megabyzus, the guardian of Diana's temple, with an order, in case of his death, to conse-

crate it to the goddess. On his return through Thrace, he only demanded, "whether he should pass as a friend or an enemy?" and when the king of Macedonia replied, "that he would consider of it:" "Let him consider," says Agesilaus, "in the mean time we will march." Before he arrived at Sparta, he received an order from the Ephori to invade Boeotia, with which he complied, though the measure was not such as he approved. On the plains of Cheronea, a very severe engagement took place, in which Agesilaus received several wounds, and his life was exposed to great danger. Some of the enemy had taken refuge in a temple of Minerva, near the field of battle; and these Agesilaus ordered to be dismissed, and appointed a guard to escort them in safety wherever they chose to go. After this battle he returned to Sparta, and was received with admiration and joy. Uncorrupted by the customs and manners of foreign countries, as other generals had been, he made no alteration in his diet, furniture, or equipage. His enterprise against Corinth did not succeed; but his expedition against the Acarnanians compelled them to sue for peace. In the year before Christ, 387, the sovereignty of Greece was guaranteed to Sparta by the peace with the Persian king, negotiated by Antalcidas, on the dishonourable condition of abandoning the Greek cities of Asia to the Persians. After this event, the Spartans treated some of the smaller states in a tyrannical manner, and unjustly seized the citadel of Thebes, in which act Agesilaus disgracefully concurred. Sparta was thus involved in a new war with Athens, in which the Thebans, under the illustrious Epaminondas, became formidable to their oppressors: and it was alledged against Agesilaus, that he had taught them the art of war, by his expeditions against them, so that they were able to encounter the Lacedæmonians in the field, as was the case in the battle of Leuctra, when Archidamus, the son of Agesilaus, and Cleombrotus, the other Spartan king, were defeated with great loss, and Cleombrotus left dead on the spot. In consequence of this disaster, Agesilaus was invested with a dictatorial power, for the purpose of saving the fugitives from the severity of the Spartan laws, without prejudice to the state: and on this occasion he decreed:—"let the laws sleep to-day, but to-morrow let them resume their full vigour." After this battle, Agesilaus exerted himself in levying a new army, in defending Sparta from the hostile attacks of Epaminondas, and in suppressing a conspiracy which took place among the Spartans themselves. In the year before Christ 362, some new commotions broke out in Peloponnesus; and Agesilaus was defeated, at the head of the Spartans and their allies, in the battle of Mantinea, by Epaminondas, who died in the moment of victory. When a general peace was established, the Lacedæmonians were excepted, by the culpable obstinacy of Agesilaus, who refused to concur, because the Mæsenians were comprehended in it as a separate state.

Agesilaus, in the decline of life, accepted the command of a band of mercenary troops in the service of Tachos, who aspired to the throne of Egypt. This commission reflected no great honour on the character of this illustrious Spartan, who, at the age of 80 years, degraded himself by receiving the pay of an Egyptian, and serving a barbarian, who had revolted against his master. The Egyptians resorted in great multitudes to see a man, whose name and character had been so long and so generally applauded; but connecting splendour and magnificence with their ideas, they were disappointed when they saw an old man, of a mean aspect and low stature: they applied to him the fable of the mountain in labour, and could scarce refrain from laughter and ridicule. His conduct, however, soon produced a change of

opinion. When he found that Tachos did not assign him the command of the whole army, but restricted his authority merely to the foreign troops, he was surprized and mortified; and he was the more incensed by the contempt with which his counsel was received, and by various instances of neglect which he experienced. Thus provoked, he joined those Egyptians who took part with Nectanebis, the other competitor for the crown, and assisted them in establishing the rival of Tachos on the throne. Agefilaus pleaded public utility as an apology for his versatile conduct in this instance: Xenophon attempts to palliate it; but Plutarch charges it with the infamy of perfidy and treason. The following winter, in the year before Christ 361, he embarked to return to Lacedæmon; but was driven by a storm upon the coast of Africa, into a place called the Port of Menelaus; where he fell sick and died, at the age of 84 years, after a reign of 41 years, during 30 of which he maintained the most distinguished reputation. His latter years, after the battle of Leuctra, were less honourable: and Xenophon, in his eulogium of this prince, has been thought too much to exaggerate his virtues, and to extenuate his faults. His body was carried to Sparta, and embalmed with wax instead of honey, which was usually employed for this purpose. His son Archidamus succeeded to the throne, which continued in his house to Agis, who was the fifth king of the line of Agefilaus. His life and actions have been recorded, not only by Xenophon, his intimate friend and panegyrist, but by Diodorus Siculus, Plutarch, and Nepos. Many anecdotes are related concerning him, which sufficiently mark his character, and evince the high estimation in which he was held by his contemporaries. Hearing the great king, an appellation assumed by the kings of Persia, spoken of in terms of extraordinary commendation; he is reported to have said—"I cannot conceive wherein he is greater than I, unless he be more just." His regard to justice, however, was sometimes sacrificed to his attachment to his country, and to the bias of private friendship and affection. In recommending a friend to a judge, he says—"If Nicias be not guilty, acquit him for his innocence; if he be, acquit him for my sake; but, however it be, acquit him." His contempt of unmerited praise, and his superiority to ostentation and vain-glory were prominent features in his character. Accordingly, he would never permit, during his life, that his picture should be drawn; and at his death, he expressly forbid any image to be made of him, either in colours or relieve. "Let my actions," he would say, "if deserving, be my monument." The following anecdote furnishes a pleasing evidence of his domestic affections. When a friend found him riding upon a stick with his children, "Tell nobody what you have seen (said Agefilaus) till you are yourself a father." Xenophon Hist. Græc. Plutarch in Agefil. Corn. Nepos. in Agefil. Univ. Hist. vol. v. p. 460. Diodorus Siculus. Rollin's Ant. Hist. vol. iii. p. 369—400. vol. iv. p. 137—196.

AGESILAUS, in *Mythology*, the surname of Pluto, which was given to him, because he conducted all mankind into his empire; παρά τὸ ἀγνὴν τῆς λαῆς.

AGESINATES, in *Ancient Geography*, a people of Gaul, placed by M. d'Anville in the territory of the Pictones or Pictavi.

AGESSUS, a town of Thrace, called by Pliny (l. iii. c. 11.) *Agafus*, and by Livy, (l. xlv. c. 7.) *Agassa*, but assigned to Macedonia in the confines of Thrace. Stephan. Byz. Hardouin mentions imperial Greek medals belonging to this city.

AGETORIA, in *Antiquity*, feasts mentioned by Hesy-

chius, which were probably instituted in honour of Apollo, and the sum that were observed by the Lacedæmonians, under the appellation of *Caristia*. Venus was also honoured at these feasts, as we may conclude from the name of *αἰσῆς*, which was given in the island of Cyprus to the priest of this goddess.

AGEUSTIA, or AGHEUSTIA, formed of *αἰ* private, and *γῆ* earth, *traville*, in *Medicine*, a defect in the sense of taste. This disease may arise from an organic affection, or a disease of the organs. The taste may be depraved or diminished by fur, mucus, ἀρτηρία, ulcers, &c. on the tongue; or by a diseased secretion of saliva. It may be entirely abolished by injuries done to the nerves of the tongue and palate.

This constitutes one of the genera of diseases in the arrangement of Dr. Cullen; and he divides it into *A. organica*, arising from a disease in the membrane of the tongue, keeping off from the nerves those substances which ought to produce taste; and *A. atonica*, which occurs without any evident disease of the tongue.

Cure.—When the taste is diminished or depraved by fur or mucus, as usually happens in *FEVERS*, it is rarely possible to restore it by any other means than those which subdue the fever. The tongue, teeth, and fauces, should be washed with detergent gargles, of which the aqua ammoniæ, or common sal volatile, properly diluted with water, is the most effectual in dissolving the mucus. The tongue may be gently scraped when moist, and the teeth brushed. When the taste is depraved by a diseased secretion of saliva, the cure depends on restoring the natural secretion. If bile, or any *SABURRA* in the stomach, disorder the natural taste, recourse must be had to emetics or the proper correctors of the offending cause: acidity is removed by alkalis, chalk, magnesia, and even by other acids.

AGGADA, in *Jewish Antiquity*, an ingenious tale or story; of which kind there are many in the Talmud.

There are several books extant among the Jews under this title. R. San Israel Ben Juda has published *Novellæ Aggadarum*, or new explanations of the stories and relations in the TALMUD, discovering the hidden meanings thereof.

AGGAS, ROBERT, in *Biography*, commonly called AUGUS, a good English landscape painter, who was also skilled in architecture, lived in the reign of Charles II. He painted both in oil and distemper; but few of his pictures are extant. The best is a landscape presented to the company of paper-stainers, and preserved in their hall. He died in London, in 1679, at the age of about 60 years. Biog. Dict.

AGGAS, RALPH, an engraver, published the plan of Oxford and Cambridge, in 1578, and a map of Dunwich in 1589. He engraved, on wooden blocks, the plan of London, afterwards engraved on copper by Vertue. Strutt.

AGGER, in *Ancient Writers*, denotes the middle part of a military road, raised into a ridge, with a gentle slope on either side, to make a drain for the water, and keep the way dry. The appellation is also used for the whole road, or military way.

Where high-ways were to be made in low grounds, as between two hills, the Romans used to raise them above the adjacent land, so as to make them on a level with the hills. These banks they called *aggeres*. Bergier mentions several in the *Gallia Belgica*, which were thus raised, ten, fifteen, or twenty feet above ground, and five or six leagues long.

They are sometimes also called *aggeres calceati*, and now generally known by the name *CHAUSSEES*, or *CAUSEWAYS*.

AGGER also denotes a work of fortification, used both for the

the defence and attack of towns, camps, &c. In which sense it is the same with what was otherwise called *quadam*, and in later times *agellum*, and among the moderns *line*; for *quadam*, *line*, *agellum*, &c.

The agger was usually a bank, or elevation of earth, or other matter, bound and supported with timber; having sometimes turrets on the top, wherein the workmen, engineers, and soldiers were placed. It was also accompanied with a ditch, which served as its chief defence.

The usual materials of which it was made, were earth, boughs, fascines, stakes, and even trunks of trees, ropes, &c. variously crossed, and interwoven somewhat in the figure of stars; whence they were called *stellati axes*. See Lucan iii. 455, 501. Silius Ital. xiii. 109. Where these were wanting, stones, bricks, tiles, supplied the office: on some occasions, beams, utensils, pack-saddles, were thrown in to fill up. What is more, we read of aggers formed of the carcasses of the dead; sometimes of dead bones mixed with lime, and even with the heads of slaughtered citizens. For want of due binding, or solid materials, aggers have sometimes tumbled down, with infinite mischief to the men.

The besiegers used to carry on a work of this kind nearer and nearer towards the place, till at length they even reached the wall. The methods taken, on the other side, to defeat them, were by fire, especially if the agger were of wood; by sapping and undermining, if of earth; and, in some cases, by erecting a counter agger. Thus the inhabitants of Gaza defended themselves against Alexander. Q. Curtius iv. b. xxi.

The height of the agger was frequently equal to that of the wall of the place. Cæsar tells us of one he made, which was 30 feet high, and 330 feet broad. Besides the use of aggers before towns, the generals used to fortify their camps with such works; for want of this precaution divers armies have been surpris'd and ruined.

There were vast aggers made in towns and places on the sea-side, fortified with towers, castles, &c. Those made by Cæsar and Pompey at Brundisium, are famous. Sometimes aggers were even built across arms of the sea, lakes, and morasses; as was done by Alexander before Tyre, and by M. Antony and Cassius.

The wall of Severus, in the north of England, may be considered as a grand agger, to which belong several lesser ones. Besides the principal agger or *vallum*, on the brink of the ditch, Mr. Horsley describes another agger on the south side of the former, about five paces distant from it, which he calls the south agger; and another larger agger on the north side of the ditch, called the north agger. This latter he conjectures to have served as a military way; the former, probably, was made for an inner defence, in case the enemy should beat them from any part of the principal *vallum*, or to protect the soldiers against any sudden attack from the provincial Britons.

AGGER *Tarquiniæ*, Tarquin's agger, was a famous fence built by Tarquinius Superbus, on the east side of Rome, to stop the incursions of the Latins, and other enemies, whereby the city might be infested. See Plin. iii. 5. Criminals were thrown down from the top of this rampart. Juv. Sat. vi. 288. Sueton. in Cal. c. 27. n. 3.

AGGER is also used for the earth dug out of a trench, and thrown upon the brink of it.

In which sense, the chevalier Folard thinks the word to be understood, when used in the plural number, since we can hardly suppose they would raise a number of cavaliers, or terrasses.

AGGER is also used for a bank, or wall, erected against the sea, or some great river, to confine or keep it within bounds.

In which sense, agger amounts to the same with what the ancients call *tumulus* and *moles*; the Dutch, *dyke*; we, *dam*, *sea-wall*.

AGGER also denotes a heap of earth, raised over the graves of the ancients.

In which sense, it amounts to the same with *tumulus*; and is sometimes also called *agellum*.

AGGER, in *Geography*, a river of the circle of Westphalia, which waters the county of Marck and the duchy of Berg, and falls into the Rhine.

AGGERHUUS, or CHRISTIANIA, the largest diocese or general government in the south part of Norway; and the richest, as well as most considerable, in the whole kingdom. It was formerly called *Hammerfist*, and afterwards known by the name of *Opfloe*. Aggerhuus is also the name of a fortress in this diocese, on the west side of the bay, near which lies the city of CHRISTIANIA. It is not known when it was built. It has been repeatedly besieged by the Swedes, viz. in 1310, in 1567, and in 1717, by Charles XII. without success. The governor of Aggerhuus is the chief governor of Norway: he presides in the high court of justice, called *Overhofstet*, which judges in the last resort, all civil causes above a certain value. In all causes surpassing that value, an appeal lies to the supreme court at Copenhagen. N. lat. 59° 6'. E. long. 10° 26'. The oldest church in this diocese, said to have been built about 700 years ago, and called *Aggers*, is situated about a quarter of a Norway mile north of the castle. The population of this diocese is estimated at 215,043 persons.

AGGERS-HERRED, a shire of Aggerhuus, which comprises three districts, with as many courts of judicature, viz. *Agger*, *East* and *West Barum*, and *Ager*. CHRISTIANA is situated in this district.

AGGEROUT, or AGGEROUD, supposed to be the ancient ARSINOË, is situated at the extremity of the Red Sea, about two leagues from the port of Suez. Here terminated the famous canal, begun by Neco and finished by Ptolemy Philadelphus, for joining the Nile to the Red Sea. Between the time of Ptolemy and our days, the Red Sea has retired two leagues, which is the distance of Aggeroud from Suez.

AGGI, a river of Persia, which runs into the Aras, near Chambe, in the province of Aiderbeitzan.

AGGILE, a town of Prussia; 13 leagues east-north-east of Königsberg.

AGGLESTONE, otherwise called *Stone-Barrow*, and vulgarly the *Devil's Night Cap*, is a remarkable monument of antiquity situated in the north-east extremity of the isle of Purbeck. Its dimensions are 60 feet in circumference at the bottom, in the middle 80, and at or near the top 90; and it is computed to contain 407 tons of stone. The name seems to have been derived from the Saxon *halig*, or *belig*, *boly*, and *stan*, *stone*, which expresses its ancient use: as it was probably a rock idol in the British age.

AGGLUTINANTS, in *Pharmacy*, a species of strengthening medicines, whose office and effect are to adhere to the solid parts of the body, and thus recruit and supply the place of what is worn off, and wasted, in the animal actions.

Agglutinants are most of them of the glutinous kind, or such as easily form themselves into jellies, and gummy consistences; whence the name *agglutinant*, which is formed of *ad*, *to*, and *gluten*, *glue*.

For the operation and use of agglutinants, see STRENGTHENERS.

The principal simples which come under this class, found in the shops, are, isinglass, olibanum, gum arabic, dragon's blood,

blood, cassia, sago, vermicelli, pulse, comfrey, plantain, &c. If the term, says Dr. Cullen, has any foundation at all, it must have the same meaning with that of nutrient; and there is no propriety in using a doubtful theoretical term. Nor is the term less improperly applied to medicines that are suited to cement and reunite parts preternaturally separated, and therefore employed in wounds and ulcers. British surgeons neither know nor employ any such medicines: the business is the work of nature; and their concern is to remove impediments to its operation. Cullen's Mat. Med. vol. i. 163.

AGGLUTINATIO Pilorum, a healing or reducing the hairs of the eye-lids, that grow inwards, to their natural order and situation. This may be done by malle applied with a probe, which bends the hairs back into their proper order. Bitumen, the slime of a snail taken off with a needle, the juice of hawks-weed, the liquor of agglutinants, or ammoniac, produce the same effect.

AGGLUTINATION, literally denotes the act of joining or cementing two bodies together, by means of a proper GLUE or CEMENT.

In *Medicine*, the term is peculiarly used for the apposition or adherence of a new substance; or the giving a greater consistence to the animal fluids, to fit them the more for nourishment.

Some assign a difference between agglutination and *assimilation*: in that species of leprosy called *λευκη*, there is an adhesion, or agglutination of the nutriment, but no *assimilation*. In the anasarcaous dropsy, on the contrary, there is an *adjunction*, without any agglutination; i. e. there is an afflux of new matter, or nourishment, but this is so thin, and watery, that it wants the due stiffness and tenacity to make it bind.

Some will have agglutination to be effected by a *ferment*: others assert, that by reason of the glutinous quality of the chyle, a mere contact suffices to make it adhere to the parts.

AGGLUTINATION is used by some astronomers to denote the meeting of two or more stars in the same part of the ZODIAC.

AGGLUTINATION is more peculiarly understood of the seeming condition of several stars, so as to form a NEBULOUS star.

AGGLUTINATION, in *Surgery*, the same as ADHESION. The reunion of wounds was formerly supposed to be effected by means of certain applications, named AGGLUTINANTS; but these remedies are now known to act only by keeping the separated parts in exact apposition. The doctrine of adhesion is treated at large in the first volume of Mr. John Bell's "Principles of Surgery." See the article WOUNDS.

A preternatural agglutination of the eyelids constitutes the disease named ANCHYLOEPPHARON.

AGGRAVATION, compounded of *ad, to*, and *gravis*, heavy, the act of augmenting a CRIME, or PUNISHMENT thereof.

Aggravation, in the *Romish Canon Law*, is particularly used for an ecclesiastical censure, threatening an EXCOMMUNICATION, after three admonitions used in vain.

From aggravation they proceed to re-aggravation; which is the last EXCOMMUNICATION.

AGGREGATÆ glandule, the small glands in the cellular, which is next to the villous coat of the intestines, are so called; but as these glands are not visible in an uninjected gut, many anatomists suspect them to be only little bits of separated wax.

AGGREGATÆ Terra, in the Linnæan system of *Minerology*, denote the seventh order of earths, compre-

hending those that are formed of the aggregate earths of the preceding orders. To this order belong the six following genera, viz. *Granites*, *Gneissum*, *Porphyrias*, *Amygdalites*, *Brachia*, and *Aravines*.

AGGREGATE, is formed of *ad, to*, and *græco, gregis*, a flock, the sum, or result of several things, aggregated, or added together.

Natural bodies are *aggregates*, or assemblages of particles, or corpuscles, bound together by the principles of attraction. Bodies politic are likewise said to be aggregate; such as mayor and commonality, dean and chapter, &c. in contradistinction to corporation *sole*; such as the king, a bishop, &c.

AGGREGATE, in general, signifies a body resulting from the union of others of the same kind which are smaller, the whole sum of which combined is called the aggregate. The minutest parts into which an aggregate can be imagined to be divided without decomposition, are called ingredient parts; but the parts into which it is divided by decomposition are called component parts or principles. It is particularly used by some chemists and naturalists, for a numerous collection of atoms, or minutest corpuscles, whether homogeneous or heterogeneous, joined together by contiguity, without regard to the quality of such atoms. In which sense aggregate differs from MIXT, as the former supposes no particular situation, or position, of the corpuscles, other than what arises from their proportion, and the relation they bear to the ambient bodies, among which the coalition is formed.

Aggregate also differs from mixt, as the latter is formed immediately out of the principles of matter, so firmly united, as that it was very difficult, if not impossible, to separate them.

Aggregate again differs from compound, as the latter is formed out of mixts, and is easily dissolvable.

Aggregates then, are the ultimate compounds, or the last effects of composition; they resolve into compounds as their next ingredients, these into mixts, and mixts into simples, or principles; though in strictness, aggregates may resolve also into mixts, and mixts into simples, inasmuch as they consist of heterogeneous parts.

This doctrine and distinction of aggregates, mixts, and compounds, is the foundation of the *chemical theory* of Beccher and Stahl; the last of whom has traced it with great exactness. Hence has arisen a new doctrine of earths, metals, &c. which has since been illustrated and extended by the best modern chemists.

AGGREGATE, in *Botany*, is a term used to express those flowers, which are composed of parts or florets, so united or incorporated by means either of the receptacle or calyx, that no one of them can be taken away without destroying the form of the whole. They are opposed to simple flowers, which have no such common part, which is either the receptacle or the calyx, and are usually divided into seven kinds, viz. the *aggregate*, properly so called, whose receptacle is dilated, and whose florets are supported by foot-stalks; such are the blue daisy, thrift, or sea-pink, &c.: the *compound*, which consist of several florets, that are placed, without partial peduncles, on a common dilated receptacle, and within a common perianthium; and where each floret hath its proper calyx, it is also a perianthium: *Umbellate*, when the flower consists of many florets placed on fastigate peduncles, proceeding from the same stem or receptacle; and which, though of different lengths, rise to such a height as to form a regular head or UMBEL, flat, convex, or concave: *Cymous*, when several fastigate peduncles proceed from the same centre, like the umbel, and rise to nearly an even height; but unlike the umbel, the secondary

ary or partial peduncles proceed without any regular order, as in *Funibacis*, *viburnum*, &c.: *Amntaceous*, which have a long common receptacle, along which are disposed squamæ or scales, which form that sort of calyx called the *AMEN-TUM*: *Glumose*, which proceed from a common husky calyx belonging to grasses, called *GLUMA*, many of which flowers are placed on a common receptacle called *rachis*, collecting the florets into the spike, as *triticum*, *hordeum*, *lolium*, &c.: and *Spadiceous*, which have a common receptacle, protruded from within a common calyx, called *SPATHA*, along which are disposed several florets. Such a receptacle is called a *SPADIX*, and is either branched, as in *phœnix*; or simple, as in *narcissus*, &c. In this last case, the florets may be disposed all around it, as in *calla*, *dracontium*, &c.; on the lower part of it, as in *arum*, &c.; or on one side, as in *zosteria*, &c. These flowers have generally no partial calyx.

AGGREGATE, in the *Linnean System of Botany*, is one of the natural methods of classing plants, and comprehending those which have **AGGREGATE** flowers.

AGGREGATE fund. See **FUND.**

AGGREGATE corporation. See **CORPORATION.**

AGGREGATION, in *Physics*, a species of **UNION**, whereby several things, which have no natural dependence or connection with one another, are collected together, so as in some sense to constitute one. Thus, a heap of sand, or a mass of ruins, are bodies by aggregation.

AGGREGATION, in *Chemistry*, denotes the adhesion of parts of the same kind. Thus, a number of pieces of brimstone united by fusion, form an aggregate. For the difference between aggregation, mixture, and combination, or composition, see these articles.

AGGREGATION is also used *figuratively*, for **ASSOCIATION**. We say, to be of a company, or community, by aggregation.—An aggregation of several doctors to the faculty of laws.—In Italy, aggregations are frequently made of houses, or families; by virtue whereof, they all bear the same name and arms.

AGGRESSOR, in *Law*, is the person of two contending parties, who makes the assault or attack; or who began the quarrel, encounter, or difference.

In criminal matters, it is always first inquired who was the aggressor.

AGGSPACH, in *Geography*, a market town in the circle above the Manharts-berg, in Austria, seated on the Danube; 12 leagues west of Vienna.

AGGYA, in *Ancient Geography*, a town of Africa, mentioned by St. Augustin.

AGHADOE, a village of Ireland, anciently a bishop's see, now united with Ardferit.

AGHENISH, an island of Ireland, in the river Shannon; 16 miles below Limerick.

AGHER, or **AUGHER**, a town of Ireland, in the south of Ulster, not far from Clogher.

AGHEUSTIA, in *Medicine*. See **AGEUSTIA**.

AGHRIM, in *Geography*, a town of Ireland, in the county of Wicklow and province of Leinster, about 31 miles south-west of Wicklow.

AGHRIM, a village in the county of Galway, worthy of being recorded on account of a decisive battle fought there and at Kilcommodon hill, July 12th, 1691, between general Ginkle and M. St. Ruth, the two commanders under William III. and James II. when St. Ruth, with 7000 of his men, were slain, and of the English only 600.

AGHRIS Point, a cape on the west coast of Ireland, and north coast of the county of Sligo; 11 miles west of Sligo. N. lat. 54° 17'. W. long. 9° 22'.

AGHUNALASHIKA, or **UNALASKA**, one of the Fox islands in the northern Archipelago.

AGIA, a river on the north of Pensacola, the capital of West Florida, which, running east-north-east, falls into the bay of Santa Maria Galves.

AGIA Laura, a town of European Turkey, in the province of Macedonia; 19 miles south-east of Saloniki.

AGIADES, a kind of Turkish soldiery, employed in fortifying of camps, smoothing of roads, and the like offices. Du-Cange.

AGIAHALID, the name of an Egyptian tree, called also *lycio* and *lycium*; it resembles the wild pear.

AGIASMA, from *αγιος*, *holy*, among *Ancient Writers*, is sometimes used for the whole church, sometimes for the more sacred part, or *bema*, wherein mass was said. Du-Cange.

AGIASOLUK, in *Geography*, a town of Asiatic Turkey, in the province of Natolia; 31 miles south-south-east of Smyrna.

AGIDES, denoting *jugglers*, in *Antiquity*, a name given to the priests of Cybele.

AGIDUM, or **NAGIDUM**, in *Ancient Geography*, a town of Cyprus, situated between *Aphrodisium* and *Lapathus*.

AGIGENSALON, a town of Asiatic Turkey, about a day's journey from Tocat, in the road to Ispahan from Constantinople.

AGILD, or **AGILDE**, from the privative *a*, and the Saxon *gildon*, to pay, in our *Ancient Customs*, a person so vile, that whoever killed him was to pay no mulct for his death.

AGILITY, a light and active habitude, or disposition of the members and parts of the body designed for motion. Some define agility, the art or habit of directing our strength, *i. e.* of exerting, or remitting it to advantage.

The improving of agility was one of the chief objects of the institutions of games and exercises. The *athleta* made particular profession of the science of cultivating and improving agility.

AGILLARIUS, in *Ancient Law-books*, a heyward, or keeper of a herd of cattle in a common field.

The *agillarius*, or *heyward of a town, or village*, was to supervise the greater cattle, or common herd of beasts, and keep them within their due bounds; and was otherwise called *bubulcus*, *q. d. cow-ward*, (whence the reproachful term *coward*).—If he were a cottager, or other servile tenant, he was exempted from the customary services, as being presumed to be always attending on his herd, as a shepherd on his flock, who had therefore the like privilege.

The *agillarius of the lord of a manor*, or a *religious house*, was an officer appointed to take care of the tillage and harvest-work, to pay the labourers, and see there were no incroachments made, or trespasses committed: the same in effect with what has been otherwise called *fieldman*, and *sithing-man*; and among us **BAILIFF**.

AGILUS, in *Ancient Geography*, a village of Peloponnesus, near mount Ira, in Messenia, where, according to Pausanias, (l. iv. Messen. c. xix.) Aristomenes was rescued from custody by the aid of a young woman, who afforded him the means of killing five guards, who conducted him to Sparta.

AGIMERE, in *Geography*, a country of Hindostan, bounded on the east by Agra, on the north by Delhi, on the south by Guzerat, and on the west by the sandy deserts towards the Indus. Its extent is considerable, and it comprehends many smaller states, as Agimere proper, Rampour, the

Foodpour, Rantampour, Ioinagur, Banfwaleh, Nagore, and Bickaneer. The capital of this subah, of the same name, is situated in a pleasant valley, and on all sides surrounded by mountains. Its circumference is six miles, and it is guarded by walls, towers, and a strong fortress; 170 miles west-fourth-west from Agra, and 178 miles west from Delhi. N. lat. $26^{\circ} 24'$. E. long. $75^{\circ} 20'$.

AGIMYTHA, a town of Asia in India, on the other side the Ganges. According to Ptolemy, it was situated in long. $170^{\circ} 40'$ and lat. $18^{\circ} 40'$.

AGINCOURT, in *Geography and History*, a village of the French Netherlands, situated in the county of St. Pol, ex-department of the Straits of Calais; N. lat. $50^{\circ} 35'$ and E. long. $2^{\circ} 10'$; remarkable for a glorious victory which the English, commanded by king Henry V. obtained over the French, Oct. 25th, in 1415. The army of Henry was reduced by sickness and various accidents to 10,000 men; and the French had collected a force consisting of 100,000, or, as some say, of 140,000 men, to intercept the march of the English from Harfleur towards Calais. The king had recourse to all the means in his power for encouraging the progress of his small army, amidst the difficulties and inconveniences of their route; and on the evening of October 24, they arrived at Agincourt, within sight of the French, and prepared for a battle, which it was impossible to avoid. Whilst the English soldiers were exhorting one another to fight bravely in the approaching action, the king overhearing some of his nobles expressing a wish, that the many brave men who were idle in England were present to assist them, exclaimed—"No! I would not have one man more; if we are defeated, we are too many; if it shall please God to give us the victory, as I trust he will, the smaller our number, the greater our glory." Henry, with the advantage of moon-light, reconnoitred the ground, and pitched upon a field of battle, admirably adapted for preserving a small army from being surrounded by a great one. It was a gentle declivity, from the village of Agincourt, of sufficient extent for his small army, defended on each side by hedges, trees, and brush-wood. Having determined upon the place of action, the king and his army betook themselves to rest; except those who, considering this as the last night of their lives, spent it in devotion. The French, exulting in their numbers, confident of victory, and supplied with abundance of provisions, spent the night in riotous festivity, and in forming schemes for the disposal of their prisoners and booty. It was, in general, resolved to put all the English to the sword, except the king and the chief nobility, who were to be made prisoners for the sake of their ransom. On the next morning the hostile armies were ranged in order of battle; each of them forming three lines, with bodies of cavalry on each wing. The constable d'Albert, who commanded the French army, lost the advantage of his superior number by drawing up his troops in a narrow plain, between two woods; and this was observed to be the chief cause of all the disasters that followed. The king of England employed various arts to supply his defect of numbers. His first line consisted wholly of archers, four in file; each of whom, besides his bow and arrows, had a battle-axe, a sword, and a stake pointed with iron at both ends, which he fixed before him in the ground, with the point inclining outwards, to protect him from the cavalry. This was a new invention, and had a happy effect. He dismissed all his prisoners on their word of honour to surrender themselves at Calais, if he gained the victory; and lodged all his baggage in the village of Agincourt, in his rear, under a slender guard. The first line was commanded by Edward duke of York; the second by the king himself; and the third by the duke of Exeter, the king's uncle. When the lines

were formed, the king, in shining armour, with a crown of gold, adorned with precious stones, on his helmet, mounted on a fine white horse, rode along them, and addressed each corps with a cheerful countenance and animating speeches. To inflame their resentment against their enemies, he told them that the French had determined to cut off three fingers of the right hand of every prisoner; and to rouse their love of honour, he declared, that every soldier who behaved well, should from that time be deemed a gentleman, and entitled to bear coat-armour. The English thus incited to exertion, stripped themselves almost naked, that they might deal their blows with the greater rapidity and vigour. The two armies, prepared for action, stood for a considerable time gazing at each other in solemn silence. At 10 o'clock, however, Henry, fearing that the French would discover the danger of their situation, and decline a battle, commanded the charge to be sounded. Upon this the English kneeled down and kissed the ground, and then rising suddenly, discharged a flight of arrows, which did great execution among the crowded ranks of the French. This onset was succeeded by the attack of a body of archers, who had been placed in ambush, and who discharged their arrows on the flank of the French line, and threw it into disorder. The battle now became general, and raged with uncommon fury. When the English archers had expended all their arrows, they threw away their bows, and, rushing forward, made dreadful havoc with their swords and battle-axes; the first line of the enemy was thus defeated; and its leaders either killed or taken prisoners. The second line, commanded by the duke d'Alençon, who had vowed either to kill the king or take him prisoner, or to perish in the attempt, advanced to the charge, and was encountered by the second line of the English, conducted by the king. The conflict was very furious. The duke d'Alençon forced his way to the king, and assaulted him with great violence; but the king brought him to the ground, and he was instantly dispatched. Discouraged by this disaster, the second line made no farther resistance; and the third fled without striking a blow; and thus the English, after a violent struggle of three hours, obtained a complete and signal victory. Although the king did not permit his men to pursue the fugitives to any great distance, the number of his captives exceeded that of his soldiers; and many of these prisoners were persons of rank and fortune, who, encumbered with their heavy armour, could not make their escape. The French left dead on the field of battle, the constable d'Albert, three dukes, the archbishop of Sens, one marshal, 13 earls, 92 barons, 1500 knights, and a far greater number of gentlemen, besides several thousands of common soldiers. The French historians acknowledge, that the loss of the English was inconsiderable; and those of our own contemporary writers who make it the greatest, affirm that it did not exceed 100; and that the duke of York and the earl of Suffolk were the only great men who fell on that side in this memorable action. To the gross error committed by the constable d'Albert, as much as to the wise measures of Henry, and the heroic valour of the English, the disgrace and ruin of the French army may be imputed. Henry, after this battle, pursued his march to Calais, with his spoils and prisoners; embarked for England, Nov. 16, and arrived that evening at Dover, where he was received with transports of joy, many of the people plunging into the sea to meet his barge. At his triumphant entry into London, Nov. 23, the shows and pageants exhibited by the citizens were so numerous that it would have required a volume to describe them. Henry's Hist. vol. ix. p. 46—54. 8vo.

AGINIS, a burgh or village of Asia in Susiana, situate on the east bank of the Tigris, towards lat. $30^{\circ} 15'$.

AGINNA, one of the towns of Ilia, mentioned by Ptolemy, at the boundary of Colchis, and placed in long. 75° 34' lat. 40° 34'.

AGINNATIL, a people of India, on the other side of the Ganges.

AGILHEIM, a city of the Nith-tribes, in Gallia Aquitania, on the Garonne.

AGINS, a river of Saxony, which runs into the Uda. N. lat. 52° 24' E. long. 9° 54'.

AGIO, an Italian word, signifying *aid*, is a term used chiefly in Holland, and at Venice, for the difference between the value of bank money, and current money. So that if a merchant who sells his merchandize, stipulated to be paid either 100 laves bank money, or 105 cash, or current money, in such case the agio is said to be 5 *per cent*.

The bank agio varies in almost every place, and is greater or smaller, according as the currency is supposed to be more or less degraded below the standard of the state. At Amsterdam it used to be generally about 5 *per cent*.; and by a resolution adopted not long before the late period of confusion, the bank sold bank-money for currency, at 5 *per cent*. agio, and bought it again at 4 *per cent*. agio. In consequence of this resolution, the agio could never either rise above 5, or sink below 4 *per cent*.; and the proportion between the market price of bank, and that of current money, was kept at all times very near to the proportion between their intrinsic values. One part of the profit of the bank accrued from selling bank-money at 5 *per cent*. agio, and buying it in at four. At Venice, the agio was 20 *per cent*. fixed: at Genoa, from 15 to 16 *per cent*. The agio of the bank of Hamburgh, which is said to be commonly about 14 *per cent*. is the supposed difference between the good standard money of the state, and the clipt, worn, and diminished currency poured into it from all the neighbouring states. See BANK and EXCHANGE.

AGIO is also used for the profit arising from discounting a note, bill, or the like.

AGIO is also used, though with some impropriety, for the rate of exchange of a sum negotiated, whether to profit or loss. It is also sometimes called **AGAL**.

AGIO of assurance is used, by some, for what we more usually call *policy of ASSURANCE*.

AGIOI Sarawa, in *Geography*, a town of the island of Cerdv; 16 miles south from Settia.

AGIOSYMANDRUM, compounded of *αγιος*, *holy*, and *συμνιον*, *I signify*; a wooden instrument used by the Greek and other churches, under the dominion of the Turks, to call together assemblies of the people.

The agiosymandrum was introduced in the place of bells, which the Turks prohibited their Christian subjects the use of, lest they should make them subservient to sedition.

AGIRIA, in *Ancient Geography*, a district of Spain, south-east of Bilbilis, belonging to the Celtiberians.

AGIRIUM. See **AGURIUM**.

AGIRU, in *Geography*, the western part of the island of Corfu, comprehending 20 villages, and about 8000 inhabitants: the only remarkable place in it is Castle St. Angelo, which lies on the south cape called Palacrum; and beneath it stands a lovely cove called Paleo Catrizza.

AGIS IV. in *Ancient History*, king of Sparta, was the son of Endaridas, and the 11th descendant from Agefilas, who made an expedition into Persia. This prince was eminently distinguished by his virtue in a corrupt period of the Spartan state, and by his laudable efforts for the reformation of his country. Sparta was sunk by the influx of wealth into luxury and indolence; and the discipline esta-

lished by the wisdom of Lycurgus, was neglected and corrupted. Agis, though brought up in affluence and indolence by his mother Agefilrate, and his grandmother Archidamia, who, as Plutarch informs us, possessed more gold and silver than all the other Lacedæmonians, lamented the degeneracy of his country; and at the age of 20 years, exhibited a signal example of self-denial and abstinence in his own conduct, and nobly attempted to restore the ancient discipline of Sparta. With this view he aspired to the royal power, and explicitly declared, "that he should not value being king, if it were not for the hopes of reviving the ancient laws and discipline of Sparta." A new law had been introduced, at the instigation of Epitades, one of the Ephori, in order to avenge himself on one of his sons, who had displeased him, for the alienation of hereditary estates. The consequence of this law was, that all patrimonial possessions were soon engrossed by a few persons; general poverty, and indolence prevailed; the inferior classes of the people envied their superiors; and those who were destitute of revenues, and excluded from a participation of honour and wealth, were indifferent and reluctant in their efforts against a common enemy, and constantly waiting for an opportunity to ameliorate their abject and depressed condition. In these circumstances of aggrandizement, on the one hand, and oppression and dissatisfaction on the other, Agis determined upon reformation. By the influence of Agefilas, his maternal uncle, who with sinister views embarked in the design, he engaged the co-operation of his mother and grandmother. The young men generally concurred; but those in more advanced life, and also the women of rank and wealth, trembled at the name of Lycurgus and reformation; and induced Leonidas, the other king, to oppose the projects of Agis. Agis, however, succeeded in obtaining a decree for cancelling all debts, and for the equal division of all the lands. For this purpose, he made an offer to the community of his own large estate, with 600 talents in money; and he procured, by the interposition and assistance of Lysander, the deposition and banishment of Leonidas, and the concurrence of Cleombrotus, his successor. The first measure that was adopted was the cancelling of debts; and in the execution of this, Agefilas, who being much in debt, was likely to be greatly benefited by it, was very active. Accordingly, all bonds were brought to the market-place, and burned in one pile, which Agefilas called "a glorious flame." But he contrived to defer the accomplishment of the other part of the equalizing plan; and, as Agis was under a necessity of marching to the succour of the Achæans, Agefilas, by his tyrannical conduct, induced a conspiracy for restoring Leonidas, which proved successful, and Cleombrotus was sent into exile. Agis, upon his return, was obliged to recur for sanctuary to a temple; and being betrayed by some false friends, who were bribed for this purpose, he was arrested in the name of the Ephori, and hurried to prison. Leonidas with a band of mercenaries, surrounded the prison, and the Ephori, and members of the senate who were in his interest, went in to interrogate Agis concerning the motives of his proceedings. The king averred, that it was his purpose to restore the institutions of Lycurgus; and that he would adhere to this purpose, even in the prospect of an immature death. His enemies then proceeded to pass sentence of death upon him, and the officers were ordered to remove him into a room where malefactors were strangled. But they, and even the mercenary soldiers, were restrained by their respect for his character from doing him any injury. When it was known that he was in custody, his mother and grandmother, and a multitude of people, assembled round the prison, and requested that he might have a fair trial. This applica-

tion in his favour, merely served to hasten his fate. As he was led to execution, he said to an officer whom he observed in tears—"Weep not for me, my friend, for as I am thus suffering contrary to all law and justice, I am much happier, and more to be envied, than those who have condemned me." He then offered his neck to the executioner, without the least sign of reluctance. The grandmother of Agis was next seized and executed; and last of all his mother was ordered to enter the dismal dungeon, where she beheld her son lying dead on the ground, and her aged parent at a little distance, with the fatal cord about her neck. Having laid the corpse by that of her son, and decently covered it with linen, she cast herself on the body of Agis, and tenderly saluting his cold lips, exclaimed—"O my son, the excess of thy humanity and moderation has been fatal, both to us and thee." Upon which, Amphares, one of the senators, whose cruelty had been signally displayed in this tragic scene, addressed her with a savage aspect—"Since you knew and approved the designs of your son, you shall share his recompence." She instantly rose, and rushed to the fatal cord, crying out—"May this, at least, be useful to Sparta."

Leonidas completed this tragedy, by forcing Agiatiss, the consort of Agis, who was very rich, and distinguished by her wisdom and virtue, as well as her beauty, to marry his son Cleomenes, to whom she conducted herself with as much attention as was consistent with the tender regard she entertained for the memory of Agis, and who is said to have profited by the account she gave him of the designs which the murdered sovereign had formed for the regulation of the government. Plut. in Agid. apud oper. tom. i. p. 795. Rollin's Anc. Hist. vol. v. p. 425—442.

AGIST, in *Law*, signifies to take in and feed the cattle of strangers in the king's forest, and to gather up the money due for the same. Chart. de Foresta, 9 Henry III. cap. 9. The officers appointed for this purpose are called *agisters*, or *gistakers*, and are made by the king's letters patent: there are four of them in every forest, wherein the king hath any pannage. Manw. For. Laws, 8vo.

The time for this is fifteen days before Michaelmas, and as many after, when the running of the cattle cannot prejudice the game.

AGISTMENT, is supposed to be formed of the French *giste*, a bed, or lying place: though Kennet excepts to this etymon, and chooses rather to derive it from *ager*, the field, or feeding-place for cattle; imagining agistment to have originally been the same with *agrarium*, *agerium*, or *agrosticum*, the profit of feeding cattle on such a piece of ground. The term is applied to taking other men's cattle into any ground, at a certain rate per week. It is so called, because the cattle are suffered *agister*, that is, to be *levant* and *couchant* there; and many great farms are employed to this purpose. 2 Inst. 643. Our graziers call cattle, which they thus take in to keep, *gisments*; and to *giste*, or *juice*, the ground, is when the occupier thereof feeds it not with his own flock, but takes in the cattle of others, to *agist* or pasture it. Agistment is likewise the profit of such feeding in a ground or field: and extends to the depasturing of barren cattle of the owner, for which tythes shall be paid to the parson.

Agistment is also used metaphorically for a charge, or burden on any thing.

In this sense we meet with *terra ad custodiam maris agistata*, i. e. charged with a tribute to keep out the sea.—So *terre agistate*, are lands whose owners are bound to keep up the sea-banks.

Agistment denotes likewise the duty or levy for repairing the banks and walls in Romney-marsh, which was particularly called *agistamentum*; and the act of laying such a pro-

portion of this duty on the several estates, was called *agistare*. See *MAN*.

AGISTOR, or AGISTATOR. See AGIST and AGISTMENT.

AGISYMBBA, in *Ancient Geography*, now Zanguebar, a district of Libya interior, situated, according to Agathemerus, to the south and east of the Arabian Anthiopaphagi. The parallel passing through this country 16° south of the equator, bounded the knowledge of the ancients to the south.

AGISYMBBA, in *Modern Geography*, a town of Africa, in the kingdom of Congo.

AGITA, or AGURI, in *Ancient Geography*, a small island between Sicily and Africa.

AGITATION, AGITATIO, properly signifies *shaking*; or reciprocal motion of a body.

The prophets, quakers, Pythian priestesses, &c. were subject to violent agitations of body. See INSPIRATION.

Among physiologists, the term is sometimes appropriated to that species of earthquake, called *tremor*, or *aristatio*.

Among the philosophers, it is chiefly used for an intestine commotion of the parts of any natural body.

Thus, fire is said to agitate the minute particles of bodies.—Fermentation and effervescence are attended with a brisk agitation of the particles.

Heat is supposed by some to consist in the agitation of the parts of the hot body; and sound is produced by a tremulous agitation, excited first in the sonorous body, and communicated thence to the ambient air.

AGITATION is likewise used for a violent hurry or perturbation of spirits, occasioned by some predominant passion.

AGITATION is also used, in *Medicine*, for a species of exercise, popularly called *swinging*; and, in general, for any exercise which shakes the body.

Bartholine mentions fits of the tooth-ach, deafness, &c. removed by vehement agitations of the body; and they have been found of especial use for preventing and dissolving concretions.

Dr. Sydenham attributes the great benefits of riding to agitation, which is very efficacious in removing obstructions of the viscera. See *ÆORA*.

Sanguification is in great measure effected by the agitation of the parts of the blood and chyle, in their continual circulation. DIGESTION itself is only supposed by some to be an insensible kind of agitation.

AGITATION of beasts in the forest, anciently signified the DRIFT of beasts in the forest.

AGITATIVE, something having power to agitate or shake another.

AGITATIVE force of a pendulum, is that which produces motion in it.

The agitative force of the pendulum arises from three things: 1. The power of gravity. 2. The weight fastened at the end of the rod. 3. The distance of that weight from the point of suspension; or, which amounts to the same thing, the length of the rod, or pendulum. Hist. Acad. Scien. 1714.

AGITATO, in *Music*, a term which implies not only a quick movement but a character of expression arising from passion and perturbation. Piccini's air, "Se il ciel mi divide," in the Alessandro of Metastasio, furnishes an admirable example of this kind of movement.

AGITATOR, in *Antiquity*, a charioteer; or he who drove or directed a chariot, or horses, in a race.

In which sense agitator amounts to the same with what the Romans called *auriga*; and we, a coachman, driver, &c.

AGITATOR was more peculiarly used for him who drove in the public *curule* games in the circus.

The agitators were distinguished by their habits, into *ruffians*.

raffai, allai, paffai, and anai, which gave rise and denomination to so many factions. Besides which, they had other marks or ensigns of their family, corresponding to what we call arms.

The conquerors, besides the ordinary rewards, *brassie*, as crowns, &c. had statues erected to them in the circus; on the bases whereof, their titles, achievements, &c. were inscribed; several of which are still found among ancient inscriptions, drawn in the following formula: *Victi pisse, fipisse, ligati, tunc, uno anno, alieno principis, duobus in-*

It has been disputed, whether the *agitators* were on the foot-ting of mines and pantomims, and by law held infamous? Briffon. Select. ex Jur. Civ. Ant. lib. i. cap. 10.

AGITATORS, *miliaris*, *agitatores miliaris*, were those who drove in the forum at Constantinople, a place adorned with statues, &c. after the manner of the circus at Rome, having a *miliare*, or *miliarium*, in the middle.

AGITATORS, in *English History*, were certain officers, created by the army in 1647, to take care of its interests. Each troop or company furnished two private men or inferior officers, under this title, who represented the army; whilst a council of the principal officers was appointed after the model of the house of peers; and thus a military parliament was formed in opposition to the parliament at Westminster. Cromwell leagued himself with the agitators, whom he found to have greater interest than the council of war; and who undertook to make proposals relating to the reformation of religion, and the state.

The agitators as well as the council of officers were altogether moved by his direction, and conveyed his wish to the whole army. By means of these instruments he overawed the parliament, and reduced it to submission; and having gained possession of the king's person, to whom for some time he and his officers paid attention and respect, he contrived to terrify him by the menaces of the agitators, and thus induced him to make his escape from Hampton Court, and to take refuge at Carisbroke Castle, in the Isle of Wight. Cromwell, being entirely master of the parliament, and free from all anxiety with regard to the custody of the king's person, applied himself seriously to quell those disorders in the army, which he himself had artfully raised and successfully employed, against both king and parliament. With this view, besides other measures which he adopted, he issued orders for discontinuing the meetings of the agitators; and he pretended to pay entire obedience to the parliament, whom, being now fully reduced to subjection, he proposed to make, for the future, the instruments of his authority. But the *Levellers*, for so that party was called, because they wished to abolish royalty and nobility, to level all ranks of men, to introduce an universal equality both of property and of power, and who maintained that the meanest sentinel, if enlightened by the spirit, was entitled to equal regard with the greatest commander, having tasted the sweets of dominion, would not easily be deprived of it. They secretly continued their meetings; they asserted, that their officers, as much as any part of the church or state, needed reformation; and several regiments joined in seditious remonstrances and petitions. Separate rendezvous were concerted; and every thing tended to anarchy and confusion. But this distemper was soon cured by the rough, but dextrous hand of Cromwell. He chose the opportunity of a review, that he might display the greater boldness, and spread the terror the more widely. He seized the ring-leaders before their companions; held in the field a council of war; shot one mutineer instantly, and struck such dread into the rest, that they presently threw down the symbols of sedition, which they had displayed, and thenceforth returned to their discipline and obedience. Hume's Hist. vol. vii. p. 109. 8vo.

AGLA, formed of the initial letters of the four following Hebrew words *אתה גבר לעולם אדני* g. d. thou art strong in the eternal God, was a name given by the superstitious Jews in the Middle Age, to the Deity; and which they disposed of in the three angles, and in the middle of two triangles laid one over the other. This figure they called the shield of David, and pretended, that it was a security against wounds, would extinguish fire, and was able to perform other wonders. Fabr. Cod. Apocr. V. T. tom. ii. p. 1006. tom. iii. p. 143.

AGLA, or *AGUILA*, in *Geography*, a town of Africa, in the kingdom of Fez, near the river Guarga.

AGLA Minor, a district of Spain, assigned by Pliny to the Ballitani.

AGLABITES, in *History*, one of the Arabian independent dynasties, which subsisted in Africa in the ninth century, and which derived its name and power from Ibrahim, son of Aglab, the lieutenant of the famous Harun al Rathid.

AGLAIA, in *Mythology*, the name of the youngest of the three Graces, espoused to Vulcan.

AGLAIA, in *Natural History*, a species of *PAPILIO Nymphalis*, with dentated yellow wings, spotted with black; in the under part having silvery spots. It is found on the violet in Europe. The larva is solitary, spinose and black, with ferruginous spots disposed on the sides of a square; the pupa is brown.

AGLAOPHAME, one of the *SIRENS*.

AGLAOPHOTIS, in *Botany*, a name used, by some, for *PIONY*.

AGLASOUN, in *Geography*, a town of Asiatic Turkey; eight miles south west from Isbarte.

AGLAURA, or *AGRAULA*, in *Mythology*, the daughter of Cecrops, founder and king of Athens. She had two sisters, Herfa and Pandrosa. Minerva having concealed Erichthonius, after his birth, in a basket, committed him to the custody of these three princesses, forbidding them to open the basket. Herfa and Pandrosa observed the order; but Aglaura, unable to restrain her curiosity, opened the basket and found the infant with feet like those of a serpent. Minerva punished her by means of Envy, who made her jealous of Herfa, the favourite of Mercury. When she attempted to prevent the access of this deity to his mistress, he struck her with his caduceus, and converted her into a rock. Nevertheless she was honoured after her death in a temple at Salamina, with a yearly sacrifice of a human victim, which Deiphilus, king of Cyprus, in the time of Seleucus, changed into an ox. See *AGRAULIA*.

AGLECTS, *AGLEETS*, or *AGLEEDS*, among *Florists*, the *APICES*, or pendants hanging on the tip-ends of *CHIVES*, or *STAMINA*; as in tulips, roses, spike-grass, &c.

AGLIA, in *Geography*, a small town of Italy, in the marquisate of Ivrea, and principality of Piedmont, to which belongs a district and earldom; seven miles south from Ivrea.

AGLIA, among *Ancient Surgeons*, a whitish cicatrix, or spot in the eye, formed by a congection of humours.

AGLIBOLUS. The Palmyrenes worshipped the sun under this title.

AGLIONBY, JOHN, in *Biography*, an English divine, was born in Cumberland, and admitted a student at Oxford in 1583. He was distinguished as a polite and learned preacher. After his return from his travels, he was made chaplain in ordinary to queen Elizabeth, to which office he was also appointed by king James I.; and he is said to have had a concern in the translation of the New Testament, ordered by that king in 1604. He died at Islip near Oxford, where he was rector, Feb. 6th, 1609-10, at the age of 43. He was eminently accomplished in various kinds of learning,

well

well acquainted with the fathers and school divinity, and a great critic in the languages. Gen. Diët.

AGLONE, in *Geography*, a river of Prussia, which runs into the Minnie, near Proculus.

AGMANISPHE or ATMANISPHE, in *Ancient Geography*, a village of Arabia Felix, assigned by Ptolemy to the Homerites.

AGME, in *Surgery*, signifies a fracture.

AGMEN, in *Antiquity*, properly denotes a Roman army in march. In which sense, it stands contradistinguished from *acies*, which denoted the army in battle array; though, on some occasions, we find the two words used indifferently for each other.

The Roman armies, in their marches, were divided into *primum agmen*, answering to our vanguard; *medium agmen*, our main-battle; and *postremum agmen*, the rear-guard.

The order of their march was thus: after the first signal with the trumpets, &c. the tents were taken down, and the baggage packed up; at the second signal, the baggage was to be loaded on the horses and carriages; and at the third signal, they were to begin their march. First came the *extraordinarii*; then the auxiliaries of the first wing with their baggage; these were followed by the legions. The cavalry marched either on each side, or behind.

AGMEN *pilatum*, that disposed in a narrow oblong form, or column; being also close and compact; thus called, as resembling the figure of a *pila*, or *pier*. Vegetius compares it to that of a broach, or spit. This form was chiefly used in marching without their baggage, through bad ways and close countries.

AGMEN *quadratum*, that ranged somewhat in a square form, being the method ordinarily observed in the Roman armies. This was also called *agmen grave*, by the Greeks *τετραγωνος ταξις*. The three lines, or columns, in which the army usually marched, were considerably more in length or breadth, than in depth; but as the baggage marched somewhat in the same order, the whole approached to the figure of a square.

AGMEN is also used for any number of persons, or even animals, moving or advancing in some regular order.

AGMET, or AGMAT, in *Geography*, was formerly the capital of Morocco, in Africa, situated on a declivity of a hill, which is part of Mount Atlas, and near a river of the same name; six leagues south from Morocco. It is at present reduced and inhabited by poor people. N. lat. 30° 56'. W. long. 7° 15'.

AGMONDESHAM, or AMERSHAM, an ancient town of Buckinghamshire, situated betwixt hills that are covered with woods; about 26 miles north-west from London. It has a town-hall and free-school, sends two members to parliament, and has a market on Tuesday. The manufacture of this town is black lace: and a cotton manufactory was lately established in it, which employs many of the lower class, though the business is performed by machinery. The number of houses in this borough is 267; but the right of voting is restricted to about a fourth part of this number, which consists of those who pay scot and lot. This parish, together with the adjoining hamlet of Colehill, contains 403 houses, 859 male and 1171 female inhabitants. The mansion of T. D. T. Drake, Esq. called Shardeloes, to which family the borough belongs, is situated about 1½ mile from the town.

AGNA, in *Ancient Geography*, a river of Mauritania.

AGNACAT, *Scaligeri pyri species*. In a country of America, beyond the Terra de Labrador, toward the isthmus of Darien, there is a tree of the figure and size of a pear-tree, always covered with leaves, and of an extraordinary greenness and lustre. It bears a fruit also like a pear, but green

even when it is ripe; the pulp is of the same colour, sweet, fat, and tastes like butter. It is a powerful promoter of venereal vigour. Ray's Hist.

AGNADELLO, in *Geography*, a small town of Italy, on a canal between the rivers Adda and Serio, in the duchy of Milan and territory of Cremona. It is famous for a victory gained here by the French over the Venetians in 1509, and for a battle fought between prince Eugene and the duke of Vendôme in 1705. See CASSANO. N. lat. 45° 25'. E. long. 9° 26'.

AGNAN, *St.* a town of the late province of Berry, and department of Loire and Cher, in France, situate on the river Cher, containing a castle, with one collegiate church and two convents. N. lat. 46° 27'. E. long. 1° 26'.

AGNANIA, or ANAGNI, a small very ancient town of Italy, in the Campagna of Rome. It is situated upon a mountain; and has a cathedral and five convents. N. lat. 41° 45'. E. long. 12° 55'.

AGNANO, *lake of*, a circular lake, nearly two miles in circumference, in the vicinity of Naples, near Pozzuolo, which has all the appearances of a volcanic crater. Its shape is that of an inverted funnel; and its sides and bottom are formed of tufa, interspersed with fragments of lava and pumice-stone. Numerous flocks of ducks swim on its surface, and its waters contain great quantities of tenches and frogs. The frogs in their tadpole state, having tails resembling the hinder part of a fish with a round body and legs like a frog, furnished occasion for the vulgar to conclude that they were monstrous animals, half fish and half frogs. Vallisneri discovered the cause of this vulgar error. The tenches and eels of this lake are, in winter, of a very good flavour; but in summer they are not eatable, on account of the great quantities of flax and hemp which are brought hither from all the neighbouring parts to be mellowed in the water. The water sometimes boils up to the height of two inches, but without any sensible heat. Keyßer's Trav. vol. iii. p. 113. Spallanzani's Trav. vol. i. p. 125.

AGNANTHUS, formed of *ανθος*, *chaste*, and *ανθος*, *a flower*, in *Botany*, the name given by Vaillant to a genus of plants, called afterwards CORNUTIA by Plumier and Linnaeus.

AGNATI, in the *Roman Law*, the male descendants from the same father; and in the *Scots law*, *agnates* are understood to be those who are nearest related by the father, though females intervene.

AGNATION, formed from *ad*, *to*, and *nasci*, *to be born*, in the *Civil Law*, the kinship, or relation between the descendants of the same father, being males, and issued only from males.

Agnation differs from *cognition*, as the latter is an universal name, under which the whole family, and even the *agnati* themselves are contained; and agnation, a particular branch of cognition, which only includes the descendants in the male line. Again, agnation is properly only a civil name, as that of *gens*, or family; cognition, a natural name, or derived from blood.

By the law of the *Twelve Tables*, males and females succeed one another, according to the order of proximity, and without any regard to the sex: but the laws were afterwards changed in this respect, by the *Lex Voconia*; and women were excluded from the privileges of agnation, excepting such as were within the degree of consanguinity; i. e. excepting the sisters of him who died abintestate; and it was hence that the difference between *agnati* and *cognati* first took its rise.

But this difference was again abolished by Justinian (Inst. 3. 10.), and the females were reinstated in the right of agnation; and all the descendants on the father's side, whether

of the French nation, and in 1689, was declared governor of Canada, though his previous conduct had been extremely offensive and unbecoming, and his military talents were not sufficient to inspire a lively attachment to the French nation.

AGNIERS, is a denomination of a tribe or canton of Iroquois Indians, who vigorously and repeatedly resisted the French in their attempts to settle in Canada. They appeared for a long time among the most determined enemies to the popish missionaries, who made various efforts for their conversion; however, in 1668, many of them were converted to the Catholic faith, more perhaps from a regard to convenience and interest than by conviction. These converts, amongst whom were some distinguished females, removed to the Huron settlement

of Lacoste, where they were encouraged to reside, in hopes of their becoming a barrier against the incursions of their former enemies. Their number increased, and he was sufficient to inspire a lively attachment to the French nation. Frontenac, who, in 1689, was declared governor of Canada, though his previous conduct had been extremely offensive and unbecoming, and his military talents were not sufficient to inspire a lively attachment to the French nation. Frontenac, who, in 1689, was declared governor of Canada, though his previous conduct had been extremely offensive and unbecoming, and his military talents were not sufficient to inspire a lively attachment to the French nation.

AGNELÈT, an ancient French silver coin, first struck under Philip le Bel, worth about twenty sols.

AGNELLI, FREDERIC, in *Biography*, was an engraver of Milan in the beginning of the 17th century. His chief employment seems to have been portraits, though he sometimes engraved architecture and emblematical subjects. The dome of Milan was engraved by him. Strutt.

AGNEREINS, in *Geography*, a small place, which was once the residence of a Castellany, in the former principality of Dombes, and present department of Ain, in France.

AGNES, in *Natural History*, a name given by Cramer to a species of *Papilio Danaus*, the ZANGIS of Gmelin's edition of the Linnean system.

AGNES, *St.*, in *Geography*, one of the SCILLY islands, which, though of small extent, is well cultivated, and fertile in corn and grass. The inhabitants, who are poor, form about 50 households, and yield the proprietor 40l. a year. The church is small and neat, and was built by the Godolphin family. But the principal ornament and support of this island is the light-house, whence *St. Agnes* is called the *Light-house* island. This stands on the most elevated ground, and is built with stone from the foundation to the lantern, which is 51 feet high; the gallery 4, the sail-lights 11½ feet high, 3 feet 2 inches wide, and 16 in number. The floor of the lantern is brick, upon which is placed a square iron grate, barred on every side, with one great chimney in the canopy roof, and several lesser ones, to let out the smoke; and a large pair of smith's bellows is so fixed as to be used with ease when it is wanted. This noble structure is plastered white, and serves as a day mark to ships coming from the South. The keeper of this light-house has a salary of 40l. a year from the Trinity-house, with a dwelling-house and ground for a garden. His assistant is allowed 20l. a year. The light-house is annually supplied with coals, and the carriage of these from the sea-side to the building is a benefit to the poor inhabitants. The true latitude of the light-house is E. 49° 56'. long. 6° 46'.

AGNES, *St.*, is also the name of a Cape on the coast of Patagonia, in South America. S. lat. 53° 55'. W. long. 66° 35'.

AGNETSIN or AGNETEIN, two contiguous towns of Transylvania, on the river Hopefch, four leagues north of Hermanstadt. N. lat. 46° 45'. E. long. 25° 26'.

AGNI-CORNU, *Agnekorou*, a promontory of Egypt, to the north-east of the Bolbitine gulph.

AGNIERS, the denomination of a tribe or canton of Iroquois Indians, who vigorously and repeatedly resisted the French in their attempts to settle in Canada. They appeared for a long time among the most determined enemies to the popish missionaries, who made various efforts for their conversion; however, in 1668, many of them were converted to the Catholic faith, more perhaps from a regard to convenience and interest than by conviction. These converts, amongst whom were some distinguished females, removed to the Huron settlement

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AGNIEUR is an appellation applied, by some Ecclesiastical Writers, to John the Baptist, and used in the same sense with *precursor*, or *forerunner*.

AGNINA *membrana*, in *Anatomy*, the same as the AMNIOS.

AGNINA *laquea*, see LACTUCA.

AGNO, in *Geography*, a district of Laus, in Switzerland, containing 41 parishes or villages, and bordering on a part of the Lugano lake, which is called the *lago d'Agno*, and receives into it a river of the same name.

AGNO, a river of Naples, which rises in the mountainous parts of Terra di Lavoro, washes the town of Acerra, and, passing between Capua and Averfa, falls into the Mediterranean, about seven miles north of Puzzuoli.

AGNODICE, in *Biography*, an Athenian lady, who in the disguise of a man, attended the lessons of Herophilus, and acquired so much knowledge of the treatment of diseases, as to be in great request among her own sex, to whom she discovered her contrivance. She was particularly expert in the practice of midwifery. At length the physicians, jealous of her success, it is said, and ignorant of her sex, accused her of introducing herself to the women under the pretence of assisting them in their labours and complaints, but in reality from views of incontinence. Being cited to the areopagus, she made herself known; and her judges were so well satisfied with her conduct, and perhaps with the women for patronizing her, that they repealed a law then existing, prohibiting women to practise any branch of medicine, and decreed that women of the rank of citizens might be allowed that liberty. A physician, M. Hecque, Eloy says, published a volume in the year 1747, intitled, *De L'indifference aux Hommes, d'accoucher des Femmes*, written with much ingenuity; in which he attributes the looseness in the morals of the present age, to the custom of admitting men to the general practice of midwifery, for in particular cases he acknowledges their assistance to be necessary. His book has given birth to others in this country, written with the same view of endeavouring to excite a prejudice in the women against employing men, particularly by the late Mr. Philip Thicknes. But the virulence, and the indelicacy of his writings on the subject, must have defeated his end; as it would argue a greater degree of indelicacy to have been supposed capable of reading his book, than to permit the practice he pretends to censure. The strongest argument against admitting men into the general practice is, that in all ordinary cases, women are perfectly competent; but as cases do, and must for ever occur, in which a kind of assistance is required that women are incapable of giving, if the men were not to attend in ordinary cases, they would not acquire the expertness that is necessary to enable them to deliver in difficult and extraordinary cases.

AGNOETÆ, of ἀγνοεῖν, to be ignorant of, in *Church History*, a sect of Eutychians, whose founder is said to have been Themistius, a deacon of Alexandria, in the 6th century, who maintained that Christ, considered as to his human nature,

was ignorant of certain things, and particularly of the time of the day of judgment.

Eulogius, patriarch of Alexandria, ascribes this doctrine to certain solitaries in the neighbourhood of Jerusalem, who, in defence hereof, alledged divers texts of the New Testament, and, among others, this of St. Mark, chap. xiii. ver. 32. "Of that day and hour knoweth no man; no not the angels who are in heaven, neither the Son, but the Father only."

The ancient Arians, and the modern Unitarians, urge this and similar passages as arguments against the deity of Christ. To which it has been replied, by means of a distinction to which the others object, that Christ, as a man, did not know the day of judgment; or, that he was not commissioned to gratify the curiosity of his disciples in this respect, by revealing it to them. Accordingly Dr. Macknight (Harmony, p. 520.) observes, that the word *οὐκ* (Mark xiii. 32.) has the force of the Hebrew conjugation Hiphil; and *οὐκ*, in the sense of this conjugation, signifies to *make another to know*, or to *declare*. And he reads the text, "But of that day, and hour, none maketh you to know;" i. e. none hath power to make you know it. Neither man, nor angel, nor even the Son himself can reveal the day and hour of the destruction of Jerusalem to you; because the Father hath determined that it should not be revealed.

AGNOIA, a word used by Physicians, when a person in a fever does not know his acquaintance. When a rigor accompanies this symptom, Hippocrates says it is dangerous.

AGNOMEN, in *Antiquity*, an epithet given to a person, either by way of praise, or dispraise, or from some remarkable event, which became, as it were, an additional name, but peculiar to the person, and not descendible to his issue. Thus, one of the Scipios was named *Africanus*, and the other *Asiaticus*, from the brave achievements which the one performed in Africa, and the other in Asia.

The agnomen was the third in order of the three Roman names.—Thus in Marcus Tullius Cicero, Marcus is the *prænomen*, Tullius the *nomen*, and Cicero the *agnomen*.

Others think the agnomen to have been the fourth or honorary name, superadded on account of some extraordinary action or virtue. Thus, in the case of Lucius Cornelius Scipio Asiaticus, Lucius was the *prænomen*, Cornelius the *nomen*, Scipio the surname or cognomen, and Asiaticus the agnomen. But many of the ancient authors, as Livy, Cicero, and Valerius Maximus, call the fourth name cognomen. Some imagine agnomen and cognomen to have been the same, as they generally are, except in cases of ADOPTION.

It was a custom among the Romans, for a person, when adopted into another family to lay aside all his other names, and only retain his family-name, to which he added the *prænomen*, *nomen*, and *cognomen* of the adopter.

Thus P. Cornelius Scipio, being adopted by Q. Cæcilius Metellus, laid aside his *prænomen* PUBLIUS, and *nomen* CORNELIUS, and was called Q. Cæcilius Metellus Scipio.

AGNON, in *Ancient Geography*, a fountain of Greece, in Arcadia, which derived its name from the nymph Agno, who had been the nurse of Jupiter. It is said that the water of this fountain rose in a cloud and then descended in rain.

AGNONE, or ANGLONA, in *Geography*, a town of Naples, in the Abruzzo citra; nine miles south south-east of Cività Borella.

AGNONIA, a town of Thrace, near Amphipolis, founded by Agnon the Athenian, who conducted hither a colony. Steph. Byz.

AGNOS, a borough of Attica, belonging, says Steph. Byz. to the tribe of Demetriades, but according to Suidas to

the tribe of Acamantides, and assigned by others to the tribe of Attalides.

AGNOS, in *Ichthyology*, a name given by Athenæus, and many of the other Greek writers, to that fish called *callyonymus* or *uranoscopus*.

AGNOTES, in *Ancient Geography*, a people of Gaul, whose situation is not precisely known. M. d'Anville places them in Brittany, north-west of the Osinnii: and he says that the western part of the diocese of Leon has still preserved in one of the districts of the diocese the name of *Agk*.

AGNUS *Castus*, the *chast tree*, in *Botany*, a species of VITEX. This is a native of Sicily, where it affects humid and shady places; but has been to long ago as 1570, introduced into the gardens of this country, where it bears the cold of winter in the open ground. This plant was famous among the ancients as a specific for the preservation of chastity, and the preventing of all venereal desires, pollutions, &c.

The Greeks call it *ζώνη, chaste*; to which has since been added the reduplicative *castus*, v. d. *chaste, chaste*.

The Athenian ladies, who made profession of chastity, lay upon leaves of *agnus castus*, during the feast of Ceres. Pliny Hist. N. lib. xxiv. c. 9. See CEREALIA. The seeds, which have long been medicinally used, and were formerly admitted as an article of the *Materia Medica*, are of a round figure and about the size of pepper; they have a pungent acrid taste, and an unpleasant aromatic smell; from the days of Dioscorides they have been much celebrated for their efficacy in subduing the inclination natural between the sexes; and from their usefulness to those that lead a monastic life, they have been called *monk's pepper*. These seeds, so far from possessing an antiaphrodisiac virtue, have had an opposite quality ascribed to them by modern writers. Their aromatic pungency favours this opinion, which is confirmed by the statement of Bergius, who says that they are carminative and emmenagogue. In this island they do not promise much medical advantage.

The shrub is also called *agnon*, *vitex*, sometimes *eleagnon*, *lygon*, and *lygus*.

AGNUS *Dei*, in the *Romish Church*, denotes a cake of wax stamped with the figure of a lamb, supporting the banner of the cross, consecrated in the due form by the pope, to be distributed in presents among the people, and supposed to have great virtues annexed to it.

The name literally signifies *Lamb of God*; this being supposed an image or representation of the Lamb of God, who took away the sins of the world.

They cover it up with a piece of stuff, cut in form of a heart, and carry it very devoutly in their processions.—The Romish priests, and religious, derive considerable pecuniary advantage from selling these Agnus Dei's to some, and presenting them to others. The pope provides a regular supply, by consecrating once in seven years: they are distributed by the master of the wardrobe; and received by the cardinals, and other prelates, with great reverence, in their caps and mitres.—This ceremony they pretend to derive from an ancient custom of the church, wherein part of the paschal taper, consecrated on Holy Thursday, was distributed among the people, to perfume their houses, fields, &c. in order to drive away devils, and to preserve them from storms and tempests.

Other imaginary virtues are likewise attributed to them. See concerning the origin of *Agnus Dei's*, Jour. des Scav. tom. xxxi. p. 252. Mem. de Trev. ann. 1722. p. 2010. Their virtues, Act. Erud. Lips. Supp. tom. iv. p. 224. Their mystic meanings, Du Pin. Bibl. Eccles. tom. xviii. p. 68. The order of consecrating them, Magii. Notiz. de Vocab. Eccles. in voc.

Some authors also speak of a kind of metalline *Agnes Dei*, being the chrysolite, or pater-noster.

The *Agnes Dei* is forbidden to be brought into England, under the pain of incurring a *penance*. 13 Eliz. cap. 2.

Agnes Dei is also a name popularly given to that part of the mass, wherein the priest, flanking his breast three times, ejaculates, with a loud voice, a prayer beginning with the words *Agnes Dei*. It is said to have been first brought into the missal by pope Sergius I.

Agnes Scythica, in *Natural History*, a kind of *scrophyle*, or plant annual, said to grow in Tartary, resembling the figure and structure of a lamb.

The Scythian lamb is also called *agnus vegetabilis*, *agnus Tartariensis*, and by the people of the country, *borometz*, *boramet*, or *boranetz*.

The usual account given of this extraordinary production is, that the Tartars sow in their ground a seed resembling that of melon, but less oblong; from whence arises a plant called by them *borometz*, i. e. *lamb*, growing almost to the height of three feet, and having feet, hoofs, ears, and the whole head, excepting horns, resembling that animal. In lieu of horns, it has a peculiar sort of hair, not unlike horns; it is covered with a fine thin skin, which being pulled off, is worn by the natives as a cover for the head. The pulp within resembles that of the *gammarus*; and when wounded, a liquor oozes out like blood. It lives as long as there is grass and herbage around it: but when these are consumed, it wastes and dies. They add, that wolves are fond of it, while no other beasts will feed on it.

Deusingius seems to have been the first who suspected this account to be fabulous: and Kämpfer, when in the country, made diligent inquiry concerning it, but could hear of nothing like it.

As to the plants shewn under this denomination, in some repositories of rarities, they appear to be originally the roots, or stalks, of certain vegetables, probably of the capillary or fern kind, and supposed by some to be the *polypodium aureum*, covered with a woolly moss, which naturally bearing resemblance to the figure of a lamb, have been helped out and brought near to it by art, and the addition of new parts.

Sir Hans Sloane, and Breynius, give us the figures and descriptions of such *borometzes* in their collections. It is from these plants that the Indian moss is gathered, famous for its use in staunching blood. Breynius and Libavius have written expressly on the *Agnes Scythicus*. Phil. Trans. N° 287. and N° 390. Abr. vol. ii. p. 646. vol. vi. pt. 2. p. 317. See Botany, pl. vi. fig. 7.

AGOAS Bellas, in *Geography*, a town of Portugal, in the province of Estramadura; three and a half leagues north-east from Thomar.

AGOAS de Moura, a town in the same kingdom and province; four and a half leagues north-east of Setuval.

AGOAS Oventas, a town in the same province of Portugal, seven leagues east-north-east from Abrantes.

AGOBARD, in *Biography*, archbishop of Lyons, was one of the most learned and celebrated prelates of the 9th century. He was born in the year 779, removed from Spain into France in 782, ordained priest in 804, and, having been nine years coadjutor to Leidrade, archbishop of Lyons, was appointed his successor in 816, upon his retiring to a monastery, with the consent of the emperor and the whole synod of the French bishops. From this see he was expelled by Lewis the Debonnaire, because he espoused the party of his son Lotharius, and was one of the chief instruments in deposing him in the assembly of bishops at Compiègne in 833. But the sons of Lewis, having made their peace with him, restored Agobard to the favour of

the emperor, and also to his see, in the possession of which he continued till his death in 840. As a scholar and a divine, Agobard was much more distinguished than as a politician. He zealously opposed the worship and use of images in a treatise "de Picturis et Imaginibus;" he wrote another treatise to prove that Christ was not merely the adopted, but the true and natural son of God; and a tract on the Priesthood, recommending attention to the character of those who were appointed to this office, asserting their privileges and inculcating their duty. His work concerning hail and thunder, was a direct attack upon superstition, and designed to expose a prevailing error, that it was in the power of sorcerers to raise tempests. During an epidemic disease, which occasioned large donations to the church, in hopes of preventing the infection, he wrote a tract to expose the avarice of the clergy, who, in a season of public calamity, took advantage of the fears and credulity of the people. He also opposed the practice of duelling, and wrote to the emperor soliciting the repeal of the law of Gondebaud, which allowed the decision of disputes by single combat, or by the ordeal of fire and water. He also wrote several tracts against the Jews. His manner of writing was simple and easy; his reasoning was commonly just; and he manifests an extensive acquaintance with the doctrines of the fathers and the discipline of the church; so that considering the period in which he lived, he deserves to be regarded as a man of talents and learning. His works, after having been long buried in obscurity, were published by Masso in 1605; and a more correct edition of them by Baluzze at Paris in 1666, in two volumes, 8vo. This edition has been reprinted in tom. xiv. of the Bibliotheca Patrum. Gen. Dict. Dupin. Cave's Hist. Liter. tom. ii. p. 11. Ed. Oxon.

AGOBEL, in *Geography*, a town of Africa, in the kingdom of Tremecen; four leagues from Oran. There is another town of the same name in the province of Hea, and empire of Morocco.

AGOGA, αγωγη, *ductus*, of αγω, *duco*, I draw, in *Natural History*, a ditch or drain for carrying off the water from a mine.

AGOGA, in *Geography*, a town of Africa on the slave coast.

AGOGÉ, αγωγη, in the *Ancient Music*, a species of modulation, wherein the sounds or notes proceed by continuous degrees of the scale, both rising and falling. As when we sing re, mi, fa, sol, la: la, sol, fa, mi, re.

Agoge answers to what the Latins call *ductus*, and the Italians *conducimento*, and *di grado*: it stands contradistinguished from *ploce*, *pettieia*, &c.

Agoge makes the first part of the *melopeia*, or art of modulating.

There are three species and cases of this modulation; first, when the sounds follow each other from grave to acute, i. e. rising as in singing, BCDE. This the Latins call *ductus rectus*, and the Italians *conducimento retto*.

The second, when they go from acute to grave, i. e. falling, as in the notes EDCB, called by the ancients *ductus revertens*, and by the modern Italians *conducimento ritornante*.

The third, when they rise by flats and fall by sharps, as in D, E, F, sharp, G, or, *vice versa*, as in G, F, natural, E flat, D. This the ancients call *ductus circumcurrens*, and the Italians *conducimento circumcorrente*. Euclid. Introd. Harm. p. 22. Aristid. Quintil. de Melop. lib. i. Mem. Acad. Inscr. tom. vii. Malcolm on Mus. chap. xiv. sec. 4. In the ancient Greek music, agoge is of similar import with the Italian word *movimento*, *motivo*, and the English, *movement*; of which, in compositions of two parts, there are three kinds; viz. *moto retto*, *moto contrario*, and *moto obliquo*, i. e. equal, contrary and oblique.

AGOGLIASTRO, or **AGUILASTRO**, in *Geography*, a small island in the Mediterranean; three miles north from cape Barbarossa in Sardinia.

AGOL, a town of Africa, in the upper Ethiopia.

AGOMISO, an island in James's Bay, near its western coast, north north-east from Albany fort.

AGOMPHASIS, or **GOMPHASIS**, a distemper of the teeth. It consists in their being loose in their sockets.

AGON, in *Antiquity*, a dispute or contest for the mastery, either in some exercise of the body or of the mind.

There were agones on certain days, in most of the ancient feasts, and other ceremonies in honour of the gods, or heroes.

There were also agones established expressly, and not attached to any other solemnity.—Such was the *agon gymnicus*, at Athens; the *agon Nemaus*, instituted by the Argians in the 53d Olympiad; the *agon Olympicus*, instituted by Hercules, 430 years before the first Olympiad; the *agon Adriænalis*, instituted at Athens, by the emperor Adrian, called *Hadrianæus*, *Hadriæmus*, and *Olympicus Adriæmus*.

The Romans had also agones instituted after the example of the Greeks: the emperor Aurelian established the *agon solis*, *agon of the sun*; and Dioclesian, the *agon capitolinus*, which was held every fourth year, after the manner of the Olympic games.—Hence the years, instead of *lustre*, are sometimes numbered by agones. The *agon ischylicus*, instituted at Puzzuoli by the emperor Antoninus Pius, and held every fifth year, was a sacred combat, and the victors at it were called *hieronice*: they were to be received into the city, through a breach in the wall, made on purpose. The *agon musicus* was that wherein either poets, or musicians, disputed for the prize; such was that dedicated by Ptolemy to Apollo and the Muses, with rewards assigned to the writers who gained the victory. Of this kind were also found some in the Pythian, Nemaean, and Isthmian games; also in the Olympic games, after Nero's time, who first introduced a musical *agon* here; others were founded by the emperor Domitian, and others at Rome, Naples, Alba, &c. The *agon Neronianus* was a quinquennial combat, called also *Neronian*, from the name of its institutor, who here bore away the prize for playing on the harp, *cithara*.

AGON is also used for a place near the Tyber, otherwise called *circus Flaminius*, wherein curule games and combats were celebrated.

AGON is also used by Physicians for the struggle of death.

AGON was also a minister of sacrifice, whose business was to strike the victim. The name is supposed to have been derived hence, that standing ready to give the stroke, he asked *agon*, or *agone*, *shall I strike?*

The *agon* was also called *papa*, *cultrarius*, and *vicimarius*.

AGON, in *Geography*, an island in the north part of Hallingland, one of the provinces of Sweden, which has a good harbour and skilful mariners. It is in that part of the Baltic, called the Bothnia Gulph. N. lat. 61° 20'. E. long. 18° 10'.

AGONALES, in *Antiquity*, an epithet given to the **SALII**, consecrated by Numa Pompilius to the god Mars, surnamed *Gradivus*.

They were also called *Quirinales*, from the *Mons Quirinalis*, where they officiated. Rosinus calls them *Agonenſes Salii*.

AGONALIA, in *Antiquity*, feasts celebrated by the Romans, in honour of Janus; or, as some would have it, in honour of the god *Agonius*, whom the Romans used to

invoke upon their undertaking any business of importance. They appear to have been instituted by Numa, and held thrice in the year, viz. on the fifth of the ides of January, on the twelfth of the calend. of June, and the third of the ides of December. Struv. Ant. Rom. c. 8.

AGONALIS Circus, now the *Piazza Navona*, is one of the most magnificent areas in Rome, near its common pace, in breadth, and about 350 in length, adorned with three stately fountains, which serve to keep the air fresh and cool, and with noble statues, viz. Neptune by Bernini, the Triton and Dolphin by Michael Angelo, the Dracæ by Claude, the Ganges by Baretto, the Nile by Fancelli, and Rio de la Plata by Raggi; all of which are of white marble, and also the obelisk of Caracalla of Egyptian marble, and covered with hieroglyphics, which was erected here by Innocent X. in 1651. The reason of annexing the epithet Agonalis to this Circus is not ascertained. Ovid seems to derive it from the *Agones*, or solemn games, supposed to have been the *ludi Apollinares*, or *Adiæci*, instituted by Augustus, from which circumstance the Circus was called *Apollinaris*, and it was also denominated *Alexandrianus*, from Alexander Severus, who either enclosed or repaired it.

AGONATA, in *Entomology*, the fourth class of insects in the system of Fabricius; comprehending the cancer, the pagurus, the hippe, the scyllarus, the ataca, the squilla, and the gammarus. Linnaeus has included the insects of this class under the genus of **CANCER**.

AGONE. See **HIBERNÆ**.

AGONES, in *Ancient Geography*, a people who, according to Mela, inhabited that district of the Milanese, now called *la val de Gogna*. Polybius (l. ii. p. 103.) places them in the Celtic Gaul, near Sens. Acaunum was their capital.

AGONES, an island near the mouth of the Anas.

AGONIUS, in *Mythology*, a name given to Mercury, because he presided over the Agonian games, of which he is said by some to have been the inventor. See **AGONALIA**.

AGONISMA, in *Antiquity*, the palm or prize given to the victor in a game or combat.

AGONISTARCHA, of *ἀγων*, combat, and *αρχη*, chief, in *Antiquity*, seems to have been much the same with *agonotheta*; though some suggest a difference, making it the office of the former to preside at, and direct the private exercises of the *athleta*, which they went through by way of practice, before they made their appearance on the public theatres or amphitheatres.

AGONISTIC, *agonistica*, the science of what relates to the combats or *agones* of the ancients.

In which sense, *agonistic* amounts to much the same with *athletic*, and makes a branch of *gymnastics*.

AGONISTIC, *agonisticus*, is also used among *Ancient Physicians*, for cold spring-water.

The reason of the denomination is taken from the plentiful use of that element in the state of an acute erysipelaceous fever, wherein water was supposed to combat and struggle with the febrile heat.

AGONISTICI, in *Ecclesiastical History*, a name given by Donatus to those of his sect, whom he sent into the neighbouring places, fairs, markets, &c. to preach his doctrine; for which reason they were also called *circitores*, *circelliones*, *catropite*, *corpites*, and, at Rome, *monensis*.

They were called *agonistici*, from *ἀγων*, combat; because they were sent, as it were, to fight, and subdue the people to their opinion.

AGONIUM, in *Roman Antiquity*, was used for the day whereon the *rex sacrorum* sacrificed a victim. The same name was also given to the place wherein the games were anciently celebrated.

AGONNA, in Geography, a kingdom of Africa, on the Gold Coast, extend from the Devil's Mount, which separates it from *Acron*, and stretches along the sea coast to the village *Amusa*, on the frontiers of *Apimbese*, through a space of fifteen miles, bounded on the North by Songhay, and on the South by the ocean. It abounds in towns and villages along the sea, the chief of which are Dajon, Polder, Mango, Winiba, and Simpa, besides several others. It is said to be rich in gold mines, the gold of which the Negroes gather in the sand after a heavy fall of rain; but the natives have opposed opening the mines for fear of being dispossessed of their territory by the Europeans. Agonna surpasses Acron in extent and population, and is equal to it in fertility and beauty. It has the advantage of a large fresh-water river, well stocked with fish and oysters. The English have built a fort in the middle of Agonna, at a village called Simpa or Winiba, but the fort is not of any great strength. The village is populous, and the inhabitants industrious in fishing and in agriculture; for they breed a great number of cattle, which they sell to their neighbours. At a small distance is Barku, a village once frequented by the French, where the language that is uniform along the Gold Coast changes into a different dialect, and a little farther it becomes altogether new.

This, according to Barbot, is the chief town in the kingdom of Agonna; and he says, that the surrounding country is fertile, pleasant, and well adapted for the establishment of a factory. The English had formerly great influence here; but the Dutch have gained advantage, and built a triangular fort at Barku, mounted with 12 pieces of cannon. When Bosman wrote, Agonna was governed by a queen, who was distinguished by extraordinary talents. But though she did not chuse to share her power with a husband, she was no stranger to the softer passions; and contrived means of indulging them, by a succession of slaves, and as some say, by a number of lovers at a time. N. lat. 5° 6'. W. long. 1°. Mod. Un. Hist. vol. xiii. p. 445.

AGONOTHETA, compounded of *αγων*, *combat*, and *θητης*, *he who disposes*, in Antiquity, a magistrate chosen among the Greeks, to preside, and to be the superintendent of the sacred games, or combats: and whose province it was to register the name and country of each champion, to defray the expences of the games, and to adjudge the prizes to the conquerors.

Among the Romans, the like officer was denominated *designator*, and *munerarius*.

Middle-age writers usually confound *agonists*, the combatants at the games, with the *agonothetæ*, or presidents of them.

The *agonothetæ* had also the immediate charge of the discipline and morals of the *athletæ*. They examined, and admitted them into the society or order, or expelled them from it. During the combats, the *agonothetæ* were clothed in purple, and rode in a triumphant manner through the circus, holding in their hands an ivory sceptre with an eagle on it. Juvenal. Sat. xi. 192.

Van Dale has an express dissertation on the *agonothetæ*.

The name *agonotheta* is still retained in schools and academies, for him who defrays the charge of the prizes distributed. The founders of prizes are perpetual *agonothetæ*.

AGONOS, in *Physic*, a Greek word signifying *barren*. Hippocrates applies it to women who have no children, though they might have them, if the impediment were removed.

AGONUS, in *Ichthyology*, a name used by authors, for

the fish called by some *surachus*, by others *chalcis*, and by others *jardella*.

It is in many particulars very like the *alausa*, or shad, called the mother of herrings, but smaller, never arriving at more than a foot in length: and is always lean and lank in spring, and fat in autumn. But the distinctions between it and the *alausa*, if real, are so very small, that Mr. Ray, and many of the most accurate naturalists, have suspected it the same fish, only in a different state.

AGONY, **AGONIA**, denotes the extremity of pain, or a disease, when nature makes her last effort, or struggle, to throw off the evil that oppresses her.

The word is formed from the Greek *αγων*, *certamen*, *combat*; this being a kind of strife between life and death.

Much of the terror of death consists in the pangs and convulsions wherewith the agony seems attended; though we have reason to believe, that the pain in such cases is, ordinarily, not extremely acute; a course of pain and sickness having usually stupified, and indisposed the nerves for any quick sensations. However, various means have been thought of for mitigating the agony of death. Lord Bacon considers this as part of the province of the physician, and that not only when such a mitigation may tend to a recovery, but also when there being no farther hopes of a recovery, it can only tend to make the passage out of life more calm and easy. Accordingly, he ranks *euthanasia*, or the art of dying easily, among the *desiderata* of science: and does not even seem to disapprove of the course Epicurus took for that end.—“*Hinc stygiæ ebrius hausit aquas.*” De Augm. Sc. lib. iv. c. 4.

Opium has been applied for this purpose, with the applause of some, but the condemnation of more.

Baglivi promised a treatise express, *De Medicina Agonizantium*, or the method of treating persons in the *agonies* of death. But perhaps one of the best receipts for this end, is that of Mr. Patin, *viz. abstinence from all medicines*.

Our Saviour's agony in the garden has perplexed several commentators; and some learned persons seem studiously to have avoided the term *agony* in their translations, as Beza, Le Clerc, and Lenfant; and in the translations of the Syriac version by Tremellius, Trostius and others, we have *timor*, or fear, for agony. Dr. Lardner (vol. xi. p. 86) suggests that *γεννηστος εν αγωνια*, (Luke xxii. 44) might be translated *being under great concern*. The effect of this agony has been differently explained. Many expositors have thought with M. Le Clerc, that the expression *οι δρες αυτης εστιν σποδρος αιμας*, only implies, that the drops of sweat were large and clammy, like clots of gore. Grotius understands the expression metaphorically, as denoting excessive sweat; but Dr. Whitby (in loc.) observes, that Aristotle (Hist. Anim. lib. iii. c. 19. Oper. tom. i. p. 809. De part. An. lib. iii. c. 5. Oper. tom. i. p. 1008) and Diodorus Siculus (lib. xvii. Oper. tom. ii. p. 230) mention bloody sweats, as attending some extraordinary agony of mind. Leti also, in his life of pope Sixtus V. p. 200, and Sir John Chardin, in his History of Persia, vol. i. p. 126, mention a similar phenomenon; to which Dr. Jackson (Works, vol. ii. p. 819) adds another from Thuanus, lib. x. p. 221. See Doddridge's Family Expofitor, vol. ii. p. 517.

Bartholinus (de Cruce, p. 184. 193) produces examples of sweats that have been actually mixed with blood. So does Maldonat in Matt. xxvi. 37. The possibility of this circumstance is ascertained by a fact well known in history, *viz.* that Charles IX. of France died of a malady, in which his blood gushed out of all the pores of his body. Voltaire (Univ. Hist. chap. 142) describes it thus: “Charles IX. died

in his 25th year.—The malady of which he died was very extraordinary; the blood gushed out of all his pores.' This accident, of which there are some instances, was owing either to excessive fear, to violent passion, or to a warm and melancholy constitution.

AGONYCLITÆ, or AGONYCLITES, compounded of the privative *α*, *γ*οῦ, *knee*, and *κλῖνω*, *to bend*, in *Ecclesiastical History*, a sect, in the seventh century, whose distinguishing principle it was never to kneel, but to pray standing. See **GENUFLEXION**.

AGORÆUS, formed of *αγορά*, *market*, in *Antiquity*, an appellation given to those deities who had statues in the public market-places, or *fora*. Mercury, whose statue was erected in almost every public place, was distinguished by this appellation.

AGORÆUS was also the name of a subordinate magistrate, in the cities of Asia, whose business it was to administer justice to artisans and the people.

AGORAH, *Malagra*, in *Ancient Geography*, a city of the Thracian Chersonesus, which stood on the gulph of Melas.

AGORAH, an ancient money of Egypt and Asia. See **GERAH**.

AGORANIS, in *Ancient Geography*, a river of India, mentioned by Arrian, *Indic. cap. 4.* which flowed into the Ganges.

AGORANOMUS, compounded of *αγορά*, *market*, and *νομος*, *law*, in *Antiquity*, a magistrate of Athens, established for the maintenance of good order and policy in the markets, settling the prices of provisions, excepting corn, and deciding disputes relating to buying and selling, inspecting the weights, measures, and the like.

The agoranomus, among the Greeks, was much the same with the *curule ÆDILE* among the Romans.

Aristotle distinguishes two kinds of magistrates, the *agoranomi*, who had the superintendence of the markets; and the *agynomi*, who inspected the buildings of the (*αἰσά*) cities. The agoranomi, at Athens, were ten in number, five belonging to the city, and as many to the Piræus: though others make them fifteen in all, of whom they assign ten to the city. To these a certain toll or tribute was paid, by all who brought any thing to sell in the market.

AGORITÆ, in *Ancient Geography*, a people of Asiatic Sarmatia.

AGORO, in *Geography*, a town of Italy, situate on the river Cordevol, on the frontiers of the Tyrolese; 21 miles west north-west from Belluno.

AGOSTA, a town of Sicily on the east end of the island, to the south of Catania, with an excellent harbour. The greatest part of it was destroyed by an earthquake in 1693; but has been since rebuilt. N. lat. 37° 20'. E. long. 15° 15'.

AGOSTA island, in the Gulph of Venice, is nearly south from the west end of Carzola and Lessina islands, and west of Augustina shoals and rocks. It affords a good road for ships, in N. lat. 42° 40'. E. long. 18° 52'.

AGOSTINO, PAULO, DA VALERONA, in *Biography*, an eminent musical composer, was born in 1593, educated in the Roman school of music, under Bernardo Nanini, and succeeded Soriano, as master of the pontifical chapel at St. Peter's. He is represented as one of the most scientific and inventive composers of his time in every species of music; and his productions for four, six, or eight choirs or chorusses were the admiration of all Rome. Padre Martinj has preserved an *agnus dei*, in eight parts, of this composer, which is a very extraordinary performance. He died in 1629, at the age of 36 years. Burney Hist. Music, vol. iii. Hawkins Music, vol. iv.

AGOSTUS, *αγός*, in *Anatomy*, signifies the part of the arm from the fingers to the elbow; also the palm or hollow of the hand.

AGOUT, in *Geography*, a river of France, which rises in the Cevennes, and runs into the Tarn, near Montauban.

AGOUTI, in *Zoology*. See **AGUTI**.

AGOWS, in *Geography*, the inhabitants of a province of Abyssinia, which is bounded by the mountains of Amid Amid on the east; by Burè and Umbarma, and the country of the Gongas, on the west; by Damot and Gafat on the south; and by Dingleber on the north. Of the Agows there are two nations; the one near the fountains of the Nile, called the Agows of Damot, from their vicinity to that province; the other near the head of the Tacazzè, in the province of Lasta, called the Tcheratz Agows, from Tchera, a principal town, tribe and district, near Lasta and Begemder. The country of Agows lies in a very elevated situation, and forms a kind of amphitheatre of lofty mountains; and the climate of course is temperate and wholesome. In the shade, or in a house, the air is cool, as there is a constant breeze which mitigates the scorching heat of the sun, even at noon-day, though the latitude is not much greater than 10°. But notwithstanding the moderate temperature of the climate, the Agows do not live to any great age, which is probably owing to the oppression they suffer. Their country abounds with all the necessities of life; and yet their taxes, tributes and services are so numerous, and their dependent condition so distressing, that they are only the manufacturers of the commodities they sell, in order to satisfy the exorbitant demands of their oppressors; and are constrained to live in a state of penury and misery, that is scarcely conceivable. Mr. Bruce informs us, that he saw a number of women, wrinkled and sun-burnt so as hardly to appear human, wandering about under a burning sun, each of whom had one and sometimes two children upon their back, and gathering the seeds of bent grass to make a kind of bread. The Agows, in whose country the Nile rises, are one of the most considerable nations, with respect both to power and wealth, in Abyssinia. When their whole force is raised, they can bring into the field 4000 horse, and a great number of foot; but their power has been much reduced by the incursions of the Gallas. Their riches, however, are still greater than their power; for though their province is hardly 60 miles long, and 30 miles broad, yet Gondar and the whole neighbouring country depend for the necessities of life, cattle, honey, butter, wheat, hides, wax, and a number of such articles, upon the Agows, who frequent the capital to the amount of a 1000 and 1500 at a time, in order to dispose of these commodities. The Abyssinian princes have therefore compounded with them for an increase of tribute, in lieu of military service; but when they have deviated from this prudent practice, the Agows have been great sufferers. The butter, which they carry to a great distance in this hot climate, is prevented from putrefaction by a root called *moe-moco*, resembling a carrot; which they bruise and mix with it, and thus they preserve it fresh for a considerable time. This root answers the purpose more certainly than salt, which could not be conveniently appropriated to this use, as it serves for money, and is used instead of silver coin as change for gold. Brides paint their feet, the palms of their hands, and their nails, with this drug. Mr. Bruce brought a considerable quantity of the seed, resembling that of coriander, into Europe. The Agows dispose of their commodities, not only at the market of Gondar, but to the neighbouring black Savages, the woolly-headed Shangalla, and receive in exchange elephants' teeth, horns of the rhinoceros, gold and fine cotton. This trade, which might be materially beneficial, is very

much interrupted by the barbarity and fraud of both nations. First, when they fall, and what they pay to the goddess of Damot, the Agows, perfect a tribute to the goddess of Damot of honey, each daira containing about 600, or 1000, or more, and treasuries of gold. The goddess of Damot consists of hides, which they often adorn with a man's head, and a pair of themselves. Of this they form a kind of skirt, which reaches down to their feet, and is girded with a belt about their middle. The lower part resembles a large double petticoat, one fold of which they turn back, and then double, fastening it with a skewer across their breast before, and the married women carry their children in it behind. The younger sort are generally naked. The women are commonly thin, and, like the men, below the middle size. Barrenness is unknown among them. They are marriageable at nine years of age; at 11 they actually marry and bear children; and continue child-bearing to the age of 30, and in some instances beyond that period.

With regard to religion the Agows are grossly idolatrous and superstitious. The Nile, or the spirit residing in that river, is the object of their worship; whom they address under the titles of "the everlasting God, light of the world, eye of the world, God of peace, their Saviour, and Father of the Universe." To this Deity they present their supplications for seasonable rain, plenty of grails, and the preservation of a particular kind of serpents; at the same time deprecating thunder; and their prayers are pronounced very pathetically with a kind of tone or song. The shum or priest of the river, with whom Mr. Bruce conversed, pretended to have intercourse with a spirit, which occasionally appeared to him, and revealed to him future events. This spirit, he said, was of the river, God, the father of mankind. Thunder was deprecated, as the priest informed him, because it was hurtful to the bees, and their chief revenue was honey and wax. They prayed for serpents, because they taught the approach of good or evil. Serpents are kept in some of their houses; and they are fed with butter and milk before they undertake a journey, or any affair of consequence; and if they do not eat, this is considered as a bad omen. Before an invasion of the Gallas, they say these serpents disappear, and are nowhere to be found. Fasil, a sagacious governor of the country, who was addicted to this species of divination, would never mount his horse, or go from home, if an animal of this kind, which he had in his custody, refused to eat. Once a year, on the first appearance of the dog-star, or, as others say, 11 days after, their devotion is attended with circumstances of peculiar solemnity; on which occasion they sacrifice a black heifer, distribute parts of it to several clans, eat the carcass raw, and drink the water of the Nile. The bones are then burnt to ashes; and the head is carried into a cavern, which they say reaches below the fountains of the river, and there they perform their secret worship, which no one is allowed to divulge. The Agows of Damot worship the Nile; and those of Lasta pay nearly the same worship to the Siris or Tacazzé. These last have a separate language, and are Troglodytes, who live in caverns. Mr. Bruce apprehends that Agow is a compound of two words, *Ag-oha, q.d.* the Shepherds of the river; and that the species of idolatry introduced by them is a proof that they originally came from Canaan, where they imbibed materialism instead of the pure Sabæan worship of the Shepherds of AGAZA, which was at an early period, the only religion of this part of Africa. The mountains in all the districts or clans of Agows are perforated in caves of a very large size, which some suppose were their ancient habitations, when they were Tro-

glodytes, or places of retreat when they were alarmed by the approach of their most formidable enemies, the Gallas. Others think it not improbable, that these caverns were used for religious purposes; that of CRUSH, in particular, was without a doubt a place of secret worship paid to the river, as it is still appropriated to that use, not only by the inhabitants of the village, but by the assembly of the clans in general, who retire for the celebration of those rites, to which none but the heads of families in the Agows country are ever admitted. Bruce's Trav. vol. i. 401, vol. iii. p. 527.

AGRA, a kind of sweet-scented wood, found in the island of Hainan, on the coast of China.

Agar Corallia, is another sweet-scented wood, which also comes from the island of Hainan.

AGRA, in *Ancient Geography*, the name of a district of Attica, near the source of the Ilissus, where Diana hunted for the first time. Pausanias (*Attic. lib. i. p. 45.*) says, that she had a temple in this place, dedicated to Diana Agrestis.

AGRA, was also a town of Sabana—another of Arabia;—and another, an episcopal see of Numidia in Africa.

AGRA, called *Agara* by Ptolemy, in *Geography*, the capital of a Subah, or province of the same name, in Hindostan. It stands on the river Jemna, about 50 miles above its confluence with the Tehamu, and 300 miles north-east of Surat; and from being an inconsiderable town with a small castle of earth, it became not only the capital of the province, but the first city in India for magnificence and commerce, during the long reign of the emperor Akbar, and of his son; and it even now exhibits more numerous monuments of former splendour than any city of Hindostan. Akbar, pleased with its situation, very much enlarged and adorned it, and in 1566 made it the seat of his court and empire: and hence it has been often called *Akbarabad*, or Akbar's habitation. The city is very long but not broad, in the form of a crescent; and surrounded by a wall of red stone, and a ditch 100 feet wide. The streets, with the exception of a few, are narrow and ill arranged; the houses are generally low and mean buildings; and the space within the wall is laid out in gardens and palaces, so that it is less populous than might be imagined, considering its extent. The castle and palace are structures of astonishing size and magnificence. The walls of the former consist of stone and brick, terraced in several places, and 25 cubits high. Between this and the river is a large space, designed for the exercise of the troops and other diversions in the emperor's view. The palace, which is within the castle, contains three courts, encompassed with porticos and galleries, all painted and gilt; and some pieces are said to have been plated with gold. Under the galleries of the first court are the lodgings for the imperial guards; those for the officers are in the second court; and the third contains the stately apartments of the emperor and his ladies. The completion of the palace occupied above 1000 labourers for 12 years, and cost nearly three millions of rupees. The emperor, for the execution of his plan, collected together, by the promise of ample rewards, the most skilful architects and the most celebrated artists in every branch, both of external ornament and domestic decoration. Besides the royal palace, there are several others ranged in a line, which belong to the princes and great lords of the court; and before it there is a very large square, and there are also 12 other squares in different parts of the city. The Caravanserais are more than 60 in number, and some of them have six large courts with their porticos. There are at Agra above 800 public baths, and a great number of mosques, with very magnificent sepulchres. Among the latter is the mausoleum of Akbar him-

self, and another erected by the emperor Shah-jehan for his empress Mahd-Adia, at the expence of 60 lacks of rupees, or 750,000*l*. N. lat. 26° 43'. E. long. 76° 44'.

Between this city and Lahore in the Panjab, which are distant from each other 500 miles, there is planted on each side of the road a continued row of shady trees, forming an avenue, to which, whether we consider its extent, its beauty, or its utility in a hot climate, there is nothing similar in any country. Rennell's Memoir. p. 69. Frazer's Hist. Nadir Shah, p. 25.

The province, or Subah of Agra, is bounded on the north by the province of Delhi, on the east by Oude, on the south by Malwa, and on the west by Agimere, and is about 175 miles long and as many broad. According to the divisions of the emperor Akbar, it contains 13 circars or counties, which are divided into 203 *pergunnahs* or hundreds. The amount of the revenue is 16,156,257 *Sicca* rupees; and the number of the forces are 50,600 cavalry, 577,570 infantry, and 221 elephants. It is, after many revolutions, says Mr. Maurice, in vol. i. of his *Indian Antiquities*, published in 1793, at present possessed by Madajee Sindia, one of the most formidable of the self-created sovereigns of the Hindoostan. The indigo of this province is deemed the most valuable in the East Indies. Its productions are also rice and cotton, oranges and lemons; and its manufactures are white cloth, silken stuffs, silver and gold lace, &c.

AGRA, or EGRA, is the name given by Pliny (*Nat. Hist.* tom. i. p. 339. Ed. Hard.) to the town of HEJAZ, in Arabia Felix, now called Hejr, or Al-Hheg'r; situated, in N. lat. 28° 30'. amidst a ridge of rocky mountains, denominated 'Al-Athaleb, *i. e.* the fragments of stones; out of which many houses have been cut, as some say, by the Amalekites, or by their ancestors the Adites, Iramites, and Thamudites. The Thamudeni of the ancients are represented by Pliny as neighbours to this city.

AGRADO *Ilbea*, a town of Africa, in Lower Guinea.

AGRÆ, a city of Arcadia, mentioned by Pliny, tom. i. p. 195.

AGRÆA, a country of Greece, which extended itself into Ætolia and Acarnania.

AGRÆI, a people of Arabia Felix, who, according to Pliny, were good warriors; and also a people of Ætolia in Greece, near the Achelous.

AGRAGA, an episcopal city of Spain.

AGRAGAS. See AGRIGENTUM. This was also a river of Sicily, which joined the Hypsa, below Agrigentum.

AGRAII, *Agrie*, and *Agriani*, a people of Pæonia, between Hæmus and Rhodope.

AGRAKOVA, a town of Russia, in the government of Archangel, on the west of the White Sea; 17 German miles west of Archangel.

AGRAM. See ZAGRAB.

GRAMONT, a small town of Catalonia in Spain, between Lerida and Solsona, on the river Segre, but the capital of a jurisdiction. N. lat. 41° 50'. E. long. 58'.

AGRANE, a borough of Babylon, ruined by the Persians.

AGRARIÆ *stationes*, in the *Ancient Military Art*, corps of guards posted in the fields, and in the open air.

AGRARIÆ *naves*, was used for vessels placed to keep watch, or guard.

AGRARIAN, *agrarius*, formed of *ager*, a field, in a general sense, something relating to fields or lands.

AGRARIAN, in the Roman *Jurisprudence*, a denomination given to such laws as relate to the partition or distribution of lands.

There are 15 or 20 *agrarian* laws; whereof the principal are, the *Lex Cincia*, in the year of Rome 263; the *Lex Licinia*, in 380; the *Lex Falcidia*, in 525; two *Scipionian* laws, in the year 620; the *Lex Alpetia*, in the year 653; the *Lex Bœbia*; the *Lex Cornelia*, in 673; the *Lex Servilia*, in 690; the *Lex Flavia*; the *Lex Julia*, in the year 691; the *Lex Ælia*, the *Lex Lælia*, the *Lex Marcia*, the *Lex Roscia*, made after the taking of Carthage; the *Lex Floria*, and the *Lex Titia*. See AGER.

AGRARIAN *Laws*, *Lex AGRARIA*, absolutely, and by way of eminence, so called, was a celebrated law, published by Spurius Cassius, about the year 268, B. C. 486, for an equal division of the conquered lands among all the citizens, and for limiting the quantity of ground possessed by each person to a certain number of acres. Those other two in the Digest, the one published by Cæsar, and the other by Nerva, only relate to the limits or boundaries of grounds; and have no relation to that of Spurius Cassius. The Roman lands were of divers kinds, some conquered from the enemies, and not yet brought to the public account: others brought indeed to the public, but clandestinely usurped by private great men: lastly, others purchased with the public money, in order to be divided. Agrarian laws, either for dividing lands taken from the enemy, or the public lands, or those purchased with the public money, were easily passed without disturbance; but those whereby private rich men were to be outed of their lands, and the common people put in possession of what had been held by the nobility, were never attempted without great disturbances. This is the first time the Agrarian law was mentioned; and the measure originated in the ambitious views of Cassius, who thus intrigued for gaining the favour of the people, and for attaining absolute power. The law had the appearance of equity, and could not less than be agreeable to the people, whose misery it relieved. But as the lands, which Cassius wished to have distributed among the poorer citizens had been unjustly usurped by the rich, the proposal alarmed the Senators, partly because they were personally interested in it, and partly because they apprehended its dangerous consequences. The people were at first pleased; but when they understood that the Latins were to partake with them of the advantage, they were disgusted. To conciliate the Latins, and to engage their concurrence in his favour, were the objects which Cassius had in view; but the jealousy and dissatisfaction of the Roman people disappointed his hopes, and terminated in his death. As soon as he was found guilty of aspiring to the sovereignty, and sentence was passed upon him, he was carried by the Questors to the Tarpeian rock, which fronted the Forum, and thrown down from the top to the bottom in the presence of the people; such was the customary punishment of this crime amongst the Romans. His house was also demolished and his estate sold by auction. With the money arising from it a statue of brass was erected to Ceres. The Plebeians, when they afterwards found that the decree of the Senate for the distribution of lands was not executed, nor any measures adopted for this purpose, reproached themselves with the condemnation of Cassius, as an act of imprudence, and even of injustice. In the year of Rome 299, the subject of the agrarian laws, which had been suspended for 30 years, was revived by the Tribunes; and the people demanded, that as they shared with the Patricians in the labours and dangers of the commonwealth; they might also share with them in the benefits accruing from them. But a new partition would have been attended with great difficulties; and it seemed impossible to proceed in this business, without manifest injustice to many persons in actual possession of the lands to be distributed, who had

really

really bought them, and without occasioning great and universal commotions in the commonwealth. For these reasons the Senate finally opposed the establishment of the agrarian laws. About the year 377, C. Licinius Stolo, a rich plebeian, and tribune of the people, attempted to restrain the overgrown power and wealth of the patricians, by proposing a law, which should restrict every Roman citizen to the possession of 500 acres, and oblige him to surrender the overplus, in order to be divided among the poorer citizens. His motion, though enforced by the influence of his colleague in the tribuneship, L. Sextius, was over-ruled; and new commotions occasioned by the approach of the Gauls, having engaged the public attention, the business of the agrarian law was deferred for nine years; and about the end of that time it was again revived, and the law was established: this was called the Licinian law; and the mover of it was soon afterwards condemned by his own law. Having been found to possess more than 1000 acres, 500 of them were distributed among the poor citizens, and he was compelled to pay the fine, which he had annexed to the violation of the law. In consequence of this abuse, the law itself was abolished. In process of time, however, the great and rich possessed themselves of almost all the lands that belonged originally to the state, either by purchase, or by paying a greater quit-rent, or by violence. Several regulations had been proposed for restraining these usurpations. At length other measures having been found ineffectual, (A. U. C. 620. Ante. Christ. 134.) Tiberius Gracchus, urged by his mother Cornelia, proposed the revival of the Licinian law; and that the rich should quit the lands which they held contrary to the laws, after having received from the public the value of them; and that the citizens, whose circumstances required relief, should take possession of them. Many objections were urged against this mild and humane regulation, as Plutarch calls it: and the prosecution of it brought the commonwealth to the brink of destruction, and cost the two illustrious brothers, the Gracchi, their lives. Their efforts were of little avail, as the laws they laboured to introduce were gradually abolished after their death. Cicero, in speaking of the partition of lands and the remittance of debts, says (Offic. l. 2. n. 78.) "that to undertake to discharge debtors by the authority of the magistrate, or to pass the law so often proposed for the distribution of lands, is to sap the two principal foundations of the commonwealth; of which the one is peace between the citizens, which could not subsist, if creditors were to lose their fortunes by the discharging of debtors; and the other justice, which is entirely subverted, from the instant no one can assure himself of continuing peaceable possessor of his right." The agrarian law of the tribune Saturninus, which was carried with violence A. U. C. 652. was of very short duration; and that of Rullus in the year 689, which was more exorbitant than any other, and gave up to a small number of citizens, under the pretext of relieving the poor, almost all the revenues of the commonwealth, afforded Cicero an admirable opportunity of displaying his eloquence in exposing it, and inducing the people to resist it. The exordium of his oration on this occasion has been much admired. Cic. II. in Rull. The agrarian law of Cæsar was presented to the Senate in the beginning of his consulship, A. U. C. 693; and he urged in its favour, that a distribution of lands among the poor citizens was altogether useful, were necessary to deliver the city from a multitude of people with which it was overburdened, and often gave rise to seditions; to repopulate and cultivate several parts of Italy, which were abandoned; to recompense the soldiers who had served the commonwealth, and to give

subsistence to many citizens who wanted it. He proposed the execution of it in the mildest and most moderate manner; and that 20 commissioners should preside at the distribution of the lands, excepting himself out of the number. Notwithstanding these specious pleas, Cato inveighed loudly against the project of Cæsar, alledging that he did not so much apprehend the division of the lands, as the wages that would be required of the people by those who sought to inveigle them by this present. Cato was imprisoned for his opposition; and when another senator was asked by Cæsar why he departed before the Senate broke up, he replied, "because I had rather be with Cato in a prison, than with you in the Senate." Cæsar appealed to the people; and having engaged the concurrence of Pompey and Crassus, the resistance of Bibulus, Cæsar's colleague in the consulship, and the vehement opposition of Cato were ineffectual. The law was authorized by the suffrages of the people. Cicero acquiesced in this measure, by observing a kind of neutrality; and argues to this purpose: "Let us remain neuter, as if buried in a house in the country. Cæsar hopes that I will second him and invites me to it. See the advantages I shall gain by taking this party; the friendship of Pompey, and even that of Cæsar, if I desired it; a reconciliation with my enemies; the peace of the multitude; and the assurance of quiet in my old age: but after the conduct I have maintained in my consulship, and the principles which I have maintained in my writings, ought not my rule to be this maxim of Homer (Il. M. 243), the best of all counsels is to defend one's country?" Cicero ad Attic. ii. 3. In persuading Cato to give up his resistance to this measure, he conjures him to consider, "that if Cato has no need of Rome, Rome has need of Cato." Cic. pro Sext. p. 61.

Several have pleaded for the necessity of agrarian laws among us. William Sprigge, or, as some say, Fr. Osborne, has written expressly on this subject. See also the Supplement to Dr. Price's Observations on Reverfionary Payments, &c. p. 381.

But the author who seems to have entered most deeply into the nature and use of agrarian laws, is Harrington; he shews that the balance of property in a state cannot be fixed but by laws, and the laws whereby such a provision is made are agrarian laws. Now these are necessary to the stability of government, because governments will, according to the diverse balance of property, be of diverse or contrary natures, that is, monarchical or popular. Thus monarchy requires of the standard of property, that it be vast or great; and of agrarian laws, that they hinder recess or diminution, at least in so much as is thereby entailed upon honour. But popular government requires, that the standard be moderate, and that its agrarian laws prevent accumulation.

This author thinks, that in a territory not exceeding England in revenue, if the balance be in more hands than 300, it is declining from monarchy; and if it be in fewer than 5000 hands, it is swerving from a commonwealth.

The same writer defines an equal agrarian, a perpetual law, establishing and preserving the balance of dominion by such a distribution that no one man, or number of men, within the compass of the few, or aristocracy, can come to overpower the whole people by their possessions in lands.

He also observes, that the people of Rome, by striving for an agrarian, strove to save their liberty; and that commonwealth, through want of such a law, or the non-observance of it, came to ruin.

In the Grecian cities, the defect of an agrarian was supplied by *ostracism*.

In Venice, the council of ten, and the officers of pomp, restrain those who might be too powerful; and these two orders in a commonwealth, where the gentry have but small estates in land, are as much as needs be in lieu of an agrarian.

Some German republics have no more to supply the place of this law than that estates descending are divided among the children.—And the same law would establish an agrarian in England.

Agrarian laws may be framed different ways, as by entailing the lands upon certain families, without power of alienation in any case, as in Israel and Lacedæmon: or, except with leave of the magistrate, as in Spain. But this, by making some families too secure, as those in possession, and others too despairing, as those not in possession, may render the whole people less industrious.

Therefore Harrington prefers a law regulating estates, so that no man shall have above two thousand pounds a year in land; and that the estates of those who exceed this proportion shall be divided in descending to their children, till the greatest share do not exceed 2000*l. per annum*. This is the rule he lays down for his commonwealth of Oceana, by which he means his scheme for the government of England.

By this law, Harrington intended that the property of land in England should never fall into fewer hands than 5000; as he computes the rents of this country to be ten millions. But if these rents, as is probable, amount now to twenty millions, it would follow that, by our author's rule, the land could never be in less than 10,000 hands, which, according to his system, must effectually secure the liberties of the people.

It would exceed the limits of our design, to enter into the full detail of all the reasonings of this ingenious author on the subject of agrarian laws; we therefore refer to his works: Toland's Edition, 4to. 1771. See also GOVERNMENT, PROPERTY, &c.

AGRARIUM. See AGISTMENT.

AGREDA, in *Geography*, a town of Spain, in Old Castile, at the foot of Mount Cayo, where the ancient *Gracchuris* stood; three leagues south-west from Tarazona. N. lat. 41° 53'. W. long. 2°.

AGREDA, is also the name of a town in the kingdom of Popayan, in South America; forty miles north from Quito.

AGREDA, MARY of, in *Biography*, a deluded fanatic, or a bold impostor, was born at Agreda, in Spain, in 1602, took the veil in 1620, in a convent founded by her father and mother, was elected superior in 1627, and died in 1665. In 1637, she began to write the life of the Holy Virgin, in consequence, as she pretended, of orders received from God and the Virgin; and when it was finished, she annexed to it an attestation, that its contents had been communicated to her by divine revelation. This fanciful work was translated by Father Crozet, and formally condemned by the doctors of the Sorbonne. The translation, in three volumes, 4to. was published at Brussels, in 1717. Gen. Dict.

AGREEMENT, AGREEMENTUM, in *Law*, a joining, or putting together, of two or more minds in any thing done or to be done.

Of this there may be three sorts.—The first, an agreement executed at the beginning, mentioned in the statute of 25 Edw. III. cap. 3. which says, "That the goods bought by forestallers, being thereof attainted, shall be forfeited to the king; if the buyer thereof have made 'gree with the seller:'" where the word *gree* otherwise called *agreement executed*, signifies payment for the things, or satisfaction.

The second is an *agreement after an act*, that is, where one does an act, and another agrees and assents thereto afterwards.—The third is an *agreement executory*, which is, when both parties at one time are *agreed* that such a thing shall be done in time to come. It is called executory, because the thing is to be done afterwards.

Agreements are to be in writing, by stat. 29 Car. II. cap. 3. of *frauds and perjuries*.

AGRESSES, or OGRESSES, in *Horticulture*, the same as **PELLISTS**.

AGRESTA, in the *Materia Medica*, an unripe grape; otherwise called *ombax*, and *uva acerba*, by the French *verjus*.

Agrestæ are held cooling, detersive, and astringent; they temper the acrimony of the bile, and clear the heart. Eaten plentifully, they have been found to destroy worms. The term is sometimes also applied to the juices of this fruit, more properly called *omphacium*.

AGRESTI, LIVIO, DA FURLI, was a painter of history, who died in 1580. He was a disciple of Picirino del Vaga, and is commended by Vasari, for the richness of his invention, the goodness of his colouring, and the correctness of his design. Pilkington.

AGREVE, in *Geography*, a small town of France, in Vivarais, at the foot of the mountains.

AGRI, in *Ancient Geography*, a people placed by Ptolemy, in European Sarmatia.

AGRIA, a name given to **HOLLY**; and also to a malignant pustule, of which there are two sorts. The one is small, with a roughness, redness, and slight corrosion of the skin; it is of a round figure, its centre is smooth, and it spreads slowly. It is cured by rubbing it with fasting spittle. The other sort ulcerates with a violent redness and corrosion, so as to make the hair fall off; it is of an unequal form, and turns leprous. It is cured by poultices of **PELLITORY of the wall**.

AGRIA, or EGER, in *Geography*. See **ERLACE**.

AGRIAMPELOS, formed of *αγριος*, wild; and *αμπελος*, a vine; the wild vine; and, according to Gerard, the black BRIONY.

AGRIANA, in *Ancient Geography*, a town of Capadocia.

AGRIANES, a small river of Thrace, which rose north of Heraclea, and discharged itself into the Hebrus. This was also the name of a people near mount Pagæus, in Thrace.

AGRIANIA. See **AGRIONIA**.

AGRICOLA, CNÆUS JULIUS, in *Biography*, an illustrious Roman, was born on the 13th of June, in the second consulship of Caius Cæsar, A. D. 38. Tacitus dates his birth, in the third consulship of Caius; but as he died in his 56th year, by the same historian's account, he must have been born sooner. He was a descendant of the colony of Forojulii or Frejus, in Provence, the place of his nativity; and his grandfathers, on both sides, were of the equestrian rank. His father, Julius Græcinus, was of the order of senators, and distinguished by his wisdom and eloquence. His character is mentioned with respect by Seneca, (de Benef. lib. ii.) and he is cited as a writer by Pliny, tom. i. p. 710. Vid. Index Auctorum, tom. i. p. 61. Ed. Hard. Agricola wished him to accuse Silanus; and because he refused, caused him to be put to death. Agricola being thus deprived, at an early age, of the instruction which his father was so capable of giving him, the care of his education devolved upon Julia Procilla, his mother. By her he was removed, when a child, to Marseilles, which was then deemed the Athens of Gaul; where the language of Greece was happily blended with the province of Rome.

of warlike. Here he manifested the vigour of his mind, by a profound application to the study of philosophy; but his chief exertion, concerning this kind of learning, to be mentioned only in the poem, life to which he was devoted, moderated the ardour with which he pursued it. The scene of the military career in which he engaged was Britain; and the General, to whose immediate care he was entrusted, was Suetonius Paulinus, who was then employed in the arduous business of recovering the provinces that had revolted from their subjection to the Roman power. His conduct secured the esteem and patronage of this distinguished commander; and the office of tribune of a legion, to which he was appointed, afforded him an opportunity of gaining that knowledge of his profession, and that acquaintance with the country, which laid the foundation of his future celebrity. On his return to Rome, in pursuit of the honours that belonged to his rank, he married Domitia Decidiana, a lady eminently distinguished by her virtues, as well as by her noble birth; and this domestic connection was a source of uninterrupted felicity. Having discharged the office of quaestor, in the rich province of Asia, under Salvius Titianus, brother to Otho, who was afterward emperor, with a probity which no temptation could corrupt, he spent several years in that state of inactivity, which was most secure and most eligible under a prince so suspicious and cruel as Nero. In the mean while, he performed the duties of praetor and tribune of the people, with a degree of prudence, which led him to avoid both the extremes of parsimony and prodigality.

On the accession of Galba, Agricola was charged with a commission to take an account of the property belonging to the temples, which Nero had purloined; and in the execution of this business he recovered what was attainable, and prevented farther depredations. In the commotions that succeeded the death of Galba, he seems to have taken no part. At this time (A.D. 69), he was much distressed by the news of his mother's death, who had been murdered at Intemelii, in Liguria, by the troops belonging to the emperor Otho's fleet, and whose estates they had plundered. Whilst he was preparing to pay the last tribute of respect to an honoured parent, and to redress the injury which his patrimony had sustained, he received information that Vespasian had assumed the empire, and immediately determined to attach himself to his cause. From Liguria, he probably hastened to Rome; and he was appointed, by Mucianus, to the command of the 20th legion in Britain, which had manifested some signs of disaffection and mutiny. Having, by his wife and moderate conduct, secured the obedience of the legion, he continued for some time in the country, under the government, first of Vespasian Bolanus, and afterwards of Petilius Cerialis. Under the former governor, who was meek and peaceable, he suppressed his martial ardour, and renounced what was specious for that which was really useful; and under the latter, who was active and enterprising, he was prompt in executing the orders he received, and yet modest in relating his successes; so that he thus acquired fame without envy. When he returned to Rome, Vespasian created him a patrician, and invested him with the government of Aquitania, in Gaul, which then comprehended the whole country between the river Loire, and the Pyrenean mountains. Here he performed the duties of a civil governor for three years, in a manner which commanded universal esteem. He was recalled by Vespasian, A.D. 77, and made consul with Domitian. During the year of his consulship, he contracted his daughter to Tacitus, the historian, who has furnished the memoirs of his life; and at

the expiration of his office, he was admitted into the college of pontiffs, and appointed governor of Britain, where he resided, in order to compose the tumults of this distracted province. Julius Frontinus, his predecessor, was a man of abilities, and had conquered the warlike nation of the Silures.

On the arrival of Agricola, he found the Ordovices, or inhabitants of North Wales, in a state of insurrection. At a late season of the year, and in opposition to the timid counsel of some of his principal officers, he marched against them, by a signal defeat almost encompassed the nation, and then reduced Mona, or the isle of Anglesey. His next object was to correct those abuses which had occasioned the hostilities of the Britons, and to conciliate their attachment by equitable and humane measures. He also softened their manners by inducing them to cultivate the arts of peace, by providing for the liberal education of the sons of their chieftains, and by promoting the use of the Roman habit and language. In return for their liberty, of which they were deprived, he endeavoured to establish amongst them tranquillity. Luxury, says Tacitus, soon followed; and the Britons called those qualities politeness and good breeding, which were, in fact, the shackle and badge of their servitude.

Agricola, having secured the southern part of the island, prepared, in the third year of his government, to extend his arms northwards; and having spread the ravages of war as far as the Frith of Tay, he proceeded to secure his conquests by a chain of fortresses, in the arrangement of which his military skill was eminently displayed. This chain extended from the Clyde to the Frith of Forth; and he thus separated the conquered part of the island from the fierce and unsubdued tribes of the north. His fifth campaign was devoted to the conquest and security of those parts of Scotland which lie over against Ireland, to which island he directed his views, and which, after his return to Rome, he avowed his purpose of subduing and retaining. The operations of the sixth campaign were principally directed against those who inhabit the eastern parts beyond the Frith of Forth; and in these, the army was accompanied by the fleet, which explored the inlets and harbours, and enclosed the natives on all sides. Agricola was the first Roman general that ever employed a fleet against the Britons, who had always looked upon the sea as their last resource, if ever they should be conquered by land. That resource was now taken from them; and they no longer knew what defence to make against an enemy, who was master of both elements. However, the Caledonians assembled in great numbers, and made a fierce attack on one of the Roman camps; but after a temporary success, they were repulsed with great loss. But they determined to persevere, and thought of nothing but renewing the war. Accordingly, they closed this campaign with arming their youth, providing places of safety for their wives and children, and forming alliances for their future succour. For the seventh campaign, Agricola, as well as the Caledonians, made great preparation. The Grampian hills were the scene of a decisive engagement. Here the natives, forming an army of more than 30,000 men, under the command of Galgacus, made their stand; and here also Agricola, having disposed his troops in the most advantageous position, waited the descent of the enemy from the hills.

Each General addressed his army previously to the battle, and their speeches, which are recorded by Tacitus, were re-echoed with shouts of applause. For a long time the victory was disputed, but at last the Romans prevailed, and

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with a small comparative loss of numbers, killed the rest of the Caledonians, and dispersed the rest. Agricola, after receiving hostages from some of the tribes, withdrew his army slowly within the Roman limits, and ordered the commander of his fleet to circumnavigate the island. Whilst Agricola was extending his conquests in a distant province, Domitian succeeded to the empire, and became jealous of his reputation and power. He ordered, however, the insignia of triumph to be decreed him by the senate, together with a statue, and all the honour which a private man could receive under the emperors, in lieu of the triumph itself, to which no one but the prince was now entitled. At the same time the emperor recalled Agricola, and under a pretence of favour, propagated a rumour that he intended to appoint him to the government of Syria. Agricola peaceably surrendered the province to his successor; and when he arrived at Rome, he entered the palace by night, in order to avoid tumult, and to prevent any occasion of offence to the jealous Domitian, where he was received by the emperor with a cold salutation, and then suffered to mingle with the crowd of courtiers, and afterwards to retire, unnoticed and unrecompensed, into private life. His popularity was dangerous to him in this tyrannical reign; but his prudence and moderation enabled him to escape uninjured. In this private manner did he pass nine years of his life. At length the year arrived in which the proconsulships of Asia and Africa were to be drawn by lots; and one or other of them must, in due course, have fallen to him. The emperor, dreading the union of such influence as this station would give, with his extraordinary talents and reputation, contrived by his emissaries to induce him to request being excused from the office, and to plead as an apology, his love of retirement and ease. The artifice succeeded, and the emperor acted his part in granting the request of Agricola, with his usual haughtiness and arrogance: nor did Domitian give him the present which was usually bestowed on these occasions. Soon after this event, Agricola was seized with the disorder which terminated in his death. Common rumour attributed it to poison; and the officious inquiries of Domitian, during its progress, increased the suspicion, though it was probably unfounded. He died, when Collega and Priscus were consuls, August 23, A. D. 93, in the 56th year of his age, leaving a widow and one daughter, who was the wife of Tacitus. He lost a son, at a very early age, while he was in Britain. His death was universally lamented. The portrait which Tacitus has drawn of his father-in-law, with his pen, excels (says Crevier) all that the pencil of the greatest painters, or chizel of the ablest sculptors, could have achieved to perpetuate the memory of Agricola. He was unwilling to let posterity be ignorant even of his form and person: he tells us, that he was well made, though not tall; that his countenance was rather mild than stern; that candour and probity were pictured in his face; that none could see him without loving him; and that all were delighted to find the *great* and the *honest* man united in him. He was not ambitious of possessing a large fortune; but he enjoyed such an one as was sufficient for a noble and generous mind. He had tasted all the satisfactions which result from the consciousness of having acted suitably to the obligations of his superior stations; and he had been vested with all the ornaments and titles, which, however misplaced in others, were in him the rewards of real merit. He might be styled an happy man, as Tacitus observes, since he escaped the miseries in which the Roman empire was soon after involved; and died while his wife and daughter were living, in the possession of his dignity, in the height of his fame, and with all his relations and friends safe and prosperous. His death was pathetically

lamented by Tacitus, in an elegant epitaphic to Agricola himself, of which no translation can do justice to the energy and conciseness of the original. "What aggravates mine and your daughter's sorrow," says Tacitus, "besides the loss of you, is, that we had not the opportunity of sitting by you in your sickness, supporting you in your faintings, and enjoying the satisfaction of your last looks and embraces. Then we should have received from you those commands and counsels, which would have been perpetually fixed on our memory. This is a great cause of our regret: you were lost to us by four years' absence from us. It is certain that you, best of fathers, wanted nothing suitable to your character and circumstances, since your tender wife was present with you; but you should have been lamented with other tears besides her's; and in your last moments your eyes were bereaved of the sight of some who were very dear to you. If there be any residence for the manes of the virtuous; if, as philosophers think, the souls of the great are not extinguished with their bodies; may you rest in peace, and recall us your family from too weak and womanish lamentations for your death, to the contemplation of your virtues, which it is very unreasonable to regret. Let us rather honour you with a just admiration. This is the true honour, and the best instance of piety, which we your nearest relations can shew you. This is what I shall represent to your daughter and your wife, that the former would revere the memory of her father, and the latter that of her husband, by revolving all his actions and words in their minds, and reflect more upon the character and idea of his soul than those of his body. Not that I would, in the least, oppose erecting to you images of marble or brass; but as the bodies of men are perishing and mortal, so likewise are their statues: but the form of the mind is eternal, and can never be preserved or expressed by any foreign materials or art, but only by the real character and behaviour of the person who imitates it. Whatever we loved and admired in Agricola still remains, and will for ever remain in the minds of men, and in the everlasting fame that attends noble actions. Many of the ancients will be sunk in oblivion, without the least remain of fame or reputation; but Agricola will be transmitted to posterity, and survive in immortal honour." Taciti Vita Agric. apud Op. tom. ii. p. 465. Ed. Ernæli. Crevier's Rom. Emp. vol. vi. p. 346—388. Gen. Dict.

AGRICOLA, CHRISTOPHER LUDWIG, a landscape and portrait painter, was born at Ratibon, in 1667, and died there in 1719. He engraved a landscape, in which is represented the fable of Diana and Actæon. Strutt.

AGRICOLA, GEORGE, was born at Glauchen, in Misnia, (Meissen) in Upper Saxony, the 24th March, 1494, and received the principal part of his education in Italy, where he applied himself diligently to his studies, particularly to the study of medicine. Returning to Germany, he settled at Joachimstedt, in Misnia, and practised physic there, with considerable reputation and success. He then removed to Chemnitz, that he might be near the rich mines in Saxony, the scene of his future greatness; as from the perfect acquaintance he there acquired of the nature of metals, proceeded those rich stores of knowledge which are scattered in profusion over his numerous works on mineralogy. He is said to have told the Dukes of Saxony, that their subterraneous treasure far exceeded in value all they possessed on the surface of the earth. He was very little, however, assisted by their bounty, furnishing nearly the whole of the expences of his labours and his experiments from his own fortune. The treatises he wrote on the subjects of metals and mineralogy, are composed in an elegant Latin style: they abound in curious information, and were, for a long time, considered as standard works. He maintained his

attachment to the old religion, though he lived among Lutherans. He died at Chemnitz, November 21, 1555, and was buried at Zeitz; the bigotry of his townsmen not allowing him a grave among them. G. Fabricius, his intimate friend, composed the following epigram on his works:

"Viderat Agricola, Phæbo monstrante, libellos,
Jupiter, et tales edidit ore sonos.
Ex ipso hic terre thesauros eruet orco,
Et fratris pandet tertia regna mei.

His works on mines, published originally in parts, were collected and printed together, at Basil, 1546, in folio. They are chiefly comprehended under the following titles: "De ortu et caulis subterraneorum;" "De Natura eorum quæ effluunt ex terra;" "De Natura Fossilium;" "De Medicatis Fontibus;" "De Subterraneis Animantibus;" and "De veteribus et novis Metallis." His great work, "De re Metallica," was printed at the same place, 1561, also in folio; "De Mensuris et Ponderibus, Romanorum et Græcorum," with additions referring to modern times, 1550, folio; "De Peste Libri tres," Basil, 1554, 8vo; "Opus de Fossilibus, cum Annotationibus Georgii Fabricii," 1657. He also wrote other treatises on political and theological subjects.

AGRICOLA, JOHN, a Saxon divine, was born at Eisleben, in Germany, April 20th, 1492. Mosheim describes him as an eminent doctor of the Lutheran church, though chargeable with vanity, presumption, and artifice. He was minister, and principal of a college in his own country; and attended the elector of Saxony to the diet of Spire, in 1526; and to that of Augsburgh, in 1530. Urged by ambition, he quitted his own country in 1536, and went to Wittemberg, where he settled as a professor and minister. Although he wrote against Melancthon, in 1527, he was not much noticed before the year 1538, when he took occasion, from the doctrine of Luther, concerning the ground of man's acceptance and salvation, to declaim against the *lucro*; maintaining, that it was neither fit to be proposed to the people as a rule of manners, nor to be used in the church as a means of instruction; and that the *gospel* alone was to be inculcated and explained, both in the churches and in the schools of learning: and he thus became the founder of the sect of ANTINOMIANS. Luther, who had been before his friend, attacked him with great severity; and his accusations were supported by the divines of Wittemberg. At length, by the interposition of the electors of Saxony and of Brandenburg, Agricola was induced to publish a recantation of his errors, and to retract the injurious reproaches which he had cast upon Luther. Mosheim says, this recantation does not seem to have been sincere; as he returned to his errors, when his fears were dispelled by the death of Luther, and gained proselytes to his extravagant doctrine. Agricola was employed by Charles V., in 1548, in conjunction with other persons, and liberally rewarded, in composing the INTERIM. It is said, that he wanted to restore the use of holy oil in the case of the sick; and that he attributed a supernatural efficacy to it. Some have said, that he was a Papist; and others charge him with being a man of pleasure, and with maintaining all religions to be in themselves really indifferent. When he left Saxony, he was patronized at the court of Brandenburg, by the elector Joachim II. whose favour he enjoyed till his death, which happened at Berlin, in 1566. His "Explication of German Proverbs," and his "Commentaries upon St. Luke," are the principal of his works, Gen. Dict. Mosh. Eccl. Hist. vol. iv. p. 321, &c.

AGRICOLA, MARTIN, a theoretic and practical musician,

who was chanter of Magdeburg, and flourished about the middle of the 16th century. He died, June 10th, 1556. His works are two treatises on music, written in German verse, and published at Wittemberg, in 1528 and 1529; the latter of which, *viz.* "Musica Instrumentalis," was republished, with large additions, in 1545; and contains an explanation of the fundamentals of music, together with a description of the instruments used in his time, and the method of playing upon them; and an account of the division of the monochord, and of a temperature for the organ and harpsichord: a tract "on Figurate Music," and a brief treatise "De Proportionibus;" a treatise, intitled, "Scolia in Musicam planam Wenceslai Philomatis ex variis Musicorum scriptis per Magdeb. Schola collectis;" a larger work, intitled, "Melodiæ Scholasticæ sub horarum intervallis decantandæ," published at Magdeburg in 1682; and a posthumous work, intitled "Duo Libri Musices continentes compendium Artis, et illustria Exempla, &c." published in 1561. His several treatises were designed for the instruction of beginners in the study of music. Hawkins's Hist. Music. vol. iii. p. 83.

AGRICOLA, MICHAEL, a Lutheran minister at Abo, in Finland, was the first who translated the New Testament into the language of the country, and thus contributed to the propagation of Lutheranism. It was printed in 1548. He died in 1556. Gen. Dict.

AGRICOLA, RODOLPHUS, was born in the village of Bafflon, near Groningen, in Friesland, in the year 1442; and distinguished by his love and pursuit of literature. Having finished his education at Louvain, where he maintained an exemplary character for sobriety and application, he declined the professor's chair, which was offered him, and visited France and Italy for farther improvement. At Ferrara, he studied Greek, and availed himself of the lectures of philosophy that were read by Theodore Gaza; and at the same time taught Latin, which he was able to write with so much purity and elegance as to rival Guarini, in prose; and the Strozzi, celebrated writers at that period, in verse. After a residence of two years in Ferrara, he returned to the Netherlands, about the year 1477; and, at Dauter, had an interview with Erasmus, whose future celebrity, though he was then a boy of ten years old, he had the sagacity to predict. His love of independence, and his solicitude for securing leisure to indulge his literary taste, induced him to forego several offices of honour and profit, which he might have obtained by the favour of the emperor Maximilian I. At length, in 1482, he settled in the Palatinate, residing sometimes at Heidelberg, and sometimes at Worms, and delivering occasional lectures in polite literature. The Elector Palatine was his auditor; and in compliance with his request, Agricola composed, "An Abridgment of Ancient History." He was also much respected by John d'Alburgh, bishop of Worms, whom he had instructed in the Greek language. About the 40th year of his age he directed his thoughts to the study of divinity; and by the assistance of a Jew, made considerable progress in the Hebrew language; but death put a stop to his literary pursuits, at Heidelberg, in 1485. Although his natural temper, which was characterized by a fondness for ease and leisure, was altogether inconsistent with the active exertions of a reformer, he seems, however, to have deplored the darkness of the church, and to have had some glimpse of the light which illuminated it in the next century. The indolence of his disposition prevented his entering into the married state, though he professed an attachment to the female sex; and took pleasure in amusing them with elegant verses, and with musical performances, both vocal and instrumental, in which he excelled. To

Agricola

Agricola belongs the praise of having restored the Greek learning to Germany, and of having contributed, in an eminent degree, to the revival of literature and classical taste, in an age which required his exertions, and when they were highly useful. Erasmus, in his *Adagies*, calls him "a man truly divine." Bayle says, that Italy, which at that time treated every thing as barbarous that was on this side the Alps, produced no genius comparable to what Friesland could boast of in her Agricola." A learned Venetian, in an epitaph, ranks Agricola with the most celebrated names of Greece and Rome. His works, of which the principal is his treatise intitled, "*De Inventione Dialectica*," were collected by Alard, in two volumes, 4to, and printed at Louvain, in 1516; and by Occo, at Cologne, in 1539. Gen. Dict.

AGRICULTURE, the science which explains the art or means of cultivating and improving the earth or soil, so as to render it fertile and productive. The term seems to be formed from the Latin words *ager*, *field*, and *cultura*, *culture*, or *tillage*, from *colere* to till.

The art of agriculture, in this view, comprehends the nature of *climate* and *soil*, the methods of performing the different operations that are requisite in the cultivation and improvement of arable and grass lands, as *inclosing*, the making of fences, as *hedges*, *ditches*, *walls*, *railings*, *pailings*, *gates*, *draining*, *paring*, and *burning*, *watering*, *swarding*, *fallowing*, *ploughing*, *manuring*, *sowing*, *harrowing*, *sweeding*, *hoing*; the growing and preserving of different sorts of crops, as *wheat*, *rye*, *barley*, *oats*, *beans*, *peas*, *potatoes*, *turnips*, *carrots*, *cabbages*, *hops*, *hemp*, *flax*, *woad*, *madder*, &c.; and the raising of various kinds of seeds, as *rape*, *mustard*, &c.; *rotation of crops*, *reaping*, *mowing*, *stacking*, *thrashing*; the management of artificial and natural grasses, as *clover*, *lucerne*, *sainfoin*, *tares*, *velches*, &c.; the converting of arable lands to grass, *meadows*, *pastures*, *hay-making*; the cultivating and preserving of fruits, as *apples*, *pears*, *cherries*, &c.; and the preparation of fruit liquors, as *cider*, *perry*, &c.; *orchards*; the planting of timber-trees, *woods*, *coppices*, *plantations*, &c.; the inventing of implements, as *ploughs*, *harrows*, *rollers*, *hoes*, *drills*, *waggon*s, *carts*, *mills*, *kilns*, &c.; the construction of farm-buildings, as *bouses*, *offices*, *steds*, *cottages*; the nature of *farms*, *tithes*, *leases*, &c.

In a more extensive sense it also includes the breeding, rearing, feeding, and general management of all sorts of live stock, as *cattle*, *horses*, *sheep*, *lambs*, *hogs*, *rabbits*, *poultry*, *pigeons*, *bees*, &c.; the conducting of the various processes and preparations which have a relation to the different products obtained from them, as *milk*, *butter*, *cheese*, or what are generally termed *cow-keeping* and *dairying*; and lastly, as connected with political economy, the construction of *roads* and *canals*, the forming of *embankments*, and the nature of *weights* and *measures*. Full accounts and explanations of these will be given in the course of this work, under their respective heads.

Gardening may likewise be considered as an *improved* branch of agriculture.

Among the Ancients the business of husbandry was frequently understood by the term *Georgica*.

This useful and important art, though less splendid than many others, appears to have attracted the notice of mankind in the earliest periods of the world; and this is not indeed very extraordinary, when it is considered that the existence and prosperity of them at such periods must almost have solely depended upon it. In the earliest stage of society, men, as hunters, must have found, from experience, that the mode of procuring subsistence by the bow or the chase was attended with infinite toil as well as hazard, and precarious in the event; and therefore, not by any means

calculated to supply the wants or increase the comforts of social life. In the pastoral state also, which may be regarded as the second step in the advancement of society, men must soon have discovered, that though more certain of subsistence, and less exposed to danger and hardships, their herds and flocks were liable to innumerable accidents, and that they might at once be reduced to all the miseries of famine.—Under such circumstances and apprehensions, it was therefore natural for them to think of some means by which they might, with more certainty, procure the necessities of life. For this purpose they would naturally turn their attention towards the earth, and discover that from it might be drawn whatever could render life comfortable. Experience would likewise quickly inform them, that, by due cultivation of the soil, fruits, and grain of various kinds, fit for nourishment, might be procured in abundance; but that, by neglecting this art, the natural fertility of the soil, the warmth of the sun, and the regular revolutions of the seasons, would be in a great measure unavailing.

What may be termed the art of husbandry having commenced in this way, it is easy to perceive that it must have been extremely simple in these early ages, and its advances towards perfection slow and almost imperceptible. By most of the eastern nations agriculture seems to have been particularly attended to and encouraged from the most early periods. That the Japanese were extremely interested in its promotion is evinced by the great care taken in collecting and preserving all sorts of manures; and among the Chinese it has constantly received the distinguished regard and protection of their princes and nobility, and been considered as the most honourable and important of all employments. The use of the drill, which has but lately been introduced and adopted in European countries, is said to have been long known and employed by them.

The Chaldeans are found to have carried this valuable art to a considerable degree of advancement; as they cultivated their lands with great assiduity, and enjoyed the pleasing satisfaction of receiving from their fields plentiful harvests. The Egyptians also, who, from the fertility of their country, caused by the annual overflowings of the Nile, raised prodigious quantities of corn, were so sensible of the blessings resulting from agriculture, that they ascribed the invention of it to Osiris, and even carried their superstitious gratitude so far, as to worship those animals that laboured in tilling the ground. The Phœnicians were also famous for their skill in agriculture; but finding themselves too much confined in their native country, by the conquests of neighbouring nations, they spread themselves through the greater part of the islands of the Mediterranean, and carried with them their knowledge in husbandry. The Carthaginians following the taste of their ancestors, are said to have applied themselves assiduously to the study of agriculture. Mago, their famous general, wrote no less than twenty-eight books on that subject, which Columella tells us were translated into Latin by an express decree of the Roman senate; and Servius adds, that Virgil used these books as a model when he wrote his *Georgics*. The art of sowing corn, and the tillage of land, were probably invented in Sicily; as that island was very fruitful in corn, and agriculture was there esteemed so honourable an employment, that even their kings did not disdain to practise it with their own hands. The Athenians, who were the first people that received any tincture of politeness, taught the use of corn to the rest of the Greeks; they also taught them the manner of cultivating the ground, and preparing it for seed. The Greeks soon perceived that bread was more wholesome, and its taste more delicate than acorns, and accordingly thanked the gods for such an unexpected

and beneficial present. After this, the Athenian kings thinking it more glorious to govern a small state wisely, than to aggrandize themselves by foreign conquests, withdrew their subjects from war, and employed them solely in cultivating the earth. This constant application carried agriculture to a considerable degree of advancement, and reduced it into a more perfect art.

Hesiod, who is generally thought to have been contemporary with Homer, was the first among the Greeks who wrote on this subject. He called his poem "Weeks and Days," because agriculture requires an exact observance of times and seasons. The other eminent Greek writers upon agriculture are Democritus of Abdera, Socraticus, Xenophon, Tarentinus, Architas, Aristotle, and Theophrastus, from whom the art received considerable improvements, as also from Hieron, Epicharmus, Philometer, and Attalus.

The ancient Romans esteemed agriculture such an honourable employment, that, in the earliest times of the republic, the highest praise that could be given to a man, was to say of him, that he cultivated well his own spot of ground. The most illustrious senators applied themselves to this profession; nor had they either splendour or majesty, but when they appeared in public. And their greatest generals, at their return from the toils of war, from taking of cities, and subduing of nations, were impatient till they were again employed in cultivating their lands; and thought it no disgrace to follow the plough, though they were at the same time prepared to serve the wants of the republic, attend her councils, or put themselves at the head of her armies. It must indeed be allowed, that when the Romans became tainted with the luxury of Asia, they gradually lost the noble simplicity of their ancestors, and employed their slaves in the severer labours of a country life. But though they did not themselves hold the plough, yet even men of consular dignity looked upon it as a reward for their public services, when they obtained leave to retire into the country; and were equally respected when overlooking their farms, as when seated in the chair of magistracy. M. Cato, the censor, that illustrious Roman general, orator, politician, and lawyer, after having governed provinces, and subdued nations, did not think it below his station to write a large treatise on agriculture.

This work, according to Servius, was dedicated to his own son, and was the first Latin treatise on that subject. It has been handed down to us, it is said, in all its purity, and in the same manner that Cato wrote it. Varro composed a treatise on the same subject, but on a more regular plan. This work is embellished with all the Greek and Latin erudition of that learned author. Agriculture also received great improvements from the two Sallustians, and likewise from Scorsia, Tremellius, and M. Terentius. Virgil has adorned it with the language of the muses, and given it majesty by his verse. He has finely embellished those precepts of husbandry which were left by Hesiod and Mago.

Columella, who flourished in the reign of the emperor Claudius, wrote twelve books on husbandry, which contain a variety of interesting facts and observations. He was a native of Boetica, in Spain, and had devoted much time to the study of rural affairs.

From this period till the reign of Constantine IV. husbandry appears to have been in a declining state, when that wise emperor caused a large collection of the most useful precepts relating to the art to be extracted from the best writers, and published under the title of Geoponics. Some say he made this collection with his own hand. Nor is this at all improbable, as it is well known that, after he had conquered the Saracens and Arabians, he not only practised,

but studied the arts of peace, fixing his chief attention on the advancement of agriculture.

But from the time of Constantine IV. till about the year 1478, it lay in a kind of dormant and neglected state, when Crescenzo, an Italian, revived it by publishing an excellent performance on the subject at Florence. He was soon followed by several of his countrymen, among whom Tatti, Stefano, Augustino Gallo, Santovino, Lauro and Tarello, deserve to be particularly noticed.

In the mean time, in our own country, Fitz Herbert, judge of the Common Pleas, shone with unrivalled lustre in the practical parts of husbandry. He published two treatises on this subject; the first, which was entitled "The Book of Husbandry," appeared in 1534; and the second, called, "The Book of Surveying and Improvements," in 1539. As the observations and instructions contained in these works were the result of much experience, they excited great attention to the subject, and soon raised a spirit of emulation in his countrymen, in consequence of which many treatises of the same kind successively appeared; but time has deprived us of many of these writings, or at least they are become so very scarce, as only to be found in the libraries of the curious.

About the year 1600, France made considerable efforts to retrieve husbandry, as appears from several large works, particularly *Les Moyens de devenir riche*, and the *Cosmopolite*, by Barnard de Palissy, an indigent potter; *Le Theatre d'Agriculture*, by de Serres; *L'Agriculture et Maison Rustique*, by Messrs. Etienne and Liebault, and lately *Le Cours Complet d'Agriculture*, by M. L'Abbe Rosier, &c.—The Flemings, about the same period, were more attentive to the practice of husbandry than the publishing of books on the subject; their attention being doubtless to carry on a private lucrative trade, without instructing their neighbours in their modes of cultivation; hence it happened, that whoever was desirous of copying their method of agriculture, was obliged to travel into their country, and make his remarks upon the spot. Their principal idea of husbandry, which was indeed just enough, consisted in making a farm resemble a garden as much as possible. The adoption of such an excellent principle at first setting out, led them of course to undertake the culture of small estates only, which they kept perfectly free from weeds, by continually hoeing and turning the ground, and rendering it rich and productive, by manuring it plentifully and in the most judicious manner. When by this means they had brought the soil to a proper degree of cleanliness, health and vigour, they ventured chiefly upon the culture of the more delicate grasses, as the surest mode of acquiring wealth in husbandry upon a small estate, without the expence of keeping many draught horses or servants; and the experience of a few years was abundantly sufficient to convince them, that ten acres of the best vegetables for feeding cattle, properly cultivated, would maintain a larger stock of grazing animals than forty acres of common farm grass. They also found that the best vegetables for this purpose were lucern, sainfoin, trefoil of most denominations, sweet fenugreek, buck, and cow-wheat, field turnips and spurrey. The political secret of their husbandry, therefore, consisted in letting farms on improvement. They also discovered eight or ten new sorts of manure. They were the first among the moderns who ploughed in living or green crops, for the purpose of fertilising the earth, and confined their sheep at night in large sheds built on purpose, whose floors were covered with sand or virgin earth, &c. which the shepherd carted away every morning to the compost dunghill. This useful and judicious practice has, since that period, been too little attended to by the practical farmer.

Our fatal domestic wars, during the reign of Charles I. changed the instruments of husbandry into martial weapons; but after the death of that unfortunate monarch, artful and avaricious men crept into the confiscated estates of the nobility, gentry, and clergy; and as many of these new encroachers had risen from the plough, so they returned with pleasure to their old profession, being chiefly animated by a love of gain. Plattes, Hartlib, Blythe, and others, seized this favourable disposition of the common people, and encouraged it by writings, which have since had few to equal them; nor was Cromwell wanting in lending his assistance in this important business. Sir Hugh Platt was one of the most ingenious husbandmen of the age in which he lived; and so great was his modesty, that all his works, except his *Paradise of Flora*, seem to be posthumous. He held a correspondence with all the lovers and promoters of agriculture and gardening in England; and such was the justice and honesty of his temper, that he always named the author of every discovery that was communicated to him. Perhaps no man, in any period in the history of the art, discovered, or at least brought into use, so many new sorts of manure, as his account of the compost and covered dunghill, and his observations on the fertilising qualities, contained in salt, street dirt, and the fullage of streets in great cities, clay, fuller's-earth, moorish earth, dunghills made in layers, fern, hair, burned vegetables, malt-dust, willow-tree earth, soap boiler's ashes, marle, and broken pilchards, sufficiently demonstrate.

Gabriel Plattes may likewise be esteemed an original genius in promoting the improvement of agriculture. He began his valuable observations in the time of queen Elizabeth, and continued them through the reigns of James I. Charles I. and during the first three or four years of the commonwealth. But notwithstanding the great merit displayed in his writings, the public shamefully suffered him to starve and perish in the streets of London, not having a shirt upon his back when he died.

Samuel Hartlib, a celebrated writer on husbandry, was highly beloved and esteemed by Milton, and other ingenious men of that time. In his preface to a work commonly called his *Legacy*, first published in the year 1650, he laments that no public director of husbandry was established in England by authority; and that we had not adopted the Flemish method of letting farms upon improvement. These observations of Hartlib procured him a pension of one hundred pounds a year from Cromwell, who was a great favourer of agricultural improvements, and the writer afterwards, the better to fulfil the intentions of his benefactor, procured Dr. Beati's excellent annotations on the *Legacy*, with several other valuable pieces from his numerous correspondents. The period in which this author flourished appears to have been an æra when English husbandry rose to great perfection; for the preceding wars had made the country gentry poor, and, in consequence, more industrious. They found the cultivation of their own lands to be the most profitable post they could occupy. But a few years afterwards, when the Restoration took place, all this industry and knowledge became useless, from the new system that was acted upon, and were exchanged for heedlessness and dissipation; from which husbandry passed almost entirely into the hands of common farmers. But the famous work usually attributed to Hartlib, and called the *Legacy*, was only drawn up at his request; and, after passing through his correction and revision, published by him. The real author of the treatise, which consists of one general answer to the following question: "What are the actual defects and omissions, as also the possible improvements, in English husbandry?" was a person of the name of R. Child, who seems to have been acquainted with many

ingenious improvers of agriculture at that period. Several other pieces succeeded the publication of the *Legacy*, which greatly improved and augmented the means of cultivation.

Grew, by the publication of the *Anatomy of Plants*, and shewing, in some measure, the economy of the vegetable system, contributed to enlarge the views and extend the enquiries concerning the nature of vegetation and the food of plants. But a principal writer who inspired his countrymen, with a desire of reviving the study of agriculture after the Restoration, was Evelyn; who being followed by Duckett, Ray, Dugdale, and several other authors, the art of cultivation was greatly recovered, and some new improvements introduced; and the establishment of the Royal Society which took place a few years afterwards, contributed still more fully to the advancement of it, by serving as a focus for collecting and recording valuable materials on the nature of vegetation and the principles of agriculture, as well as other subjects. About the year 1706, many additions and improvements were made in this useful art.—Mortimer, by his explanations of various practical modes of management; Bradley, by reducing the facts on vegetation into a more systematic order; Hales, by his valuable statical experiments and investigations; and Miller, by the publication of his dictionary, and other works, contributed very materially. But agriculture is probably still more indebted to the exertions of Tull, notwithstanding the evident futility of many of his positions, as by shewing the utility and importance of drilling, and frequent hoeing or stirring the ground about the roots of plants, and thereby keeping them clean and free from weeds, farmers have been induced to adopt more clean and sure methods of cultivating their arable lands. The introduction of this system of management, therefore, in some degree, forms an æra in the history of English husbandry.

In Ireland about the middle of the last century, the art of husbandry began to make considerable progress; that country having had very strong prejudices in behalf of a very wretched method of agriculture, until about that period, when Blythe opened the eyes of the people by his incomparable writings; since which a spirit of improvement has, more or less, been promoted and carried on with zeal and constancy by the nobility, clergy, and gentry of the kingdom. In proof of which it may be sufficient to observe, that a society for the encouragement of agriculture has been established, the transactions of which are highly respectable and important. In many respects, however, Irish husbandry is still much behind that of Britain.

At the conclusion of the peace of Aix-la-Chapelle, almost all the nations of Europe, by a sort of tacit consent, applied themselves to the study of agriculture; and continued to do so, more or less, amidst the universal confusion that soon succeeded. The French found, by repeated experience, that they could never maintain a long war, or procure a tolerable peace, unless they raised corn enough to support themselves in such a manner as that they should not be obliged to submit to harsh terms on one hand, or perish by famine on the other. Their king, therefore, thought proper to give public encouragement to agriculture, and was even present at the making of several experiments. The rich and great, of various ranks and stations, followed this noble example, and the ladies even put in for their share of fame in the laudable undertaking. Even during the hurry and distresses of the last war, some attention was paid to agriculture. Prize questions were then proposed annually in rural academies, particularly at the two academies of Lyons and Bourdeaux, and many alterations were made in the

for improving agriculture in Brittany; and after the conclusion of peace, matters were carried on with greater vigour.

The university of Amiens has made various proposals to the public for the advancement of husbandry; while the Marquis de Tournely, a writer, possessing chiefly on experience, undertook the principal direction of the Georgical Society, established at Tours, and the society of Rouen was also usefully employed on the same subject.

It may be added, that many societies were afterwards established by royal approbation, for the promoting of agriculture, and rendering the knowledge of it more general, and extended.

The convulsive shock of the Revolution, which has overturned many useful establishments, and retarded the advancement of many improvements, has not by any means prevented the progress of agriculture, as is evinced by the appearance of numerous papers on the subject in the transactions of different societies. Indeed, it would seem probable, that from the crippled state of commerce in that country, unusual attention has been paid to the art of cultivation.

The science of agriculture is publicly taught in the Swedish, Danish, and German universities. Nor has Italy been inactive. The Neapolitans of the present age have condescended to return back to the first rudiments of revived husbandry, and begun to study afresh the agriculture of Cresoenzio, first published in the year 1478. The people of Bergamo have pursued the same track, and given the world a new edition of the *Ricardo d'Agricoltura di Tarollo*, which was originally published at Mantua, in 1577.

The duchy of Tuscany has imbibed the same spirit. A private gentleman left his whole fortune to endow an academy of agriculture. Even Ferrara, a small territory in the papal dominions, has contributed its just contingent, and made some laudable attempts in this art. Animated with a desire that the people under his government should excel in husbandry, his Sardinian Majesty sent subjects to learn the practice of foreign countries, and made several attempts to establish a better method of agriculture among his subjects. In Poland, where a natural fertility of soil seems in some measure to dispense with the necessity of calling in improvements, M. de Bieleulki, formerly grand marshal of the crown, made many successful attempts to introduce the new or drill husbandry among his countrymen, and procured the best instruments from France, England, and other parts of Europe.

The Hollanders seem to have given the least attention to agriculture, if we except a few collateral instances, such as the draining of fens and morasses, and the making of canals and embankments; and even these have probably proceeded more from the motives of self-preservation, than any particular turn towards husbandry.

In the year 1759, a society established itself at Berne, in Switzerland, for the advancement of agriculture and rural economy. That society consisted of many ingenious private persons, and also of some of great weight and influence in the republic; most of them men of a true cast for the improvement of husbandry, being enabled to join the practice with the theory. They have published several useful papers on different matters connected with the subject. We must not omit to mention here, that Linnæus and his disciples performed much in the north of Europe, particularly in discovering new, profitable, and well suited food for cattle. At the same time Sweden has bestowed successful labours on a soil, which was before looked upon as cold, barren, and incapable of melioration; of this the memoirs published at

Stockholm will be a lasting monument. Denmark, as well as many courts in Germany have followed a similar example. His Danish Majesty encourages, in particular, the woollen manufactory; and the late king sent three persons into Arabia Felix, to make remarks, and bring over such plants and trees as might be useful in husbandry, building, &c. Nor has the duchy of Wirtemberg, a country by no means particularly favourable to corn and pasturage, failed to contribute its assistance towards the improvement of agriculture, having some time ago communicated to the public its economical labours from the press at Stutgard. The learned of Leipzig, and Hanover, have not been inattentive to the art of supporting human kind; for amidst the rage and devastations of war, the *Journal d'Agriculture*, printed at Leipzig, and the *Recueils d'Hanovre*, printed at that city, have been brought out.

Even Spain, naturally inactive on these occasions, in spite of all the prejudices of a bigoted religion, invited Linnæus, with the offer of a large pension, to superintend a college, founded for the sake of making new inquiries into the history of nature, and the art of agriculture.

But it is probably in our own country that agriculture has been most attended to, and received the greatest improvement; from his Majesty having long, with a patriotic zeal and personal attention, worthy of the elevated situation which he holds, directed his views to the introduction of new and better modes of cultivation and rural improvement, as well as economy and convenience in the management of every department of agricultural business, connected with his varied and extensive farms, an example and encouragement has not only been held out, but an attention excited to the art, which could not possibly have been produced by any other less distinguished means; so that there is reason to hope, from the spirit that now animates a great number of the nobility and gentry, that this useful art may, in a few years, be carried to a much greater degree of perfection than it has yet reached in any age or nation. In this view, the respectable society established at London, for the encouragement of arts, have already done much, and there is reason to hope, from their increased resources, that they may do much more. A vast variety of different machines for facilitating the practice of agriculture have been invented and presented to the public, in consequence of the large premiums and bounties which have been offered. The institution of societies in many different parts of the kingdom for the improvement of agriculture, and the endowment of a professorship at Edinburgh for the same laudable purpose, cannot but promote the study, and enlarge the boundaries of the science.

About the year 1767, Mr. Young commenced his valuable and well directed labours, which, by attracting the attention of practical agriculturists on those improved means of cultivation that are made use of in parts of the country, very remote from each other, and shewing the great utility of experimental inquiries on the subject, and by promoting and diffusing a taste for the science, from the easy and popular language of his writings, have rendered the most essential advantages to the agriculture of the nation. Doctor George Fordyce has likewise contributed in no small degree to the advancement of the science, by the publication of his *Elements of Agriculture and Vegetation*, a work in which the chemical principles of the various substances that enter into the composition of soils and manures are well explained.

Mr. Marshall too, by registering the local customs and practices of different districts, has afforded considerable service to the farmer, by bringing him acquainted with a variety of modes of rural management, which he could not otherwise have known.

The indefatigable exertions of Dr. Anderson in promoting the improvement of the more practical branches of the art, by his various detached writings, have likewise contributed much to its advancement; and Mr. Bakewell, by drawing the attention of the breeder and grazier to the most advantageous modes of breeding, rearing, and feeding, as well as the general management of different kinds of live stock, has greatly promoted the improvement of that intricate, though important branch of husbandry, which has since been brought still nearer perfection by the vast and well directed exertions of his Grace the Duke of Bedford, and other noblemen, equally zealous in forwarding the advancement of this difficult department of the art.

But neither the distinguished example of the Sovereign, the endeavours of provincial societies, nor the exertions of private individuals, with whatever zeal and attention they may be directed, are probably sufficient to extend the knowledge of husbandry to that degree which is necessary for its complete and radical improvement. This could only be fully accomplished by the powerful influence and expensive exertions of a national establishment instituted for the purpose. Such an institution has at last been brought forward and established by the intelligent and persevering efforts of Sir John Sinclair; to the honour of the country, the age, and the individual who suggested it. The institution of a Board of Agriculture and internal improvement has already contributed materially to the extension and advancement of the knowledge of rural affairs. The state of the art in the greatest part of the kingdom has been ascertained, a great variety of new and interesting facts and practices have been brought to view, and improvements in the instrumental and other departments suggested. Among these the elucidation of the principles and practice of draining or removing the injurious wetness of land, arising from springs and other causes, as laid down and explained by Mr. Elkington, is of great importance and deserving of notice, not only as the basis or foundation of many improvements in the art, but as leading to the convenient and easy application of water for irrigation and various other purposes. See BOARD OF AGRICULTURE.

In addition to this great source of improvement, the science of agriculture has lately derived essential advantages from the judicious application of the principles of other sciences.

In this respect the modern discoveries in chemistry and vegetation have been particularly important, as is evident from the works of Tillet and Haffenfratz, on the Continent, and of Priestley, Anderson, Kirwan, Dundonald, Darwin, and many others in our own country. By these our knowledge of the principles of vegetation, and the operations of different substances upon each other, has been much enlarged; and our acquaintance with the nature, formation, and modes of applying manures, or the food of plants, rendered more clear and satisfactory.

AGROILEA, in *Botany*, the wild OLIVE.

AGRI-FOLIUM, or AQUIFOLIUM, in *Botany*. See ILEX and HOLLY.

AGRIGENTUM, or Isle of St. Francis Xavier, in *Geography*, one of the Ladrões or Marianne islands, which is mountainous and large, being about 50 miles in circumference, and remarkable for its volcano. N. lat. 19° 4'. E. long. 146°.

AGRIGENTUM, or AGRAGAS, in *Ancient Geography*, a very famous city on the south coast of Sicily, near the spot which is now occupied by GIRGENTI. The principal part of the ancient city, as Mr. Swinburne and M. Houelle inform us, lay in the vale; and the present town of Girgenti is situated on the mountain, where was the citadel of Cocalus, and probably the ancient city. Agrigentum de-

rived its name from Agragas, the original name of the city, and also of a neighbouring stream, both which according to Polybius, were so called from the country, denominated *αγραγν*, *acrage*, on account of its fertility. Some authors, ascending to fabulous antiquity, relate, that Dedalus fled to this spot for protection against Minos, and built many wonderful edifices for Cocalus, king of the island. Polybius (lib. ix. p. 560. Ed. Casaub.) says, that it was founded by a colony of Rhodians; that it was situated on a rock; and guarded by a fortress to which there was only one way of access; and that in the citadel there was a temple of Minerva, and also of Jupiter Atabyrius, who was worshipped under this appellation, in the isle of Rhodes. Thucydides (Hist. lib. iv. p. 380, and Annal. p. 23. Ed. Duker) informs us, that Agragas was founded by a colony from Gela, under the command of Aristonous and Pysilus, in the 50th olympiad, or 579 years before Christ. It stood between the rivers Agragas and Hypsa, the former of which is now called Fiume di Gergenti, and Fiume di San Biaggio, and the latter Fiume Drago. The situation of Agrigentum was admirably adapted to the purposes of defence, commerce, and pleasure. It was guarded by a barrier of rocks, which were strongly fortified; sheltered by pleasant hills; and enjoyed the view of a spacious plain, watered by the Agragas, and a convenient port or emporium at the mouth of the river. Its free government and commercial spirit raised it to a degree of wealth and power, exceeded only by those of Syracuse. Its buildings of every kind were in a singular degree magnificent and splendid. Besides the temples already mentioned, that of Jupiter Olympius deserves particular notice. According to the account of Diodorus Siculus (lib. xiii. tom. i. p. 607. Ed. Weßeling,) it was 340 feet long, 60 broad, and 120 feet high. This historian extols the beauty of the columns, which supported the building, the admirable structure of the porticoes, and the exquisite taste with which the bas-reliefs and paintings were executed; but he adds, that the stately edifice was never finished. On the eastern side was exhibited the battle of the Giants, and on the west the capture of Troy, with the figures of the heroes in their appropriate habits. Cicero, against Verres, speaks of the magnificence of the statues which he carried away. Mr. Swinburne informs us, (Travels, vol. iv. p. 24.) that it has not now remaining one stone upon another; and that it is barely possible, with the liberal aid of conjecture, to discover the traces of its plan and dimensions. He adds, that the cathedral of Rome exceeds this celebrated Agrigentine temple more than doubly in every dimension; being 215 feet higher, 334 longer, and 433 wider. The other ruins which this writer surveyed, and which he has cursorily described, are those of the temple dedicated to Ceres and Proserpine, the peculiar patronesses of Sicily, the temple of Juno, the doric temple of Concord, which has all its columns, entablature, pediments, and walls entire, with part of the roof wanting, and which is now converted into a church, consecrated to St. Gregory, bishop of Girgenti; the temple of Hercules, the tomb of Thero, the temple of Eculapius, and the temple of Castor and Pollux. Near this is a large lake or fish pond, described by Diodorus at seven stadia in circuit and 20 cubits deep. It was cut in the solid rock, and water was conveyed to it from the hills; a great quantity of fish was bred in it for the public entertainments; swans and other wild fowl swam along its surface for the amusement of the citizens, and the depth of water prevented an enemy from surprising the town on that side. It is now dry, and used as a garden.

The inhabitants of Agrigentum, with all their advantages, were corrupted and enfeebled by their addictedness to luxury

luxury and pleasure; and fell a sacrifice to the power of their enemies. Empedocles attempted their reformation; and, as Diogenes Laertius informs us (l. 8. sepm. 63. tom. i. p. 532. Ed. Meibom.), reproached them with devoting themselves every day to pleasure, as if they were to die on the morrow, and with building their houses, as if they were to live for ever. They are commended, however, for their hospitality, for which they were no less distinguished than for their magnificence and luxury. Gellias, a rich citizen, placed porters at his gate, to invite strangers to take their repast and rest in his house; and he is said to have once entertained 500 horsemen with meat, drink, and clothes. Phalaris, whose name is familiar to most readers, on account of his cruelty, and the brazen bull in which he tortured his enemies, usurped the sovereignty of Agrigentum, in the second year of the 52d olympiad, B. C. 571; but having possessed it for about 16 years, he shared the common fate of tyrants, and is said by some, to have been put to death in his own bull. After his death, the Agrigentines enjoyed their liberty about 50 years; at the end of which period, Thero assumed the sovereign authority. Under his government, which was just and moderate, Agrigentum was tranquil and secure; and in consequence of his union with his son-in-law, Gelo, king of Syracuse, in a war against the Carthaginians, Sicily was, for a time, delivered from her African oppressors. He was succeeded by his son, Thrasidæus, who was deprived of the royal authority; and Agrigentum was restored to her old democratical government. Its tranquillity was interrupted by Ducetius, a chief of the mountaineer descendants of the Siculi; but restored by the co-operation of the Syracusans. The union of the Agrigentines and Syracusans did not long continue; and the former, after an unsuccessful contest, were obliged to submit to humiliating terms of peace. The enemies with whom they next had to contend were the Carthaginians; who routed their armies, took their city, and almost extirpated their race. The situation of Agrigentum, on that coast of Sicily which faced Africa, and its prodigious wealth, induced Hannibal to open his campaign with the siege of this city; and the event was peculiarly distressing to the inhabitants. Those who were able to remove, during the progress of the siege, which lasted 8 months, went to Gela; those who were left behind were committed to the sword, by the orders of Imilcon; and the riches of a city, which had contained 200,000 inhabitants, and which had never before been plundered, were rifled by the conquerors. The city itself was reduced to ruins. This calamitous event happened in the 92d olympiad, or about the year B. C. 410. Agrigentum remained for 50 years buried under its own ruins, till Timoleon, after vanquishing the Carthaginians, and restoring liberty to Sicily, collected the descendants of the Agrigentines, and sent them to re-establish the habitations of their ancestors. Such were the vigour and success of their exertions, that Agrigentum was soon in a condition to arrogate supremacy over all the Sicilian republics. At length, they and their leader Xenodiceus, after some favourable operations against Agathocles, who was supported by the Carthaginians in his usurpation of the sovereignty of Syracuse, were reduced to the necessity of humbly suing to him for peace. This commonwealth afterwards took a strong part with Pyrrhus, king of Epirus, in his attempt upon Italy; and when he left Sicily to the mercy of her enemies, threw itself into the arms of Carthage. During the first Punic war, Agrigentum was the head-quarters of the Carthaginians; it was defended by a numerous garrison, under the command of Hanno; and, after resisting a blockade of seven or eight months, was at

last surrendered to the Consul Lævinus, in consequence of the treachery of Mutines, about the year before Christ, 198. This officer being deprived of his commission by Hanno, because he envied and dreaded his increasing reputation, meditated revenge; and conspiring with the Numidians, who were attached to him, against Hanno, he placed himself at their head, and having seized one of the gates, put the Romans in possession of it. Hanno, and a few officers, made their escape; but the rest of the army were murdered by the guards, which Lævinus had posted in all the avenues to intercept their flight. The chiefs of the Agrigentines were, by the consul's order, first scourged with rods, and then beheaded. The common people were made slaves, and sold to the best bidder. The spoils of the pillaged city were put up to sale, and the money returned to the public treasury. Livy, lib. xxvi. c. xl. tom. iii. p. 1138. Ed. Drakenb. Polybius, lib. i. p. 15—19. After this period, Agrigentum is seldom mentioned in history; nor is it easy to ascertain the precise time of the destruction of the old city, and the building of the new one. See G RIGENTI.

The Agrigentines had a port to the east of the mouth of the small river, Agragas; called *Emporium Agrigentinarum*.

AGRIGINTINE salt, in *Natural History*, a kind of eatable salt, famous among the ancients for its not crackling in the fire as common salt does. It might probably owe this quality to the fineness of the powder, in form of which it was generally used.

AGRIL, in *Ancient Geography*, a people of Ethiopia, called by the Greeks *Cynanolsi*.

AGRILIA, a town of Gaul on the river *Liger*.

AGRILIUM, a town of Asia Minor, in Bithynia, to the south-east of Nicæa.

AGRIMONIA, AGRIMONY, in *Botany*, a genus of the *dodecandria digynia* class and order, of the natural order of *Scitocosa*, and of the *Rosacea* of Jussieu. Its characters are, that the calyx is a one-leafed, five-cleft, acute, small, superior, permanent perianthium, fenced with an outer calyx; the corolla has five, flat, emarginate petals, with the claws narrow, inserted into the calyx; the stamina are capillary filaments, shorter than the corolla, inserted into the calyx; the anthers small, twin and compressed; the pistillum is a germ inferior; the styles simple, of the length of the stamina; the stigmas obtuse; no pericarpium; the calyx contracted at the neck, and hardened; the seeds are two and roundish. N. B. The number of stamina is very uncertain, 12, 10, 7. The agrimonia of Tournefort has the outer calyx growing to the inner; two seeds; stamina 12 to 20; fruit fenced with bristles. The agrimonoides T. has the outer calyx detached; one seed; stamina about seven. Of this genus there are five species; viz. 1. *A. eupatoria*, common agrimony, with stem leaves pinnate; the end-lobe petiolate; the fruits hispid. Of this species there are two varieties; *A. minor*, or white agrimony, and *A. odorata*, or sweet-scented agrimony. 2. *A. repens*, creeping agrimony, with stem-leaves pinnate or winged; the end-lobe sessile; the fruits hispid. 3. *A. decumbens*, with leaves pinnate hirsute; stem procumbent; fruits every way hispid-hooked. 4. *A. agrimonoides*, three-leaved agrimony, with stem-leaves ternate, and fruits smooth. 5. *A. parviflora*, small-flowered agrimony, with stem-leaves pinnate, leaflets many and lanceolate, petals half as long again as the calyx, and fruits hispid. The first species has a cylindrical, roughish, hairy stem, from one to three feet high; hairy leaves, covered with rising dots, and segments ending in small reddish glands, interruptedly pinnate; composed of six or seven pairs of leaflets,

leaflets, the smallest pair being entire, the others deeply serrated: the fruit stalks are furnished at the top with a sort of outer calyx, which is cloven into five spear-shaped irregular segments, hairy at the edges and on the outside: within this the fruit-stalk is covered with white upright bristles, above which is a circle of numerous green awns hooked at the end, and within that the proper calyx of five leaves, spear-shaped, glandular without, marked within with three green lines, terminating with a reddish point: the petals are egg-shaped, concave, slightly notched at the end, twice as long as the cup: the stamina from 5 to 12: the germen crowned with the calyx, and a yellowish fleshy receptacle; the flowers yellow, in a long thin spike; and one seed is frequently abortive. This grows in the borders of corn fields, shady places and hedges in Great Britain and most parts of Europe: it is perennial, and flowers in June and July. The root in spring is sweet-scented; on infusion of it is used by the Canadians with great success, in burning fevers; and Dr. Hill says, that an infusion of six ounces of the crown of the root in a quart of boiling water, sweetened with honey, and drank, to the quantity of half a pint, three times a day, is an effectual cure for the jaundice. He recommends to begin with a vomit, to keep the bowels soluble, and to persist in the use of the medicine as long as any symptoms of the disease remain. The leaves have a slightly bitterish roughish taste, accompanied with an agreeable, though weak, aromatic flavour: the flowers have a stronger and more agreeable smell, resembling, when fresh gathered, that of apricots. They readily give out their virtues to water and rectified spirit: and in distillation with water, the leaves afford a yellowish essential oil, with the odour of the herb. This plant has been principally regarded as a mild astringent and corroborant, and many recommend it as a deobstruent, especially in hepatic and other visceral obstructions. Instances occur of its successful use in cases where the liver was much enlarged and indurated. It has been used with advantage in hæmorrhages, and for giving tone to a lax and weak state of the solids. In cutaneous disorders, particularly the scabies, it is said to have great efficacy: for which purpose it was given infused with liquorice in the form of tea: but, according to Alston, it should be always exhibited in the state of powder. The country people sometimes apply the leaves by way of cataplasm in contusions and fresh wounds. When the plant comes into flower, it will dye wool of a good bright full nanken colour; and if gathered in September, it yields a darker yellow: and for the purposes of the dyers, it deserves further trial. In the Berlin acts, it is recommended for dressing leather. Sheep and goats eat it: Cows, horses and swine refuse it.

The white agrimony is smaller than the common sort, and grows naturally in Italy. The sweet-scented agrimony grows near four feet high; its leaves have more wings than the former; they are longer and narrower, and have sharper serratures; when handled they emit an agreeable odour. The infusion of the leaves is an agreeable cooling tea to persons in a fever. This is a native of Italy, and was cultivated here in 1640.

Martyn's Miller's Dict. Lewis Mat. Med. p. 28. Murray Mat. Med. vol. iii. p. 148. Withering's Bot. Arr. vol. ii. p. 443. Woodville's Med. Bot. vol. iv. p. 125. Dr. Cullen (Mat. Med. vol. ii. p. 31.) after observing, that agrimony is now omitted by the London and Edinburgh colleges, add, that it still has more attention given to it than it deserves. It has some astringent powers; but they are very feeble. Dr. Cullen expresses his surprise on finding Dr. Haller and Prof. Murray repeating after an author of so little credit as Chomel, that he had cured a scirrhus liver by

means of agrimony; and it seems equally fabulous in Spießmann to tell us, that Forcennus had by agrimony broke down a stone in the bladder, and brought it away in pieces by the urine.

The second species is of humble growth; has longer and narrower leaves than the former, and the spikes of flowers are very short and thick. It is much shorter than the common sort, and the seeds are much larger and rougher. It has been furnished from the botanic garden at Paris, whither it was sent by Mr. Tournefort; a variety of it sent by Mr. Miller (1755). The third species is a native of the Cape of Good Hope, and is a very agreeable sort. The fourth species is a native of Italy and Carniola, in moist woods and among bushes; and was cultivated in 1755, by Miller. The fifth species is a native of North America; and cultivated in 1766, by Mr. James Gordon.

These plants are hardy and perennial, and will thrive almost in any soil or situation, and require no other care than keeping them clear from weeds. They may be propagated, by parting their roots in autumn, and planting them at a distance of at least two feet; or by seeds sown in autumn.

AGRIMONTIA *Melissa*, is a variety of *BIDENS pilifera*.

AGRIMONOIDES, in *Botany*, a species of *AGRIMONY*.

AGRIMONTE, or AGROMONTE, in *Geography*, a small ruined town in the Basilicata, in the kingdom of Naples. E. long. 22° 34'. N. lat. 40° 25'.

AGRIMONY, in *Botany*. See *AGRIMONTIA*.

AGRIMONY, *hemp*, in *Botany*. See *EUPATORIUM*.

AGRIMONY, *lizard-hemp*. See *ASTRATUM*.

AGRIMONY, *water-hemp*, in *Botany*. See *BIDENS*.

AGRINAGARA, in *Ancient Geography*, a town of India, on this side the Ganges; placed by Ptolemy in long. 118° 15', and lat. 22° 30'.

AGRINIUM, a town placed by Polybius in Ætolia. It was on the left of the river Achelous, and north-east of Thermus.

AGRIOCARDAMUM. See *CARDAMINE*.

AGRIOCASTANUM, the same as *EARTH-NUT*, popularly called *pig-nut*, and *arnot*.

AGRIOCINARA, in *Botany*, a name used by some authors for that species of wild *ARTICHOAK*, the root of which is used instead of the *collus nigra*.

AGRIOCOCCIMELA, or *prunus sylvestris*. See *PLUM-tree*.

AGRIOMELA, a name for the *crab APPLE*.

AGRIOMELANZANION, in the *Botanical Writers of the Ancients*, a word that has perplexed many of the later writers. The Arabian writers, Avicenna and Serapion, used the word *bedengian* for the fruit of the *ponium amoris*, a kind of esculent night-shade, or *solanum*, called by the old Greek writers, as Theophrastus, &c. *strychnus*, and only distinguished from the other *strychni*, or night-shades, by its being described as a wholesome, not poisonous. From this Arabic word *bedengian*, the Italians formed their word *melanzana*, and the late Greek writers their *melanzanon*, which they used as the name of the same fruit. This, when the plant was cultivated in gardens, was probably larger and fairer than when it grew wild; but in this latter state was not less used, but was distinguished by the term *agriomelanzanon*. If the Greeks, who use this word, or the *melanzanon*, would have appropriated them to the *ponium amoris*, and distinguished these from the other night-shades, they would have done service to the world.

AGRION signifies the *FRUCUDANTUM*, called also *agripheleon*.

AGATON, in *Entomology*, a division of the **UNOGATA** class of insects in the system of Fabricius, comprehending five species, and many varieties, which are referred to the genus of *unogata* in the Linnaean system, by Gmelin. They are characterised by having their wings erect when quiescent, eyes remote, and the exterior laciniae of the lip small.

AGRIONIA, **AGRANIA** or **AGRANIA**, in *Antiquity, feast instituted at Agrion, in honour of a daughter of Iphiclus. Pausanias, in describing this feast, says, that the women searched here for Bacchus, and not finding him, they relinquished their pursuit, saying, that he was gone to the males. They supped together, and after their repast talked of one another enigmas. These mysteries signified, that learning and the muses ought to accompany good cheer; and that a veil is thrown over excess on such occasions by the males. This feast was celebrated in the night, and those who attended it were decorated with a garland of ground-ivy. It was probably the same that was celebrated at Thebes, in honour of the dead. At Orchomenos, no women, who belonged to a family, become odious on account of any barbarous action, were allowed to attend this feast.*

AGRIOPHAGI, compounded of *αγριος* wild, and *φαγος* I eat, in *Antiquity*, a name given to those who fed on wild beasts. Pliny places them in Ethiopia. Ptolemy refers them to India, on this side the Ganges, and ascribes the appellation to the people whom he calls *Pulindæ*.

AGRIORIGANUM, in *Botany*, wild *marjoram*.

AGRIOSELINUM, signifies wild *PARSLEY*.

AGRIPALMA, a name given to *MOTHER-WORT*.

AGRIPENNE, in *Ornithology*, a name given by Buffon to the *EMBERIZA oryzivora*, of the Linnaean system.

AGRIPO, in *Geography*, a peninsula, commonly called **NEGROPONT**.

AGRIPPA, a name applied, among the ancients, to children born in an unusual or irregular manner; particularly such as come with the feet foremost, instead of the head.

They were called *agrippæ*, according to Pliny, on account of their being (*agré parti*) born with difficulty. Salmastius derives it from the Greek *αγριος*, *venari*, and *ἵππος*, *equus*, q. d. a hunter of horses.

Daventer has a particular chapter of *agrippas*, or infants coming with their feet foremost, which, according to him, is one of the most convenient and safe ways for a mature birth.

Agrippa gives the denomination to an unguent, described in the *Antidotarium Nicolai*, and in several other dispensatories, supposed, by some, to have been invented by Agrippa, king of Judæa, but, as others suspect, by Julius Agrippa, a Roman physician.

AGRIPPA, in *Biography*, an astronomer of Bithynia, lived towards the close of the first century. Ptolemy in his *Almagest* informs us, that Agrippa observed a conjunction of the moon with the Pleiades on the 29th of November, in the fourth year of the 217th olympiad, or A. D. 92.

AGRIPPA, *Henry Cornelius*, a physician, philosopher and divine, of various and great attainments, but of an eccentric disposition, which exposed him to as great vicissitudes of fortune, was born at Cologne, September 14th, A. D. 1486, of a noble family, which had been long in the service of the house of Austria. In early life, he was secretary to the emperor Maximilian, and continued his military service in the army for seven years. As a soldier he dis-

tinguished himself by his valour, and obtained the honour of knighthood: nor was he less distinguished by his application to literature and science. Of eight languages, which he acquired in his youth, six were so familiar to him, that he could even use them fluently in public discourse. Soon after he forsook the military profession, he obtained the united academic honours of doctor in law and physics. The philosopher's stone, as it was called, or the art of transmuting baser metals into gold, engaged his attention; and in the pursuit of it, he had no doubt of commanding the admiration of the multitude, and the patronage of princes. With these romantic views he commenced his travels; and in 1507, being then in the 21st year of his age, he visited France, and in the following year spent some time in Spain. Upon his return to France, he resided at the college of Dole in Burgundy, and read public lectures in divinity; in consequence of which he was appointed regent with a salary. Notwithstanding his popularity, as a public lecturer, the freedom and novelty of some things which he advanced alarmed the monks, and rendered it necessary for him to surrender his office at Dole. In 1510 he passed over from France into England, and during his stay in London, published a treatise on the epistles of St. Paul. His next remove was to his native city, where for some short time he read lectures in scholastic theology: he afterwards resumed his military station in the emperor's army in Italy; but he was soon induced by Cardinal de St. Croix to abandon this connexion, and to attend as a theologian at the council of Pisa. After the dissolution of this assembly, he read lectures in divinity, sometimes at Turin, and sometimes at Pavia. But he was constrained by the difficulty of procuring decent subsistence for his wife and son, to whom he was affectionately attached, to leave Pavia, and to try what his friends at Cologne could do for him. In 1518, their interference availed in procuring for him the office of syndic, advocate, and orator of the city of Mentz. Here he provoked the enmity of the monks, partly by maintaining the dangerous error, that St. Anne, the mother of the Virgin Mary, had only one husband, whereas it was the popular opinion that she had three; and partly, by exerting himself in the vindication of a poor woman, who had been accused to the inquisition of witchcraft. In 1520, he left Mentz, and returned to Cologne, where he lost his wife in 1521. Restless in his temper, he removed to Geneva; and here, in 1522, married a second wife, whom he supported by the practice of physic, as long as he continued in this city; but in 1523, he exercised his profession at Friburg in Switzerland, and in 1524, settled at Lyons, as physician to the mother of Francis I. This lady, apprehending that he could, by his Astrological talents, predict future events, desired to be informed concerning the affairs of France. Agrippa was disgusted by the application: the princess, displeased by his refusing to satisfy her curiosity, discontinued his pension, and this circumstance involved him in new difficulties. His next settlement was at Antwerp, where his singular talents attracted general notice, and procured for him various offers of distinguished patronage. In 1529, he was honoured with invitations from Henry VIII. of England, the chancellor of the emperor, an Italian marquis, and Margaret of Austria, mistresses of the Netherlands. He accepted the proposal of the latter, and became historiographer to the emperor Charles V. Agrippa's eccentric genius would not allow him to enjoy at ease the honour and emolument to which he was intitled. In 1530, he published "a Treatise on the vanity of the Sciences," which was a severe satire on the monks, theologians, preach-

ers, and members of the universities: but Erasmus, in speaking of this work, says, "that on every occasion he lashes vice and commends virtue; but there are persons who can bear nothing but praise." On this occasion, the emperor, probably incited by his sister, whom the monks had prejudiced against Agrippa, withdrew his pension, and suffered him to be imprisoned for debt at Brussels, in 1531. After the death of Margaret, Agrippa was released from prison; but he published another treatise at Antwerp, "on Occult Philosophy," which revived the animosity of his enemies. The design of this work was to explain, on the principles of the emanative system, the harmony of the elementary, celestial, and intellectual worlds. But the clergy discovered or suspected error, and heresy; and succeeded in delaying the publication of a third edition. But in 1533 it was published at Cologne; and another edition appeared in 1542, which is the most complete, and the most scarce. This publication was accompanied with an "Apology for himself to the Senate of Cologne," which excited violent resentment, and obliged him to withdraw to Bonn; where he is said to have divorced his third wife, whom he had married after the death of his second in 1529, by whom he had five sons. The peculiarity of his temper, and the narrowness of his circumstances, impelled him once more to try his fortune in France; and accordingly he returned to Lyons in the year 1535. Here his reception was very different from what he expected: he was imprisoned on account of some satirical papers which he had published against the mother of Francis I. Having obtained a release, he retired to Grenoble in the same year, 1535, and there he died, either in the hospital of the city, or in the house of a friend.

As Agrippa was an adept in chemistry, and professed to be an astrologer, he was reputed to be a magician, and supposed to be accompanied by a genius, or devil, in the shape of a black dog. That he was not possessed of the grand art of alchemy is plain, from the poor circumstances in which he lived and died. He possessed wonderful talents for acquiring the knowledge of languages, and a versatility of genius, which enabled him to assume and exercise a variety of professions. He was a soldier and a philosopher; a municipal officer and a lecturer; a lawyer and a physician; an astrologer and a divine. Nevertheless, he was always embarrassed and distressed; and though one flattering prospect after another presented itself, he could not so avail himself of them as to procure a permanent competence. Such was the liberality of his mind, and the extent of his knowledge, that he might have been eminently useful in instructing and reforming the age in which he lived, if he had not been fickle and selfish. Whilst he applauded Luther, he continued in the communion of the church of Rome, and obtained the commendation of the pope for his fidelity. "If he had any decided principles, they were those of that mystical system of philosophy, which finds a sublime and spiritual meaning in all the operations of nature, and leads the soul, (according to his own language, in his Epistles) to a mysterious intercourse, and an essential and immediate union with God. The most valuable service which he performed to society was that of chastising the follies of ignorance and the vices of priestcraft, in his satirical writings, which entitle him, in the scale of letters, to a place, though of inferior distinction, with Erasmus. In fine, Agrippa, though an extraordinary, and on the whole a splendid character, was rather a dazzling meteor than a steady and useful luminary."

His principal writings, besides those we have mentioned, and several other pieces, were, "A Dissertation on Original

Sin," designed to prove that the fall of our first parent was the consequence of unchaste love: "A Declaration on the excellence of Women," written to gratify Margaret of Austria: "A Commentary on the Act of Raymond Lully," which is as unintelligible and ridiculous as the original. A mutilated edition of his works was printed at Lyons, in 8vo, in 1586. They were published in French at Paris, in 1726. His "Vanity of the Sciences" was printed in 4to, at Antwerp, in 1530, 1532, 1539; and the last edition has a head of the author. It was printed at Paris, in 8vo, in 1531; and has been translated into Italian and French. Gen. Dict.

AGRIPPA, surnamed CASTOR, flourished under the Emperor Adrian, about the year 132. Eusebius (Eccl. Hist. lib. iv. c. 7. p. 120. Ed. Vales.) represents him as an excellent writer, who had ably confuted the errors of Basilides; but his works are lost, and no considerable fragment of them remains.

AGRIPPA I., HEROD, was the son of Aristobulus, by Berenice, the daughter of Herod the Great. He was brought up at Rome, with Drusus, the son of Tiberius; but having been reduced to penury by his liberality and profusion, he was under a necessity, upon the death of Drusus, of retiring to Judæa, where he immured himself in a castle of Idumea, and determined to starve himself to death. His wife, Cyprus, the daughter of Phasael, and the granddaughter of Herod the Great, diverted his purpose, by procuring for him some present relief. He also obtained temporary assistance from Herod, the husband of Herodias, who made him a magistrate of Tiberias; but afterwards upbraiding him at a banquet with his kindness, Agrippa was offended, and withdrew to Flaccus, governor of Syria, and afterwards to Rome. Here he attached himself to Caius Cæsar; and having incensed Tiberius, by some expressions that signified a wish for his death, and which were reported to the emperor, he was thrown into prison and loaded with chains. Upon the death of Tiberius, and the accession of Caius Caligula, he was immediately released and distinguished by tokens of favour. The new emperor arrayed him in purple; exchanged his iron chain for one of gold of the same weight; put a diadem on his head, conferred on him the title of king, and granted him the tetrarchy of his late uncle Philip, and that of Abylene, in Syria, which had formerly belonged to Lyfanius, A.D. 37. After continuing a year at Rome, he obtained leave to visit his new dominions; and embarking at Puteoli, he sailed over to Alexandria, where his magnificent entry provoked the inhabitants, and exposed him to insult and indignity. The conduct of Flaccus, the Roman governor, who refused him the redress which he demanded, and who was a violent persecutor of the Jews in this city, was reported by Agrippa to the emperor; and by him he was ordered to be recalled, stripped of his wealth, and banished into an island of the Archipelago, where, at length, he was put to death. Herod Antipas, who had, on a former occasion, treated Agrippa with contempt, beheld his elevation with jealousy and envy; and accompanied by his wife, Agrippa's sister, he took a journey to Rome, in order to obtain similar honours; but Agrippa, in the mean while, accused Herod to the emperor, as having been concerned in the conspiracy of Sejanus, and thus procured his disgrace and banishment to Lyons, in France. Caius conferred the treasures of Herod, and also the tetrarchy which he had possessed 43 years, on Agrippa. A circumstance, however, occurred at this time, A.D. 39, which was a very severe test of Caligula's attachment to Agrippa. The emperor had ordered his statue to be erected and worshipped in the same-

ture of the Jewish temple at Jerusalem. The Jews refused the execution of the order; and Petronius, the governor, interposed. With the help of his brother Petronilla, he would not allow the order to be executed; but he himself, in the first of the Jews, he found out were his agitators, and he sent them away, and was carried off to Rome. As soon as he recovered, he wrote a pathetic letter to the emperor, preserved in the works of P. Valerius Maximus (lib. viii. c. 10), in which he declares, that, for his own part, he should not out-live the profanation of the temple, and that it would undoubtedly complete the ruin of the Jewish nation. Caligula related; and he often took for other artifices on the part of Agrippa, the only one was condemned. The attempt, however, was afterwards renewed; but the assassination of the emperor, A. D. 41, prevented the dreadful consequences which the execution of it must have produced.

Agrippa, who was now at Rome, contributed to the accession of Claudius; and was remunerated by the confirmation of all Caligula's grants; by the addition of Judæa, Samaria, and the Southern parts of Idumæa; and by several edicts in favour of the Jews. He was, likewise, honoured with the consular insignia, and indulged with the privilege of paying his compliments to the emperor in Greek; a ceremony which was usually performed in the Latin language. At his request, the kingdom of Chalcis, in Syria, was bestowed on his brother and son-in-law, Herod. All these grants were engraved on copper, and set up in the capitol: and Agrippa was thus possessed of territories, which extended to the farthest limits of the dominions of his grandfather, Herod the Great. Agrippa, soon after the establishment of Claudius, returned to his kingdom, where he manifested a zealous attachment to the religion of his country; and caused the golden chain, which Caius had given him, to be hung up in one of the most conspicuous parts of the temple, as a monument to posterity of the instability of human affairs. He deposed and appointed several high-priests in a short time. His government was conducted, according to Josephus, with a great degree of moderation and clemency; but Dion Cassius, (lib. lix. tom. ii. p. 928. Ed. Reimari) says, that Agrippa was reckoned one of Caligula's advisers in his cruel and tyrannical measures. If he had been less anxious to please the Jews, he would not probably have disgraced his reign by the persecution of the Christians, who seemed to have been very quiet at Jerusalem ever since St. Paul's conversion. The martyrdom of James the Less, the brother of John, and the imprisonment of Peter, are justly ascribed to him. But with his zeal for the Jewish rites and practices, he showed Heateno observances, which gave offence; and, in conformity to the Roman taste, he exhibited shows of gladiators and public games. At Caesarea, when he went with a splendid and numerous retinue, for the purpose of celebrating some games in honour of Claudius Cæsar, he appeared in a battle array on the theatre, and addressed an elegant speech to the deputies of Tyre and Sidon, who appeared before him to make an apology for some offence, and to solicit his future favour. These ambassadors, and other attendants on the occasion, expressed their adulation in the most extravagant terms; exclaiming, that his voice was that of a god, and not a man, and practising some attitudes that appeared to those of adoration. The king, so far from restraining these expressions of flattery and homage, seemed to give his approbation of them; he was immediately seized with a violent disorder in his bowels, probably owing to that of Herod, his grandfather, and attended

with the same circumstance, which, after a torture of five days, terminated in his death, A. D. 44, in the 54th year of his age, and the 7th of his reign. He left a son of the same name, and three daughters, viz. Berenice, who was married to Herod, her father's brother; and Mariamne and Drusilla, both unmarried, but contracted; the former to Julius Archelaus, the son of Chalcis, or Elchias, probably of the Herodian family; and the latter to Epiphaneus, the son of Antiochus, king of Comagene, but afterwards married to Azanes, king of Bactra. Mariamne abandoned Archelaus, her husband, to marry Demetrius, a noble and rich Jew of Alexandria, and one of the chief magistrates; by whom she had a son, named Agrippinus. Drusilla left her husband, and renounced the Jewish religion to marry Felix, governor of Judæa: by him she had a son, called Agrippa, who perished with his mother, in the conflagration occasioned by mount Vesuvius, under the emperor Titus. His death was celebrated at Cæsarea with tumultuous rejoicings, and his memory insulted with the vilest outrages. Joseph. Antiq. Philos. Legat. Ant. Un. Hist. vol. iii. p. 272—279. 8vo.

AGRIPPA II. HEROD, was the son of Agrippa I.; educated at Rome, and at the death of his father was 17 years old; and therefore thought too young for succeeding in the kingdom. Judæa, on this occasion, became a Roman province, and was committed to the care of Cuspius Fadus, who received instructions to punish those who had insulted the memory of the late king. When Herod, the uncle of Agrippa, died, the superintendency of the temple and sacred treasury, the privilege of nominating the high-priest, and the kingdom of Chalcis, were conferred upon him. He resided chiefly at Jerusalem, where, with his sister Berenice, he heard Paul's defence before Festus, the Roman governor, (recorded Acts, xxv. xxvi.) and owned himself almost convinced by it. Agrippa displeased the Jews by building a palace, which overlooked the temple, and exposed their service to the view of Festus and the Romans; but to prevent this intrusion, they erected a partition wall, which the king ordered to be demolished. On application to the emperor, and by the intercession of Poppæa, the wall was allowed to remain. At the commencement of that revolt, which terminated in the destruction of the Jewish nation, Agrippa, attempting to appease the Jews, was so insulted by them that he was obliged to secure himself from their violence, by leaving Jerusalem. He afterwards joined Cestius, the Roman governor; and when Vespasian arrived in the province, he met him with a considerable reinforcement, and accompanied him to Rome, when he took possession of the empire. During the siege of Jerusalem, he was very serviceable to Titus; and after its reduction, he and Berenice (with whom he was suspected to have had an incestuous intercourse) retired to Rome. His kingdom is said to have been enlarged by the influence of Titus, who was passionately attached to his sister Berenice; and who would have married her, if the Romans had not resisted his design, partly because she was a Jewess, and partly because she was royally descended. He was, therefore, obliged to send her away. As for Agrippa, he was the last of the Herodian race that bore the royal title, and is supposed to have died at Rome, as some say, A. D. 90; according to others A. D. 94; and as others say, A. D. 100. Joseph. Ant. Bell. Jud. Ant. Un. Hist. vol. iii. Gen. Dict.

AGRIPPA, Marcus-Vipsanius, was a person of obscure origin at Rome, educated with Octavianus, afterwards Augustus, distinguished as his companion and friend, considered as his favourite general, in all the vicissitudes of his life, and lamented by him at his death. Although his family

mily is not known, he must have risen into early notice, as his first wife was Attica, the daughter of Pompeius Atticus. When the war broke out between Marc Antony and Octavianus, Agrippa refused Salvidienus, the general of the latter, in circumstances of imminent danger; and concurring with him, drove Lucius, Antony's brother, into the city of Perugia, and invetted the place before he had time to reflect on his own perilous situation. Being afterwards appointed commander of the fleet of Octavianus, he took Hiera, one of the Æolian islands, and afterwards obtained, by his skill and valour, a complete victory over the whole fleet of Pompey, for which he was honoured with a standard and a rostral crown. On another occasion, when Antony had assembled his fleet at Actium, Agrippa interrupted his convoys; and having made several descents on the coast of Greece, which harassed the enemy, and dispersed a squad on that was advancing to join Antony, he directed the famous naval engagement that ensued, and by which Octavianus secured the empire. Octavianus, having thus acquired the supreme power, consulted his two friends Agrippa and Mecænas, whether he should retain his superiority or surrender it to the senate. Agrippa advised the restoration of the Roman liberty; but Mecænas's advice to retain his power was more agreeable to the views of Octavianus, and was therefore followed; and yet Agrippa still retained his master's favour. In the year before Christ 28, they were colleagues in the consulate, which was the second time of Agrippa's bearing that office; and the coalition was renewed in the following year.

Agrippa by marrying Marcella, the emperor's niece, was received into the imperial family; and in their command of the army, Octavianus and Agrippa possessed equal authority and distinction. His munificence was signally displayed in the buildings which he erected at Rome; the most remarkable of which were his portico for the use of popular assemblies, and the famous temple called the PANTHEON. When Octavianus was dangerously ill in the year before Christ 23, he committed to him his ring, which being considered as a preference of Agrippa for his successor, offended Marcellus, and rendered it necessary on the recovery of Augustus, to remove him from court by an honourable exile to the rich government of Syria. Upon the death of Marcellus, Agrippa was recalled to Rome, where he was married to Julia, the daughter of Augustus and Marcellus's widow, and contributed to restore the tranquillity of the city. The next service he performed was to oppose the Germans, who had made an incursion into Gaul, and to drive them back beyond the Rhine. The Cantabrians, who were vigorously combating for liberty, demanded greater exertions; but they were at last completely reduced. A triumph, which he declined, was decreed to him by the senate on this occasion; but in recompence of his service, Augustus associated him with himself in the tribunitian power, which was conferred on him for five years; he was also appointed joint Censor, and concurred with Augustus in that reduction of senators, which was called a Reform of the Order. His two children by Julia were also adopted by the emperor in the year before Christ 17. After three years he was sent to appease the dissensions that had occurred in the east. As he was passing through Ionia with Herod the Great, the Jews complained to him, that they were hindered in sending their tribute to the temple at Jerusalem; that they were obliged to serve in the army; and had other hardships imposed upon them inconsistent with the privileges granted them by the Romans. Agrippa gave them and their adversaries a solemn hearing, and in court confirmed to them their privileges; and gave orders, that no one should molest them in the observance of

those peculiar rites and customs. Having also appeased some troubles which had arisen in the Cimmerian Pontus, he returned home, and a triumph was again decreed him, which he refused. After this period no person that was part of the imperial family ever obtained a triumph in Rome. The tribunitian power having been renewed to him for five years more, he was next sent to Pannonia, and having quelled the disturbances in that country, he returned to Italy, where he was attacked in Campania, with a fever that soon terminated in his death, A. U. C. 742. B. C. 12. in the 51st year of his age. Augustus, as soon as he heard of his death, left the sports which were then exhibited by his two grandsons in honour of Minerva, and hastened to visit his dying friend; but he had expired a few minutes before his arrival. The news greatly afflicted him, and he lamented the loss of the greatest general of his age, the wisest minister, and the most faithful and devoted friend. His body was conveyed to Rome, and buried in Augustus's own sepulchre, near Marcellus; the emperor pronounced his funeral oration, and declared, that he would not be separated, even at his death, from two persons, whom he so tenderly loved in his life. By his will he bequeathed the fine gardens and bath, which were called by his name, to the Roman people; but his principal heir was Augustus. His surviving children were one daughter by his first wife Cæcilia Attica, named Agrippina, and married to Tiberius; and three sons and two daughters by his third wife Julia. Two of the sons died in their youth; and the other, Posthumus Agrippa, was sacrificed to the jealousy of Tiberius soon after his accession; one of the daughters, viz. Julia, was married to Lucius Paulus; and the other Agrippina, to the celebrated Germanicus. Agrippa's fame sufficiently established by his great actions, has derived an accession from the immortal records of poetry. Virgil, in his anticipation of the battle of Actium, gives the following dignified sketch of this commander:

"Parte alia ventis et dis Agrippa secundis,
Arduus, agmen agens: cui, belli insigne superbam
Tempora navali fulgent rostrata corona."

Æn. vii. 682.

"Agrippa secunds him with prosp'rous gale,
And with propitious gods, his foes assails:
A naval crown, that binds his manly brows,
'The happy fortune of the fight foreshows."

DRYDEN.

Horace also addresses to him an ode (Od. vi. lib. 1.) in which he confesses his own inability to celebrate worthily his great exploits, a task fitter for the Homeric pen of Valerius. Sueton. in Aug. Op. tom. i. p. 157, &c. Ed. Pitisc. Dion. Cass. Op. lib. 45-54. tom. ii. p. 419, &c. Ed. Reimari. Ant. Univ. Hist. vol. xii. p. 96-172. 8vo. Crevier's Hist. Rom. Emp. vol. iii. Gen. Biog.

AGRIPPA, *Mæcenius*, was consul of Rome, A. U. C. 251. Ante Christ. 503. He obtained the honours of a triumph for a complete victory, which he and his colleague P. Posthumus gained over the Sabines. When the people resisted the tyranny of the Patricians, in the consulate of Virginius and Veturius, he was deputed to effect a reconciliation; and it is said that, on this occasion, he pronounced the famous apologue of the stomach and members, by which, with promises of a redress of grievances, he gained his purpose. In their demand of magistracies of their own (who were the tribunes) to protect their rights, he acquiesced; and he advised the Senate to comply. He died, at an advanced age, with a character highly esteemed for wisdom and integrity; but so poor, that his relations intended to bury him in a private manner. The people, how-

ever,

ever, affixed themselves at two ounces of brass each, in order to procure for him a magnificent funeral; and when the funeral, unwilling to sanction this mode of raising money, decreed a sum for the purchase out of the treasury, the people refused to receive back their money, but ordered it to be paid to the children of the deceased. Livy. lib. ii. c. 16. 32. 33. p. 38. 39. 40. Ed. Drakenb. Dionys. Halicarn. tom. i. p. 390. 340. Ed. Oxon.

AGRIPIA, in *ancient Geography*, a colony of Bithynia in Asia, formed by the *Agrippines*.

AGRIPPADES, an *ingiven* by Herod to ANTHEDON.

AGRIPPINA, the elder, in *Biography and History*, was the daughter of Marcus Agrippa, and wife of Germanicus Cæsar. When the German Legions revolted in the beginning of the reign of Tiberius, she attended her husband in the camp; and though she had the charge of an infant son and was pregnant with a second child, it was with difficulty that she was persuaded to retire from the danger that threatened them; and the commiseration which her situation excited induced the revolvers to return to their allegiance. On another occasion, when the victorious Germans were on their march to make an irruption into Gaul, and it was proposed to demolish the bridge on the Rhine, near Treves, in order to stop their progress, Agrippina prevented it, and thus secured a retreat for Cecina and his legions. When they arrived, she met them at the head of the bridge, returned them thanks for their valour, and distributed among them clothes and medicines. The jealous spirit of Tiberius took offence at this conduct, which merited commendation, and aggravated the dislike with which she was regarded at court, in consequence of her disagreement with Livia, the mother of the emperor. She afterwards attended her husband in his difficult and perilous expedition to the Eastern provinces of the empire, and was the sorrowful witness of his last conflict, which happened at Antioch, A. D. 19. The dying prince conjured her by the memory of a husband once dear to her, and by their children, the product of mutual love, to restrain her great spirit, yield to her hostile fortune, and take care at her return to Rome not to irritate those in power by an ill-judged rivalry. Agrippina gathered the ashes of her deceased husband, and braving the dangers of the sea in the worst season of the year, hastened home, and landed at Brundisium, carrying the sepulchral urn, and accompanied by two of her children. The mournful spectacle produced an universal groan amidst the multitude, who waited her landing; nor were the lamentations of relations to be distinguished, as Tacitus has described the scene, from those of strangers, nor of men from those of women. Agrippina's spirit was unshaken; after her return to Rome, she forgot the dying charge of her husband, and fell a sacrifice to the wicked arts of Sejanus. By his agents he persuaded her, that it was the intention of the emperor to poison her; and she had the imprudence to disclose her suspicion to the reigning tyrant. This circumstance induced him to determine upon her ruin; and immediately after the death of his mother, Livia, he sent to the senate letters of accusation against her and her son Nero. The senate hesitated; but Sejanus furnished the evidence that was necessary for their condemnation. She was banished to the isle of Pandataria, now Santa Maria, lying off the coast of Terracina; and her son Nero was banished to the neighbouring isle of Pontia, where he soon died. Drusus, her second son, was confined in the lower apartments of the palace, and there famished. Agrippina survived about four years; and her death, which happened through want of food, either voluntarily or by compulsion, A. D. 33, was announced by Tiberius to the senate; and the savage tyrant accepted the

thanks of this body, for not ordering her to be strangled, and her body to be exposed like that of a common malefactor. This pretended clemency was more than counterbalanced by a charge against her of adultery with Asinius Gallus, whose death, he said, had been the cause of hers. Her known character for chastity repelled this infamous charge; and Tacitus sums it up in a few words, by observing, that "impatient of equality and greedy of domination, she had banished female frailties by her masculine ambition." Her remains were brought in great pomp from Pandataria, by her son Caligula, soon after his accession, and deposited in the mausoleum of Augustus, and all sorts of honours were paid to her memory—"an instance, says an excellent biographer, of filial piety, which is one of the best things recorded of that imperial monster!" Tacit. Annal. lib. i. ii. iii. iv. Crevier's Hist. of the Emperors, vol. ii. iii.

AGRIPPINA, the younger, was the daughter of Germanicus, by the preceding Agrippina, and the mother of Nero. In the year 28 she was married by Tiberius to Cn. Domitius, belonging to the imperial family, but faithless, ferocious, and debauched; and as Agrippina was no less profligate than her husband, Domitius might well observe, as Suetonius informs us, (in Nero c. 6. tom. ii. p. 374. Ed. Pitisc.) when he was congratulated on the birth of a son, that from him and that prince's nothing could be born but some monster, fatal to the human species; and his declaration was too exactly verified by the crimes and cruelties of Nero. Agrippina was distinguished with honours by her brother Caligula, at his accession; but lost her husband before the end of that reign. Before his death, however, she had an intrigue with M. Lepidus, who was the companion of Caligula in his debaucheries, and who aspired to the empire; and was concerned with him in his conspiracy against her brother. For this crime she and her sister Julia were deprived of the honours, which were conferred upon them at the commencement of this reign; their possessions were forfeited and sold by an auction in Gaul, at which Caligula presided; and they were banished to the isle of Pontus. Agrippina was compelled to carry in her arms the urn that held Lepidus's ashes all the way from Gaul to Rome; and at the same time Tigellinus, under the charge of adultery with her, was exiled. In the reign of Claudius, Agrippina was recalled from banishment, and married to a second husband, whose name was Crispus Passianus, a celebrated orator, who had been twice consul, and who was very rich; and whom his wife poisoned in order to obtain possession of his wealth, which he had bequeathed to her by his will. After the death of Messalina, the third wife of Claudius, this emperor was induced A. D. 48, by the persuasions of Pallas, to marry his niece Agrippina, who exercised the new powers she thus acquired with a degree of haughtiness, injustice and cruelty, that might have been reasonably expected from her well-known character. She did not blush, says Tacitus, to prostitute herself to Pallas, in order to secure her son's elevation, and to gratify her own insatiable thirst for gold; and because Lollia Paulina had been her rival for the imperial dignity, she was banished and put to death; and Dion Cassius (lib. lx. tom. ii. p. 970. Ed. Reimari.) says, that her head was brought to Agrippina, who opened and examined the teeth, in which there was some particular mark, that she might thus identify her person. She manifested her wisdom, however, in using her influence for recalling Seneca from banishment, and placing her son Nero under his tuition; but regardless of every principle of justice, she engaged the interest of Pallas, and prevailed with the weak emperor to adopt her son Domitius, then (*viz.* A. D. 50.) called Nero Claudius Cæsar, though he had a son of his own, Britannicus, to whom he was affectionately

fectionately attached, and to give him the prerogative of an elder brother. On this occasion Agrippina herself received an additional honour in the surname of Augusta. Britannicus was deprived of every opportunity of recommending himself to his father, and reduced by the arts of the empress to the most depressed condition. Agrippina ostentatiously exercised her authority in establishing a colony at the capital of the Ubii, where she was born, and in giving it the name of *Colonia Agrippina*, or *Agrippinensis*; but it has been for many ages called Cologne, and the name of Agrippina has been suppressed. Her vanity also led her to obtain leave to enter the capital in a car, like those in which the priests were carried, and on which all sacred things were deposited. In order to gratify her avarice, as well as her pride, she caused Statilius Taurus to be accused, and provoked him by false charges to suicide, that she might get possession of his fine gardens. At length, Claudius began to be sensible of the crimes of Agrippina; and after drinking freely he happened to drop an expression, which alarmed her, *viz.* that it was his fate first to bear the wickedness of his wives, and then to punish them. She had also a rival in Domitia Lepida, Nero's aunt, a woman no less unprincipled and debauched than herself; and she contrived, by accusing her of sorcery and magic and other crimes, to destroy her. She then directed the efforts of her malice against Narcissus, who was the declared friend of Britannicus and a powerful freedman; and succeeded first in driving him from court, and at length in procuring his death, as well as that of Julius Silanus, who was of high rank, and a descendant of Augustus. In the mean while, having removed Narcissus, the vigilant guardian of Claudius's life, she determined to sacrifice the emperor himself. His attachment to Britannicus was undisguised; and he resolved upon soon giving him the toga virilis, "that Rome, as he said, may at last have a true Cæsar." Agrippina's fears accelerated her purpose; and she applied to Locusta, who had been lately condemned for administering poison after she had been long spared as the useful instrument of tyranny, to prepare the poison by which she designed to get rid of the emperor. The poison was mixed with mushrooms, a favourite dish of Claudius, and very speedily produced effect. Having dispatched the emperor, A. D. 54, she pretended sorrow on the occasion; and affecting tenderness for Britannicus, whom she kept in a state of retirement, she caused Nero, accompanied by Burrhus, to appear before the soldiers, and to be acknowledged as emperor.

The enormities with which Nero's reign commenced were sanctioned by her example, and encouraged by her authority. To her Nero paid great respect and deference, calling her "the best of mothers;" and the senate granted her the privilege of being preceded by two lictors, and the dignity of priestess of Claudius, whom she had poisoned. These tokens of respect served only to inflame the ambition of Agrippina, whose design it was to reign under her son's name. Accordingly she privately and by concealment attended the debates of the senate, and at a public audience of ambassadors, she attempted to ascend the throne with her son; but was reasonably restrained by the suggestion of Seneca, that he should descend and meet her. But she soon perceived that her power began to decline, and this was a mortification, which her proud and violent spirit could not well bear. To divert the evil, she at one time raved and menaced, and at another recurred to every complying and soothing measure. The disgrace of Pallas was very hostile to her influence; and her son's respect diminished in proportion to the degree in which his independent power was established by the removal and death of Britannicus, and his consequent rescue from the

danger of a rival. When she attempted to pay court to the soldiers and nobles, Nero deprived her of her guards and honours, excluded her from the palace, and obliged her to retire, solitary and neglected, to her own palace. Nevertheless, she was again restored to favour, which she endeavoured to secure by various artifices; and, as it is said, by some compliances, which are the most odious and reproachful that can be conceived of in the relation of a mother and son. Poppæa's influence over Nero soon became paramount to every other; nor was it restrained even by the guilt of parricide, to which she stimulated him. But how to perpetrate this horrid deed, without exposing himself to public detestation, was a subject of serious deliberation. At length a galley was prepared by Anicetus, commander of his fleet, which might easily admit water, and lander; and Agrippina was enticed on board in the Baian bay. The stratagem, however, did not succeed; for though Aceroniâ, the companion of Agrippina, lost her life, Agrippina herself got safe to shore. The crime could no longer be concealed; and it became necessary to complete what had been begun. Accordingly Anicetus, with a body of mariners, surrounded the house where she had taken refuge; and entering her chamber, dispatched her with many wounds, A. D. 59. To the assassins, it is said, she presented her womb, and bade them strike that part which had harboured such a monster. She was buried the same night without any ceremony, and had no tomb whilst Nero lived; but after his death some of her surviving servants erected a mean monument over her remains, near the high road from Rome to Misenum. Nero affected contrition after the event; but afterwards wrote a letter to the senate, or rather procured one to be written by Seneca, for which he has been much blamed, accusing her of many crimes, and charging her with a conspiracy, which rendered her death a fortunate event to the Roman people. The senate fervently decreed thanks to the gods for his escape, and the day on which Agrippina was born to be marked in the calendar as an inauspicious day. Her crimes were of the most atrocious kind, and her memory has been execrable. Nevertheless she is said to have been a princess of some learning, and to have written memoirs of her life, referred to by Tacitus and the elder Pliny. Suetonius in Calig. Claud. and Nero. Tacit. Annual. lib. xii. 14. Crevier's Hist. Rom. Emp. vol. iii. and iv. Vols. de Hist. Lat.

AGRIPPINIANS, in *Church History*, the followers of Agrippinus, bishop of Carthage, in the third century, who first introduced and defended the practice of *rebaptization*. Arnd. Lex. Ant. Eccl. p. 465.

AGRIS, or *Agriſa*, in *Ancient Geography*, the name of a town of Carmania, between the mouth of the Sarus and the strait that leads to the Persian gulph. Long. 96° 30'; and lat. 23°, according to Ptolemy.

AGRIUS, in *Entomology*, a species of the *SPHINX Zygena*, which is black, with wings pointed with green; the primores black, and the posterior blue; found in Surinam.

AGRIZALA, a town of Asia Minor, belonging to the Tectosagi of Galatia. Long. 2°. Lat. 41° 30', according to Ptolemy.

AGRIUM, in the *Materia Medica of the Ancients*, a name given to an impure sort of *saturum*. The purer sort of this salt they call *balmyrhaga*, and the coarser and dirtier kind *agrium*. The former of these they had from Media, the latter from Thrace.

AGROIRA, a name which some have given to *Attala* of Lydia.

AGROCA Road, in *Geography*, lies to the west of the Bastimentos, near Portobello, on the Spanish main, and is well

well found for eight or nine ships; where they are landlocked by several islands, which appear at sea like part of the coast. *Milner's Naval Gazette.*

AGROPI, a village frequent in Bengal, and other parts of the Indies, where the tongue chaps and cleaves in several places, being also extremely rough, and sometimes covered with white spots. The Indians are very fearful of this disease, which they attribute to extreme heat of the season.

Their remedy is, to chew the black-seeded basilica, drink for a while heated liquor, or the juice of large mint.

AGROPIOLI, in *Geographia*, a town of the Principato Citra di Napoli, on the Gulf of Salerno; 26 miles west-north-west of Capri, and 22 miles north-north-east of Salerno. *Fl. Ital.* 14. *N. It.* 45. 22.

AGROPI, in *African Geographia*, a town of Ethiopia, situate, according to Ptolemy, on the banks of the Nile.

AGROSTEMMA, *Agrostemma*, the garland of the field, in *Botany*, a genus of the *dianthia pentagyna* class and order, and natural order of *caryophyllei*. Its characters are, that the calyx is a one-leaved, coriaceous, or leather-like, tubulous, five-toothed, permanent perianthium; the corolla has five petals, with claws of the length of the tube of the calyx, and border spreading, obtuse and undivided; the stamina are ten awl-shaped filaments, five alternately later than the other five, inserted into each claw of the petals, the anthers simple; the pistillum an ovate germ, with filiform, erect styles, of the length of the stamina, and simple stigmas; the pericarpium an oblong-ovate, covered, one-celled, five-valved capsule; the seeds very numerous, kidney-shaped, and dotted; the receptacles free, as many as seeds; the interior ones gradually longer. *N.B.* The *A. githago* has not a crowned corolla, or blossom, as the others have. Dr. Smith (*Flor. Brit.* vol. ii. p. 493.), observes, that this genus is scarcely distinct from the *LYCHNIS*. There are four species, viz. 1. *A. githago*, corn campion or cockle, which is hirsute or hairy, with calyx longer than the corolla, petals entire, or slightly emarginate, and naked. 2. *A. coronaria*, rose campion, tomentose, with leaves ovate-lanceolate, petals slightly emarginate, crowned and ferrate. 3. *A. fls Jovis*, umbellate rose campion, tomentose, with emarginate petals and flowers in a corymb or kind of spike. 4. *A. cali rosa*, smooth campion, with leaves linear-lanceolate, emarginate petals, crowned. The first species is a common annual weed, in corn-fields, and flowers in June or July; the seeds are black, with a surface like shagreen, and appear in the microscope like a hedge-hog rolled up. The second species is biennial, a native of Italy, the Valais, and Siberia; but so long an inhabitant of English gardens, that it is become a kind of weed. Of this plant there are three varieties, one with deep red, another with flesh-coloured, and a third with white flowers; but they are not much esteemed, as the double rose-campion, which is a fine flower, has excluded the others from most good gardens. The single rose campions are sufficiently propagated by their self-sown seeds. The variety with double-flowers, having no seeds, is propagated by parting the roots in autumn, and planting them in a border of fresh undunged earth, at the distance of about six inches; they should be watered gently till they have taken root: afterwards wet, as well as dung, is injurious to them. In spring they should be removed into the borders of the flower-garden, where they will be very ornamental, whilst they flower in July and August. The third species grows naturally on the Swiss and Piedmontese mountains, and in the Palatinate, and was cultivated in 1739, by Mr. Miller. It flowers in July, and the seeds ripen in September. It

will thrive best in a moist soil and shady situation. The fourth species is annual. It is a native of Italy, Sicily, and the Levant; but being a plant of little beauty, it is preserved in botanic gardens merely for variety. It was cultivated in 1739, by Mr. Miller.

AGROSTIS, formed from *agros*, a field, *lent-grass*, in *Botany*, a genus of the *triandria digynia* class and order, and of the natural order of *gramina* or grasses. Its characters are, that the calyx is a one-flowered, bivalve, acuminate glume, or husk tapering to a point; the corolla, bivalve and acuminate, with one valve larger than the other; the stamina have three filaments longer than the corolla, with forked anthers; the pistillum is a roundish germ with two reflex villous styles, and stigmas longitudinally hispid, or as Dr. Smith says, plumose: the pericarpium is a corolla growing to the seed, not gaping; the seed is roundish, pointed at both ends, with the corolla adhering closely to it. Professor Martyn enumerates 35 species, and Gmelin 42 species. They are distributed into two classes; the *aristate* or those with awns, and the *mutice* or naked, without awns. To the first class belong the following. 1. *A. spica venti*, silky bent-grass, with entire petals, the outer petal having a stiff, straight and very long awn, and the panicle spreading. 2. *A. interrupta*, interrupted-spike B. with bifid petals, the outer awned, the panicle attenuated, contracted and interrupted. 3. *A. miliacea*, millet B. with the outer petal terminating in a stiff straight awn of a moderate length. 4. *A. bromoides*, with a simple narrowed panicle, pubescent corolla, and awn straight, longer than the calyx. 5. *A. australis*, southern B. with the panicle approaching to a spike, the seed ovate and pubescent, and awn of the length of the calyx. 6. *A. arundinea*, reedy B. with oblong panicle, outer petal, villous at the base, and furnished with a writhed awn, longer than the calyx. 7. *A. calamagrostis*, branching B. with thickened panicle, the whole of the outer petal woolly, awned at the tip, and branching culm. 8. *A. serotina*, late B. with oblong mucronate floscules, and culm covered with very short leaves. 9. *A. rubra*, red B. with the flowering part of the panicle very spreading, outer petal smooth, awn terminal, spiral and recurved. 10. *A. spiciformis*, spiky B. with the panicle resembling a spike, two-awned flowers, one awn inserted into the receptacle, jointed and longer than the other, which is straight, and inserted below the tip of the corolla, which is rough. 11. *A. hirsuta*, hairy B. with the panicle approaching to a spike, culm and leaves hirsute, glumes of the corolla awned on the back, and bifid at the tip. 12. *A. matrella*, with the flowers in racemes, outer valve of the calyx bent in, and the tip of the keel only gaping. 13. *A. canina*, brown B. with ovate coloured calyx, naked corolla, an incurved awn on the back of the petals, and prostrate culms a little branching. To the class of awned agrostis, Gmelin refers the following species, viz. *A. vinealis* and *A. cinna*, of Martyn, *A. alpina*, with setaceous leaves, compact panicle, rough and coloured calyx, and exterior petal with a jointed awn in its back. *A. laevis*, with elongated calyxes, awn of the petals recurved at the back, and prostrate culms with four branches. *A. gigantea*, with the upper part of the panicle first flowering very wide, rough calyxes, the exterior petal smooth, the back slightly awned above, and an erect culm. *A. dubia*, with equal smooth calyxes, corolla mucronated below the apex, and setaceous leaves. *A. festuoides*, with setaceous leaves, spreading panicle, and petals with awn bent in at the base twice as long as the calyxes. *A. filiformis*, with filiform leaves and culms, approximate panicle, and smooth floscules awned at the base.

To the second class of Agrostis without awns are referred the

the following species, viz. 14. *A. solonifera*, creeping B. or black squitch, with branches of the panicle spreading, naked, creeping culm, and equal calyces. Dr. Smith describes this species as having a compact panicle, ramose creeping culm, congested flowers, and calyces equal, lanceolate and pubescent. 15. *A. capillaris*, fine B. with panicle capillary, spreading, flexuose, and calyces equal, subulate smooth (slightly roughish, Gmel.) coloured. 16. *A. sylvatica*, wood B. with panicle contracted, calyces equal, those of the barren flowers shorter than the corolla, and those of the fertile ones twice as long. 17. *A. alba*, white B. with panicle loose, calyces equal, and culm creeping. 18. *A. pumila*, dwarf B. with panicle on one side, culms erect in bunches. 19. *A. minima*, least B. with panicle filiform, flowers, elliptic, retuse and awnless, and villous corolla. 20. *A. tenuiflora*, tough B. with panicle contracted, filiform; flowers linear, and valves parallel. 21. *A. virginica*, virginian B. with panicle contracted; leaves rolled inwards, subulate, rigid, standing out. 22. *A. mexicana*, Mexican B. with panicle oblong heaped; calyces and corolla acuminate and nearly equal. 23. *A. purpurascens*, purple B. with panicle contracted, elongate, branches pressed close upright, and florets unequal and acuminate. 24. *A. indica*, Indian B. with panicle contracted, racemes lateral, erect, alternate. 25. *A. ciliata*, ciliate B. with glumes of the calyx angular and ciliate. 26. *A. panicea*, bearded B. with panicle subspiked; branches and branchlets fascicled; valves of the calyx and one of the corolla awned, that of the corolla very short. 27. *A. lenta*, forked B. with spikes subtern, umbellate, floscules awnless, oblong, acute, calycine valves subequal, leaves and sheaths smooth. 28. *A. complanata*, flat-stalked B. with spikes umbelled, smooth; outer calycine valves awned; flattened leaves and smooth sheaths. 29. *A. pungens*, prickly B. with panicle contracted, leaves involute, stiff, pungent, the upper ones obliquely opposite, and branching culm. 30. *A. vinealis*, short-awned B. with culms ascending, calyx coloured, awn nearly straight, from below the middle of the back, about as long as the calyx. 31. *A. ovata*, ovate-panicked B. with outer petal awned below the tip; panicle ovate, contracted and spikeform. 32. *A. odorata*, sweet B. having spikes, with the florets pointing one way, heaped together, awnless. 33. *A. plicata*, plaited-leaved B. with leaves plaited, and spike linear, awnless. 34. *A. cinna*, with panicle contracted, awnless, flowers acuminate, with one, two or three stamens, and leaves flat, scabrous. 35. *A. diandra*, with panicle elongate, contracted; flowers subulate, awnless, diandrous or two-staminate; and convolute leaves. Gmelin has omitted some of the preceding awnless species, and added the following, viz. *A. verticillata*, with straight panicle, interrupted by radiated rigid verticilli or whorls. *A. stricta*, with stiff panicle, having flowers, and an erect culm. *A. linearis*, with subquatern digitated spikes, and adpressed alternate, unilateral floscules. *A. procera*, with the foot-stalks of the panicle, racemose and somewhat erect, and the flowers hairy and lanceolate. *A. coromandeliana*, with the panicle ovate, patent, the foot-stalks simple; second flowers, and equal, acute, glossy calyces. *A. aspera*, with contracted panicle; lateral, alternate, stiff racemes, and rough leaves. *A. avenacea*, with an erect, very slender panicle; and the awns twice longer than the calyx. *A. glomerata*, with bifid, glomerate, terminal spikes, and clawed plumose bractæ. *A. lateralis*, with bilid, lateral, solitary spikes, and clawed plumose bractæ. Dr. Stokes has observed that this is an artificial genus, and that the species which are chiefly distinguished by the presence or absence of the awn in the corolla, and which is inconstant, are not precisely ascertained. He therefore recommends particular attention to the open or closed

state in which the valves of the calyx are found, immediately after the shedding of the pollen and the ripening of the seed, and likewise to the flowers, whether they are scattered or clustered.

The first species, which is annual, is common in future corn-fields, and flowers in June and July. It is liable to be smutted. Horses and goats eat it; but sheep refuse it. The second is, according to Haller, a variety of the former: it is annual, and a native of France, Italy, Switzerland, Carniola, and Germany. The third is a native of Montpellier, Spain, and Siberia, was introduced by M. Thouin, in 1778, and resembles the first. The fourth is perennial, and grows wild about Montpellier. The fifth is a native of Portugal. The sixth is a native of many parts of Europe, and is perennial. Haller and Scopoli rank it amongst the *arundines*. The Kalmuc Tartars weave mats of it, and thatch their houses with it. Goats will almost die of hunger rather than eat it. The seventh resembles the former: is perennial; and a native of Germany and Switzerland and about Verona; those two species are referred by Gmelin to the genus *calanostriis*, and are the *C. arundo* and *C. arundinacea*. The eighth species was observed by Seguier, near Verona. The ninth is common in Sweden, and is found in Scotland, in low pastures. The tenth and eleventh were found in the Island of Teneriffe, by Maffien. The twelfth is found in the sandy lands of Malabar. There are two varieties of the thirteenth, the rough and the smooth, which Dr. Stokes in Withering's arrangement, makes a distinct species under the name of *A. alpina*, and so classed by Gmelin: this is found plentiful in the higher downs in Dorsetshire and the higher parts in the new forest of Hants, and flowers in May and June. But Dr. Smith (Flor. Brit. vol. i. p. 78.) refers the *A. canina*, (α) of Hudson to the species of *A. canina*, and also the *A. vinealis* of Withering; and says it is perennial, flowering in July, and found in meadows and moist pastures; and the *A. canina* (β and γ) of Hudson, and *A. alpina* of Withering, above described, to a distinct species, viz. *A. setacea*, bristly B. with lanceolate calyces and corolla awned at the base; the awn geniculated and the radical leaves setaceous. It is perennial, flowering in July and August, and found on dry heaths, frequently in the west of England, and on the sea-coast near Weymouth. The fourteenth is perennial, a native of most parts of Europe, and found in moist meadows and pastures, and also in stiff cold arable lands, where it is very troublesome; for when such lands are broken up and fallowed, the roots are separated with difficulty from the adhesive soil. It flowers in July and August. Hudson joins this species with the capillaris, pumila, alba, and sylvatica, under the name of polymorpha; and Gmelin queries whether these and also the virginica are not varieties of the same species, owing their difference merely to the soil; some have supposed that this is the famous ORCHESTON GRASS. The fifteenth is very common, but chiefly grows on poor, dry and sandy land, and is disliked by cattle, as are the bents in general; it flowers in May and July. Gmelin queries whether it be not a species of alopecurus. Some have supposed that the *A. capillaris* of Linnæus, is the same with the *A. vulgaris*, which has a spreading panicle, branches bare at the base; florets numerous, calyx inner valve smooth, outer serrulated upwards; blossom inner valve, but half the size of the outer; deciduous. Linnæus confounded these two plants; but the error was discovered by Dr. Smith. In general habit, says Withering, the plants are very much alike; but the real *A. capillaris* has the stem, leaves and hanks of the calyx quite smooth, as well as every other part of the plant, whilst in the *A. vulgaris* the stem-leaves are rough, and the hanks of the calyx are serrulated on the

keel, as they are in every other British species of agrostis, except the *minima*. Again, in the *capillaris*, the valves of the blossoms are equal, but in the *A. vulgaris* the inner valve is only half the size of the other. Dr. Smith (Flor. Brit. vol. i. p. 79.) characterizes the *A. vulgaris*, or fine B. as having a spreading panicle, small branches divaricated and capillary, equal calyces, interior petal twice as short as the other: and to this species he refers the *A. vulgaris* of Withering; the *A. capillaris* of others, and the *A. polymorpha* (α) of Hudson, and as varieties, the *A. canina* of Withering, the *A. pumila* of Linnæus, and the third variety of Withering's *A. vulgaris*. It is perennial, flowers in July, and is found in meadows, pastures and ploughed fields. The sixteenth species is perennial, and grows in moistish woods, as Bishop's-wood, Hampstead, and also in Hounsey wood, near London. It flowers in June and August. The seventeenth is perennial, and grows in ditches, marshes, and moist meadows. Withering mentions four varieties; one with panicle branches, crowded with florets at the base, which flowers in June and July, and is found in wet ditches, bogs, and marshes; a second, with calyx, both valves ferrulated, supposed to be the preceding plant, when growing in a drier situation, and found amongst wheat, in light sandy loam, flowering from July to September; a third, with the inner valve of the calyx only ferrulated upward, found in loamy soil, amongst wheat, and in very light sandy soil under the Norfolk course of turnip husbandry, and also elsewhere amongst potatoes; flowering from July to September; the fourth has both valves of the calyx ferrulated, the inner only on the upper half: it is found amongst wheat, in light land; flowering from July to September. The three last varieties constitute the greatest part of what is called squitch, in light arable lands; which are called white squitch, to distinguish it from *A. nigra* and *A. stolonifera*, which are called black squitch, or couch. Dr. Smith enumerates only two varieties, viz. the *A. alba*, and *A. sylvatica*, i.e. marsh and wood B. which he refers to this same species. The eighteenth is a native of Iceland, Sweden, Germany, Switzerland, England in dry places, Wales and Scotland; found in poor barren soil, e.g. heaths near Harrowgate, perennial, and flowering in July. The nineteenth is a native of France and Germany, and has been discovered by Mr. Stillingfleet, in Wales; it is common in sandy pastures on the south-west coast of Anglesea: By some it is denominated spring-plant, and said to flower early in March and April, and ripen its seed in May. Dr. Stokes refers this species to the Poa. The twentieth is perennial, and a native of the East Indies. The twenty-first is an elegant little plant, and called by Browne crab-grass. The twenty-second is a native of South America, flowering the second year, having the appearance of cinna, and introduced in 1780, by Mr. G. Alexander. The twenty-third is a native of Jamaica; the twenty-fourth is a native of India, introduced in 1773, by the Earl of Bute; the twenty-fifth a native of Japan. The twenty-sixth comprehends the *panicus* and *monspeliensis* ALOPECURUS in the Linnean system; the first grows in marshes and wet pastures, and the second in a dry soil, to which the difference is probably owing. The twenty-seventh is a native of the East Indies, found there by Dr. Koenig, and introduced in 1778 by Sir Joseph Banks. It is annual, and flowers in July and August. The twenty-eighth is a native of Jamaica; introduced in 1779; perennial, and flowers in July and August. The twenty-ninth is a native of Arabia and Barbary, used by the Arabs in the hæmorrhoids; perennial, and found in dry places off the coast in the country of Nice. The thirtieth is a native of Switzerland and the north of England; found on heaths, meadows and moist pastures, which have been long in turf.

Some parts of Hounslow heath abound with it. Dr. Smith (Flor. Brit. vol. i. p. 78) refers the *A. pinetis* of Withering to the *A. canina*. The thirty-first is a native of New Zealand: the thirty-second of Cochinchina, near the coast, where it is dried and used for perfuming their clothes; the thirty-third a native of the suburbs of Canton. The thirty-fourth and thirty-fifth have been referred by some to CINNA. Dr. Withering mentions some other species, viz. *A. palustris*, with the husks of the calyx equal, and the outer valve of the blossom twice the length and breadth of the inner; awn straight, much shorter than the blossom, fixed a little beneath its point; some consider this as an awned variety of the *A. alba palustris* of Hudson, but Dr. W. regards it as a distinct species. It is found in swamps and moist ditches; perennial, and flowering in June and July. *A. pallida*, with the valves of the calyx unequal; the inner valve of the blossom hair like, very short, awn somewhat longer than the blossom, fixed below its middle; it is sufficiently distinct from both the *A. alba* and *A. capillaris*; found in the New Forest, Hants, and flowering in May and June. *A. littoralis*, with panicle somewhat spike-like, the husks of the calyx awned; first found on the Norfolk coast by Sir Joseph Banks, perennial, flowering in June. The *A. littoralis*, sea-side B. according to Dr. Smith (*ubi supra*) has linear-lanceolate awned calyces, naked corolla; awn sub-terminal straight, and decumbent culms. It is perennial, flowers in August, and is found in clayey sea-shores; in salt-marshes near Cley, Norfolk. *A. nigra*, with scattered panicle, branches bare at the base, florets few; inner valve of the calyx smooth, and creeping root; it is different from the *A. stolonifera* of Linnæus, to which some have referred it; found in marley, clayey, and other cold wet soil, both in grass and under tillage; perennial, flowering from July to October. *A. maritima*, with large, rather spreading panicle; longer branches naked, shorter ones crowded with florets at the base; inner valve of the calyx smooth, outer ferrulated upwards; gathered by Dr. Pulteney in the sand on our southern sea-coasts; perennial, flowering in June and July. The *A. vulgaris* has been already mentioned. Martyn's Miller's Dict. Withering's Bot. Arr. vol. ii. p. 124-134.

For the propagation and culture of several of the above species; see GRASS. For other species, to which the name has been applied, see AIRA, ALOPECURUS, CALAMAGROSTIS, CENCHRUS, MELICA, MILIUM and SCHÖENUS.

AGROSTOGRAPHIA, compounded of *αγρως*, grass, and *γραφω*, description, in *Physiology*, the history, or description of *gramens*, or plants of the grassy kind.

AGROSTOGRAPHIA is also the title of a learned and laborious work of John Scheuchzer, containing an exact description of about 400 species of grass; particularly dog's-tooth, cyperus, cyperoides, rushes, &c. all disposed in a new method; yet the history is far from being complete.

AGROTIRI, in *Ancient Geography*, the most southern promontory of the island of Cyprus, east of Limassol. It is a small peninsula, connected with the continent by a very narrow tongue of land, and is now called cape De Gatti, on account of the great number of cats kept by the monks, who, in the 4th century, obtained permission to establish themselves there, as well as on mount Olympus, on condition of keeping a great many of those animals for hunting snakes, which had multiplied to an alarming degree; and which, it is said, have no greater enemies than cats. Son-nini's travels in Greece and Turkey, p. 56.

A-GROUND, in *Sea-language*, expresses the situation of a ship whose bottom, or any part of it, rests upon the ground.

AGRYLA, in *Ancient Geography*, a city of the island of

of Sardinia, founded, according to Steph. Byz. by a colony of Athenians.

AGRYPNIA, *αγρυπνια*, a privation of sleep; otherwise called watching, waking, *vigilia*, *pervigilium*, &c. Among physicians, this is a troublesome symptom in fevers and other disorders. In the Greek church, it is used for the vigil of any of the greater feast-days, observed by the monks and clergy. Du-Cange.

AGUA, in *Geography*. See **OEGWA**.

AGUA, *Fort Harbour*, is situate about a league north-north-east from Ferosa harbour, on the east coast of Newfoundland.

AGUA de Pao, a small town in the island of St. Michael, one of the Azores. It is situated in a fertile territory, which produces abundance of corn and excellent fruit. W. long. $25^{\circ} 40'$. N. lat. $38^{\circ} 10'$.

AGUA, *Rio del*, a river which falls into Bonaventura bay, on the coast of Popayan, in the South Sea; in about W. long. 77° and N. lat. $3^{\circ} 30'$. It affords good anchorage.

AGUA, *Reves*, a small place in the province of Traz-os montes, in Portugal.

AGUADA, a river which runs into Smienda bay, near cape Roque, on the coast of Brazil, about W. long. $34^{\circ} 30'$. and S. lat. 5° .

AGUADA de Saldana, a gulph on the coast of Africa, 15 leagues north from Table bay.

AGUADIR-Toma, a town of Africa, in the empire of Morocco, in the province of Ius, 13 leagues south of Santa Cruz.

AGUADORE, a river in the island of Cuba, on the south side, and nearly north from the east end of Jamaica. Its mouth is in W. long. $75^{\circ} 35'$. and N. lat. 20° .

AGUAGUIN, in *Botany*, the name of a shrub among the Africans, who esteem it greatly as a balsamic and vulnerary. The leaves of this shrub resemble those of our common lilac; they grow alternately, and stand upon footstalks of half an inch long; and when held up to the light, they shew a fine texture of the smaller veins. Philof. Transf. N^o 232.

AGUAPECACA, in *Ornithology*, the name of a Brazilian bird of the moor-hen kind. It is of the size of a pigeon, very long-legged, and has a beak like that of the gallinaceous kind; its back, and the upper part of its wings, are brown, and in each wing they have a sharp horn, or prickle, serving for their defence. Marcgrave.

This is the *jacana-peca* of Buffon, the *jacana annata* of Brisson, the Brazilian *jacana* of Latham, and the *PARRA Brasiliensis* of Gmelin's Linnæan system, characterised by having the hinder claws very long, and the body greenish-black. At Guiana, where it is common, it is called *kapoua*, and also *kinkin*, from its shrill note: these birds are gregarious, and are found in flocks in the ditches, and among the rushes on the sides of the lakes; and they live on fish and water-insects.

AGUARA-QUIYA, in *Botany*, a Brasil plant, thought to be the *solanum vulgare*, or common nightshade, by Ray.

AGUARA-PONDA, a plant, otherwise called *viola spicata Brasiliensis*. It grows to the height of a foot and an half, or more, with a smooth, round, green, and jointed stalk; at each joint come forth four, five, or more, narrow, serrated, pointed, green, and unequal leaves; the top of the stalk bears an ear a foot long, smooth, and covered with flowers of a fine violet azure, or the colour of our *viola martia*, consisting of five roundish leaves. The whole flower is not unlike the *viola martia*, and has somewhat of its smell; the root is straight, of a moderate thickness, and shoots out into abundance of lesser ones, and these again into filaments.

There is another kind, distinguished by the wildness of its ear of flowers, which represents a helmet of a green colour. It is marked with cubic pits, from whence proceed azure flowers. Ray.

AGUAS, in *Geography*, a people of South America, on the banks of the river of the Amazons. They are said to be less polished than any other of the Indian nations.

AGUAS Bellas, a small place in the province of Estremadura, in Portugal.

AGUATULCO, **AQUATULCO**, or **GUATULCO**, a town and port of Mexico. Its harbour is large and much frequented. It is situated in the South Sea. W. long. $96^{\circ} 40'$. S. lat. $15^{\circ} 10'$.

AGUBENI, in *Ancient Geography*, a people placed by Ptolemy upon the frontiers of Arabia Deserta, very near Arabia Felix.

AGUCCHIA GIOVANNA, in *Biography*, was an engraver of the 16th century. He engraved the large design for the dome and cathedral of Milan. Strutt.

AGUE, in *Medicine*, a periodical disease of the fever-kind, consisting of a cold shivering fit, preceded by a hot one, and going off in a diaphoresis or sweating. If the coldness and shivering be inconsiderable, and only the hot fit felt, the disease is called an intermitting fever. According to the periods or times of the returns of the fit, the disease is either a **QUOTIDIAN**, **TERTIAN**, or **QUARTAN** ague, or fever. The cause of *Agues*, as well as of the **REMITTENTS** of hot climates, is now believed to be the miasmata or effluvia arising from putrid animal and vegetable substances mixed, or from the latter alone. See Dr. Jackson, &c. on Fever.

Sir John Pringle accounts for them by means of the principle of putrefaction. The heat of the body, he observes, varies little; and therefore the corruption produced in any of the humours must happen in a determinate time. If we suppose, that in the paroxysm, the more corrupted particles of the blood do not at all pass off through the skin with the sweat, but that some part of them is discharged with the bile; their particles coming into the intestines, and being from thence taken up by the lacteals, and carried into the blood, may there act as a new ferment, and occasion a return of the fit. Thus the corruption of the bile may be the cause of the first fit as well as of those that follow. He farther adds, that though all moist countries are subject to agues of some kind or other; yet if the moisture is pure, and the summers are not close and hot, they will mostly be regular tertian agues, and admit an easy cure. But if the moisture arises from long stagnating water, in which plants, fishes, and insects die and rot, then the damps, being of a putrid nature, occasion not only more frequent, but more dangerous fevers, which more commonly appear in the form of quotidians, and double tertians, than that of single ones. Accordingly they are found to vary with the season, on which the degree of putrefaction in a great measure depends.

These opinions of Sir John Pringle, as far as they rest on putrefactive particles, or ferments in the living body, are entertained only by a few pupils of the Boerhaavian school. The theories of fever in most general estimation at present, are contained in Dr. Darwin's *Zoonomia*, and Dr. Cullen's first lines.

The *symptoms* are, heaviness and reaching; a weak slow pulse; coldness and shivering felt first in the joints, thence creeping over the whole body; pain in the loins, and an involuntary motion of the under jaw.

This cold stage varies in its duration and severity with the kind of ague. It is shortest in the *quotidian*, and most distressing in the *tertian*.

The cold stage is succeeded by a full strong pulse, distressing

trifling febrile heat and fulgur, indicating a free circulation of the blood through the extreme extremities on the surface of the body, which had been suspended or impeded during the preceding stage.

The diarrhoea, or sweating stage, which soon succeeds, may be considered as the crisis of that paroxysm and generally of the disease, if proper means be employed to prevent its recurrence.

A cold ague is easily cured; but an autumnal one is more obstinate, especially in aged and delicate persons; and, particularly, if complicated with a dropsy, peripneumony, &c.

When an ague proves fatal, it is usually in the cold fit. The cure is usually begun with an emetic of *ipomoea*, an hour before the access, and completed with the *cortex Peruviana*; continued in the interval between two fits; and continued, at times, to prevent a relapse.

We meet with divers other methods of curing agues, besides that by the *cortex*; as by means of 20 grains of Dover's powder; or ten grains of James's powder, with one of opium; or a quart of any hot tea, taken before the accession of the fit, in order to prevent, or greatly diminish the severity of the cold stage: by willow bark; by arsenic; by sul-ammoniac; and by *sal-volatile*, &c. which may act by attenuating the blood: in the island of Tino, by an infusion of flowers of little centaury. See Phil. Trans. N^o 145.

From the great variety of the means by which the ague has been, or appeared to be cured; we may conclude that any thing which can make a strong impression either upon the body or mind, a little while before the paroxysm, will cure the generality of agues. Etmuller gives divers instances of agues cured by putting the patient in a fit of passion. Others have been effected by a fright, a fit of drunkenness, &c. 'Do we not often see agues cured by amulets and *pericarpia*? I myself, says Mr. Boyle, was cured of a violent quotidian by applying to my wrists a paste made of bay-salt, new hops, and blue currants, which has also relieved many others both of quotidians and tertians.' Philos. Works abr. tom. i. p. 80.

Lord Bacon says, 'It is often tried, that juices of stock-gilly-flowers, rose-campion, garlick, and other things, applied to the wrists, and renewed, have cured long agues.' He likewise recommends in the heats of agues, to hold eggs of alabaster, and balls of crystal, in the hands.

Agues, it is said, have not been unfrequently cured by electricity. The most effectual and sure mode of applying this powerful stimulant, has been to draw sparks through flannel or the clothes, for about 10 or 15 minutes, either at the time of the fit, or a little before it is expected. In vol. iii. of the Memoirs of the Medical Society of London, we are told, that an obstinate quartan ague of five months' continuance was cured by this means. On the accession of the fit the patient was ordered to receive ten or more smart strokes through her arms and thorax, from a ten ounce vial, till she was seized with fear, and began to sweat, and then to go immediately into a warm bed and promote the sudorific effect for some hours, by taking frequent draughts of tepid small wine whey. By repeating this operation a few hours, says Dr. Flower, she was cured.

AGUE-CAKE, the popular name for a hard tumor on the left side of the belly, lower than the false ribs, said to be the effect of intermitting fevers.

AGUE-DROPS. See ARSENIC.

AGUE-TREE. See LAURUS.

AGUE-FREE is a name given by some to SASSAFRAS, on account of its febrifuge virtue.

AGUEDA, in Geography, a town of Portugal, in the province of Beira, upon a branch of the river Vouga, six leagues north of Coimbra. W. long. 8^o 26'. N. lat. 40 36'.

AGUEDA, a river of Leon, which passes by Ciudad-Rodrigo.

AGUELAON, one of the LACCADIVE islands, in the Indian sea. E. long. 73 25'. N. lat. 11'.

AGUEPERSE, or **AGUEPERSE**, a town of France, in the department of Puy-de-Dome, seven leagues north-north-east of Riom.

AGUER, a sea-port town of Africa, situated at the foot of Mount Atlas, in the kingdom of Morocco. This town was built by the Portuguese, near a remarkable cape, on the north-west of the mouth of the river Sus, now called *Cape Gank*. It was taken by Diego Lopez de Segura, who afterwards made a voyage to the East-Indies. As the town had a convenient harbour, and was famous for its fishery, this adventurer erected a strong fort to defend it. He sold it to Emanuel, king of Portugal, who added other fortifications, and a strong garrison. But after a vigorous defence, in which the enemy lost 16000 men, it was surrendered, A. D. 1536, to Mohammed, who became emperor of Morocco and Fez; and in revenge for his loss, he put the whole garrison to the sword, except the brave governor Mont Roy, whom he spared and favoured for the sake of his daughter, Donna Mercia, who consented to marry him, on condition of being allowed the free exercise of her religion, and of being regarded as his lawful wife.

AGUESSEAU, HENRY FRANCIS D', in Biography, a chancellor of France, was born at Limoges in 1668, of an ancient family of Saintonge. He owed the first rudiments of that literature to which he was devoted, to the instruction of his father, and his distinguishing taste for poetry to the society of Boileau, Racine and other eminent writers of that class. After having held the office of advocate-general of Paris for ten years, he was appointed procureur-general in 1700; and in this situation he distinguished himself by introducing several regulations, which contributed to the improvement of jurisprudence. He also directed a particular attention to the hospitals, and to the hardships occasioned by the scarcity in 1709, which indicated the amiable philanthropy of his temper, and in which he was singularly useful. He also approved himself the strenuous defender of the liberties of the Gallican church, in opposition both to Lewis XIV. and the chancellor Voisin, who solicited his concurrence in favour of the bull *Unigenitus*. After the death of Voisin, and in the regency of the duke of Orleans, he was made chancellor; and performed the duties of this office with that eminent wisdom and firmness, which the circumstances of the times demanded. In his resistance of the financial project of Law, he was for some time successful; but when the regent determined to adopt it, he was constrained in 1718 to retire to his country-seat at Fresnes; but in 1720 he was recalled and reinstated in his office. He was again deprived of it in 1722, recalled by Cardinal Fleury in 1727, and reinvested with the seals in 1737, which he held till his death. From the year 1729 to 1749 he was sedulously employed in reforming the laws, and remedying many notorious abuses that disgraced and obstructed the administration of them. His object was to supply their defects, and to facilitate the execution of them, without changing their fundamental principles; but in this extensive and laborious employment his progress was slow; and he met with difficulties, from his extensive views and from a regard to the profits of the legal profession, which produced indecision in his own judgment, and served to retard his dispatch of business. For the slowness of some of his determinations, he makes this very reasonable apology: "when I recollect (said he) that the

the decree of a chancellor is a law, I think myself permitted to take a long time for consideration." His life, though assiduously occupied, was prolonged by his temperance and equanimity; but in the year 1750 his increasing infirmities admonished him of the necessity of withdrawing from public employments; and in 1751 he closed his life at the advanced age of 83 years.

Voltaire calls him the most learned magistrate ever possessed by France. Besides the languages of antiquity, he was acquainted with all the principal modern ones; and to his knowledge of the history of all ages and nations, he added that of jurisprudence in its most extensive sense. During his exclusion from office, he made no attempts for being restored; but always manifested a disposition superior to the honours which his talents and merit claimed, and a desire to be useful rather than to aspire after power and to accumulate wealth. Of his frugality, and of the various emoluments annexed to the dignities he possessed, the only fruit that remained was his library, in the improvement of which he limited himself to a certain annual expence. In the periods of his retirement, which he called "the fairest days of his life," he devoted himself to the maturity of his plan of legislation, to the education of his children, and to a variety of literary pursuits, among which were mathematics and the belles lettres; and these, together with agriculture, he deemed his recreations in the intervals of his severer occupations. However, when the public demanded his services, he surrendered the satisfactions of retirement and the pleasures of domestic life. Having in 1694 married Anne le Febure d'Ormesson, it was said on this occasion, that virtue and the graces were now first seen in alliance; but he had the misfortune to lose her in 1735. His grief corresponded to the affection that subsisted between them. Nevertheless he hastened to devote himself to the functions of his office; alledging, "that his services were due to the public, and it is not just (said he) that it should suffer by my domestic affliction." We are informed, that he never passed a day from his childhood, without reading some parts of the scriptures; and he was heard to say, that this was the balm of his life. Of his works nine volumes 4to. have been published. In these, he is said to have thought like a philosopher, and spoken as an orator. His eloquence has the force of logic and the order of geometry, united to the riches of erudition and the charms of persuasion. His style is chaste and harmonious, but deficient in warmth. When he once consulted his father in a discourse which he had taken pains to compose, and which he wished farther to improve, his father gave his opinion: "the fault of your discourse is its being too elegant; it will certainly be less so if you touch it again." *Nouv. Dict. Hist. Biog. Dict.*

AGUGA, *Cape*, lies southward of Puira, on the coast of Peru, in South America. S. lat. 60°. W. long. 82°.

AGUIAS, a small town of Portugal, in Alentejo, to the west of Elvas, and to the east of Lisbon. The territory about it produces grain and oranges. W. long. 6° 41'. N. lat. 38° 30'.

AGUGLIA. See **OBELISK**.

AGUGLIA is also the name given by the Italian fishermen to the **ACUS** of Oppian, called in English the **GAR-FISH**.

AGUIGUAN, or the island of the Holy Angel, in *Geography*, one of the Ladrões or Marianne islands, lies in the Southern Sea, in lat. 14° 43'; about 40 miles from Zarpana; and about a league south-west of Tinian. It is a small island, about nine miles in compass, mountainous, but pleasant, and formerly well inhabited.

AGUILA, **AUGELA**, or **OUGUELA**, a town of Africa, in the kingdom of Fez, situate on the river Aguila or Erguela, and giving name to a district, which is for the most part sandy and barren, but in some places so well watered

as to afford plenty of dates; and it is separated from Tamea by a mountain called Meys, which affords excellent pasture.

AGUILAR, a town of Spain, in Navarre, four leagues south-west of Estella. E. long. 2° 30'. N. lat. 42° 35'.

AGUILAR del Campo, a town of Spain, in Old Castile, situate on the Alhama; three leagues from Calahorra.

AGUILLANEUF, or **AUGILLANEUF**, compounded of the French, *a, te, gui, misleto*, and *Pan neuf*, i. e. *the new year*; a form of rejoicing used among the ancient Franks on the first day of the year.

Its origin is traced from a druid ceremony: the priests used to go yearly in December, which with them was reputed a sacred month, to gather misleto off the oak in great solemnity. The prophets marched in the front, singing hymns in honour of their deities; after these came a herald with a *caduceus* in his hand; these were followed by three druids a-breast, bearing the things necessary for sacrifice. Last of all came the chief, or arch-druid, accompanied with the train of people.

The chief druid climbing the oak, cut off the misleto with a golden sickle, and the other druids received it in a white cloth. On the first day of the year it was distributed among the people, after having blessed and consecrated it by crying *au gui Pan neuf*, to proclaim the new year.

Of later times the name auguillaneuf was also given to a sort of begging, practised in some dioceses, for church tapers, on a new year's day, by a troop of young people of both sexes, having a chief, &c. It was attended with divers ridiculous ceremonies, as dancing in the church, &c. which occasioned the synods to suppress it.

AGUILLAS, *Cape*, in *Geography*, lies to the east of the Cape of Good Hope. See **CAPE NEEDLES**.

AGUILLES, or **AUGUILLES**, cotton cloth, manufactured at Aleppo.

AGUILLON, **FRANCIS**, in *Biography*, a Jesuit of Brussels, was professor of philosophy at Doway, and of theology at Antwerp. He was distinguished by his knowledge of mathematics, and is said to have first introduced studies of this kind into Flanders. He wrote a book of optics, intitled, "Opticorum, lib. vi. Philosophicis juxta ac Mathematicis utiles," which was printed at Antwerp, in 1613, fol. He was employed in finishing his "Catoptrics and Dioptrics" at the time of his death, which happened at Antwerp, in 1617, in the 50th year of his age. He is also said to have written a treatise of "Projections of the Sphere." He understood several languages; his judgment was accurate; his learning extensive; and his patience and fortitude under severe trials were very signal. Under the paroxysms of the asthma, to which he was subject, and which were very trying, just before his death, he repeatedly said: "Let God's will be done—I submit to it—I am willing to form myself absolutely upon the divine pleasure—I have now the torments which I often wished for, and desired of God." *Gen. Dict.*

AGUILLON Point, in *Geography*, a long narrow point, in a curvilinear form, north-east of the isle of Rhe, on the coast of France, and about three leagues north-west of Rochelle. To the east of Aguillon the bay contracts and terminates.

AGUIRRA, **JOSEPH SALAZAR**, in *Biography*, a learned Benedictine of the 17th century, was born in 1632, at Logogno, in Spain, and read lectures in theology at the university of Salamanca, where he took his degree of doctor of divinity. He was also censor and secretary of the supreme council of inquisition, and was honoured with a cardinal's hat by pope Innocent XI. in 1696. He died at Rome, in 1699. His life was exemplary; and his writings numerous. He is said to have retracted the doctrine of probability, which he had maintained, as soon as he found that it was inconsistent with the strictness and purity of the Christian morals. His publications,

publications were very various. Besides his works in theology, which amount to several volumes; a commentary on Aristotle's Ethics, and three folio volumes of philosophy, he published, "a Collection of the Councils of Spain," with an historical Introduction, of which extracts are given in the *Acta Erudit.* for Feb. 1688; but as several of his dissertations are written in defence of the spurious decretals of the first popes, Dupin has objected to them in his *Biblioth. des Auteurs Ecclef.* tom. xviii. p. 248. Ed. Amst. 1711. Gen. Diet.

AGUL, in *Botany*, a small shrub very prickly; its leaves are longish, and resemble those of the knot-grass; it abounds with flowers of a reddish colour; these are succeeded by red hanks; its root is long, and of a purple colour.

This plant is otherwise called *albagi maurorum*, by Raulwolf: it grows in Arabia, Persia, and Mesopotamia. See **HEDYSARUM**.

AGUL, in *Geography*, a river of Russian Siberia, which runs into the Kan. E. long. $95^{\circ} 24'$. N. lat. $55^{\circ} 16'$.

AGUNA, a town of Africa, in the kingdom of Benin.

AGUNTUM, in *Ancient Geography*, now *Innicken*, a town of Rætia, placed by Ptolemy in Norica, and by M. d'Anville to the north of the Carnic Alps, and north-west of *Julium Carnicum*.

AGURAH, in *Jewish Antiquity*, the twentieth part of an ancient silver **SHEKEL**. It was otherwise called *gerah* and *keshtah*. The Seventy render it *οβολος*.

AGURIUM, **AGYRIUM**, **AGIRIUM**, or **AGYRENA**, now S. Philippo d'Argyrene, in *Ancient Geography*, a town in the interior part of Sicily, placed by M. d'Anville in the road from Enna to Catania.

AGUSADURA, in *Ancient Customs*, a fee due from vassals to their lord, for sharpening their plowing tackle.

Anciently the tenants in some manors were not allowed to have their rural implements sharpened by any but those whom the lord appointed; for which an acknowledgment was to be paid, called *agufadura*, in some places *agufage*, which some take to be the same with what was otherwise called *reillage*, from the ancient French *reille*, a *plough-share*. Du-Cange.

AGUSTINE, in *Mineralogy*, a barbarous term, compounded of Greek and Latin, meaning *without taste, insipid*, by which professor Trommsdorff has distinguished a supposed new earth, discovered by him in the year 1800.

The mines of Johan-Georgenstadt contain a mineral, which hitherto has been taken for the beryl: this being analysed for the purpose of ascertaining whether glycine was one of its constituent parts, yielded unexpectedly a new earth, which, from its forming insipid salts with acids, has been called by its inventor, *Agustine*.

This earth, when pure, has a great resemblance to alumine, adheres very feebly to carbonic acid, hardens by exposure to fire, and is insoluble in water. It differs, however, from pure clay, in the following particulars: 1. It is absolutely insoluble in any of the three alkalies, whether caustic or carbonated, in the moist or the dry way. 2. With acids it combines, readily forming nearly insipid salts. 3. It is equally soluble after induration by fire, as before. 4. Sulphuric acid forms with it a salt of difficult solution, and perfectly insipid, but which by a slight excess of acid, becomes soluble and crystallizes in stars. 5. Its acidulous phosphat is also very soluble. 6. But the acetite of *Agustine* is scarcely at all so.

These are all the facts that are as yet known concerning this substance: it rests entirely upon the authority of Trommsdorff, and as neither he nor any other chemist have since made the smallest mention of it, even this slight notice might here seem superfluous. *Annales de Chimie*, vol. xxxiv. p. 133.

AGUTI, the *CAVIA aguti* of Linnæus, in *Zoology*, has a very short tail; the upper parts of the body are of a brown colour, mixed with red and black, the rump of a bright orange, and the belly yellowish. Authors mention three varieties, *viz.* The lesser aguti, or *cavia aguti cunicularis*, with a very short tail, four toes before and three behind, and a yellowish belly. This is the cuniculus agouti of Brisson and Gronovius, the larger mouse of Brown, the American wild mouse of Ray, with the hair and voice of a pig; the aguti or acuti of Marcgrave, &c. the long-nosed cavy of Pennant, and the agouti of Buffon. It is about the size of a rabbit, and inhabits Brasil, Guiana, Cayenne, and other parts of South America and the West India islands. 2. The larger agouti, or *cavia A. leporina*, with a very short tail; the upper parts of the body reddish, and the under white. This is the hare-like mouse of Linnæus, having four toes on the fore, and three on the hinder feet; the Javan coney of Brisson; the Java hare of Catesby; and the Java cavy of Pennant. It is of the size of a hare, and inhabits Surinam and the hotter parts of South America. 3. The American agouti, *cavia A. Americana* of Gmelin, and the American coney of Brisson and Seba; has a very short tail, and is clothed with coarse reddish fur. These three varieties inhabit South America, and some of the West India islands, particularly the Antilles. The first has a long nose, the upper lip divided; short, broad, rounded ears; black eyes; slender, and almost naked legs, of a black colour. The second has a small slender head, with prominent naked ears, rounded at the extremity. The hinder parts in both are larger than the fore parts, and the legs are long. The third variety is little known. These animals inhabit hollow trees, and burrow in the ground. They live on vegetables, which they collect in the day, and carry to their dwellings; they sit on their hind legs, and feed themselves with their paws; and when satiated with food, conceal the remainder; they grunt like pigs: when hunted with dogs, they run fast, with a kind of hopping or leaping pace, like that of a rabbit or hare, and take shelter in their holes or hollow trees; when irritated, the hair rises on the back, and they strike the ground with their hind feet; when young, they are easily tamed; and will of their own accord, go out and return again. They are very voracious, and grow fat; and their flesh is white and savoury, and eaten in South America. The female brings forth at all times of the year, and produces three, four, and sometimes five at a time.

AGUTI TREVA *insule Marignanae*, in *Botany*, a plant mentioned by de Laet. It has the leaves of the orange-tree, only thinner, a dewy flower, a large fruit, with a greenish rind, which contains kernels like those of the pomegranate, thin, sweet, and not ill-tasted.

AGUTIGUEPA *obi Brasiliensibus*, in *Medicine*, the name given by many authors to the **ARROW-root**, or *sagittaria alexipharmica* of the West Indies.

AGYEI, in *Antiquity*, a kind of obelisks consecrated to Apollo, and placed in the vestibules of houses, for their security.

The agyei were no other than huge stones, or perhaps sometimes timber, having either a circular or square basis, and terminating in a point at the top, sacred to Apollo, or, as some say, to Bacchus, as protector of the high-ways. Others will have them to have been erected to both those deities. Suidas and Pitiscus. They had sometimes the head of Apollo, Bacchus, or Mercury; and Steph. Byz. says, that they served like our direction-posts, to shew the way to any place.

AGYLLA, (*Cervateri*), in *Ancient Geography*, a town of Etruria, near the sea, so called by the Pelasgi, who came thither

thither from Thessaly. It was afterwards called *Cære*, as Strabo (Geog. tom. i. p. 337.) informs us, from the circumstance, that the Lydians, hearing the inhabitants frequently repeating to them the Greek expression *χαίρει*, i. e. *rejoice*, took this to be the name of the city, which it afterwards retained. Others, thinking this etymology more fanciful than just, deduce Agylla from *gillab*, *water*, as they had fountains in the neighbourhood; and Cære might be formed from *cari* or *carish*, a *town*, in the language of the Lydians. The sons of Tarquin were banished to this town; and hither the vestals retired when, in the year 363, the Gauls laid siege to Rome. The laws and police of this city are much commended. History informs us that it united with the adherents of Tarquin against Rome; and that it afterwards demanded and obtained a truce of 100 years. It was one of the first cities which became municipal. Strabo says, that in his time, there remained only the ruins of this famous city; and it was known only by its baths.

AGYLLÆI, in *Ancient History*, a denomination given to the Pelasgi in Etruria. Insulated, as it were, in this country, they preserved, with little alteration, the manners and religion of the ancient inhabitants of Greece; they furnished considerable fleets, and aided the Carthaginians with 60 vessels in their war with the Phœnicians, who had established themselves in the island of Sardinia; and though they were vanquished, they made many prisoners, whom, according to Herodotus (lib. i. 167. p. 79.) they put to death. They amassed a treasure at Delphi, by transmitting thither a tenth of their maritime profits; and by their commerce, and their piracies on the coast of Italy, and amidst the islands of the Ægean sea, they acquired a degree of power, which rendered them important allies or formidable enemies to their neighbours. Herodotus says, that their power was considerable in his time; and that, in consequence of an oracle, they had instituted funeral sacrifices and annual games, which they then celebrated. These people, who were sometimes called Tyrrhenians, sent succour to the Athenians in the Sicilian war, not long before the ruin of Veii by the Romans. They formed an alliance with the Romans, which gave them all the advantages belonging to Roman citizens, without the charges attending them; and they formed, under the name of Cærtes, the third order of the republic. The Cærtes bore arms in the Roman army, and were almost always united to the Romans, as Livy, (lib. vii. c. xx.), informs us; and they were considered, not merely as allies, but as a part of the nation. At length, deserted by the Roman marine, which found more spacious and convenient ports, and losing its commerce, Cære declined, and the inhabitants, who were Romans, were indiscriminately blended with the other citizens.

AGYNEIA, formed of *α priv.* and *γυν*, a *wife*, in *Botany*, a genus of the *monoecia monadelphica* class and order, according to Martyn; but in Gmelin's Linnæus, of the *triandria monogynia*, of the natural order of *trilocceæ*, and the *Euphorbie* of Jussieu. Its generic characters are, that the male flowers are below the female; the calyx is six-leaved; the leaflets oblong, obtuse, equal, and permanent; no corolla; in the male, instead of filaments, a column shorter than the calyx; three or four anthers, oblong, growing to the column below the top: in the female flowers, the germ of the size of the calyx, sub-ovate, obtuse, perforated at top with a six-notched hole; neither style nor stigma: the pericarpium supposed to be a trilocous capsule. There are two species, *viz.* 1. *A. impubes*, with leaves smooth on both sides. 2. *A. pubera*, with leaves downy underneath: both species are natives of China.

AGYNIANI, in *Church History*, a sect who condemned all use of flesh, and marriage, as not instituted by God, but introduced at the instigation of the devil.

The word is compounded of the privative *α*, and *γινωσκω*. They are sometimes also called *Agynianis* and *Agynii*; and are said to have appeared about the year 694.

AGYRTÆ, in *Antiquity*, a kind of strolling impostors running about the country, to pick up money by telling fortunes at rich men's doors, pretending to cure diseases by charms, sacrifices, and other religious mysteries; also to expiate the crimes of their deceased ancestors by virtue of certain odours and fumigations; to torment their enemies by the use of magical verses, and the like. The word is formed of the verb *αγυρμι*, *I congregate*; alluding to the practice of quacks, who gathered a crowd about them. See *ÆRUSCASTORES*.

AGYRTUS, in *Entomology*, a name given by Cramer to the *PAPILIO PHERECLUS* of Gmelin's Linnæus.

AHA, or AHU, in *Zoology*, a name given by the Persians to the *CERVUS pygargus* of the Linnæan system, or the *tail-less ROE* of Pennant, which has no tail, and three-forked horns. It inhabits the lofty mountains of Hircania, and of Russia and Siberia, beyond the Volga; and at the approach of winter descends into the plains and becomes hoary: it is called by the Russians *dikeja roza*, and by the Tartars *saiga*. This animal resembles the roe, but is much larger, being of the same deep red colour, with a large bed of white on the rump and buttocks, extending up the back; the fur is thick, in spring rough and erect, on the limbs and belly yellowish; the sides of the under lip and the space about the nose are black; but the point of the lip is white; the hairs of the eye-lids and round the orbits are long and black; the horns are very rugged at the bases, and full of knobs; the ears are covered on the inside with a very thick white fur. Gmelin's Linn.

AHAB, in *Scripture Biography*, one of the kings of Israel, was chiefly distinguished by his impieties. He succeeded his father, A. M. 3086; married Jezebel, the daughter of Ethbaal, king of the Sidonians, or rather the Tyrians; and at her instigation introduced the idolatrous worship of Baal among the Israelites. In his wicked reign there was a drought of three years continuance, probably the same with that mentioned by Josephus, (Ant. lib. viii. c. xv. § 2.) which happened, A. M. 3096. With a small force he obtained a signal victory over Benhadad, king of Syria, who had besieged Samaria. In a subsequent war, he endeavoured to elude the enemy by a change of clothes, but was accidentally killed by an arrow, about the year 897 before Christ. The despotic character of this prince, and the savage cruelty of his wife Jezebel, are strongly marked in the anecdote related concerning Naboth's vineyard. 1 Kings xvi. 29—33. xx. xxi. xxii. Gen. Dict.

AHÆTULLA, in *Zoology*, a species of *COLUBER*, in the order of Serpents. It is found in Asia and America, about three feet 14 inches long, of a greenish-gold colour, with the skin, sometimes visible between the scales, black. Its head is elongated and narrow, with a black band over the eyes, and a tetrahedrous tail. By some authors it is called the long green Borneo snake, and the bonguatrora of Amboyna. Gmelin.

AHALOTH, in the *Materia Medica*, the Hebrew name used by some writers for the *lignum-aloes*, or *aloes wood*.

AHANIGER, in *Ichthyology*, a name given by Albertus and others, to the fish called by authors *ACUS vulgaris*, and by us the GAR-FISH.

AHAUSZ. See AAHUS.

AHASUERUS, in *Scripture History*, was the king of Persia,

Pard, who advanced Esther to be queen, and at her request delivered the Jews from the destruction plotted for them by Haman. An old story of Esther (Vide *Annal. Vet. Testam. In. ann. 4177*), of opinion, that this Ahasuerus was Darius Hyrtius, and that Atossa was the Vasthi, and Artaxerxes the Esther of the scripture. But, according to Herodotus (*lib. iii. and lib. vii.*), the latter was the daughter of Cyrus, and therefore could not be Esther; and the former had four sons by Darius, besides daughters, born to him after he was king; and therefore she could not be the queen Vasthi, divorced from her husband in the third year of his reign (*Esther i. 3.*), nor he the Ahasuerus who divorced her. Besides, Atossa retained her influence over Darius to his death, and obtained the succession of the crown for his son, Xerxes; whereas Vasthi was removed from the presence of Ahasuerus by an irrevocable decree, (*Esther i. 19.*) Jos. Scaliger (*de Emendatione, lib. 6.*) maintains, that Xerxes was the Ahasuerus, and Hamastris, his queen, the Esther of scripture. This opinion is founded on the similitude of names, but contradicted by the dissimilitude of the characters of Hamastris and Esther. Besides, Herodotus (*lib. ix.*) says, that Xerxes had a son by Hamastris, that was marriageable in the 7th year of his reign; and therefore she could not be Esther. The Ahasuerus of scripture, according to Dr. Prideaux, was Artaxerxes Longimanus. Josephus positively says, (*Ant. lib. xi. ch. vi.*) that this was the person. The Septuagint, through the whole book of Esther, use Artaxerxes for the Hebrew Ahasuerus, wherever the appellation occurs; and the apocryphal additions to that book every where call the husband of Esther Artaxerxes; and he could be no other than Artaxerxes Longimanus. The extraordinary favour shewn to the Jews by this king, first in sending Ezra, and afterwards Nehemiah, to relieve this people, and restore them to their ancient prosperity, affords strong presumptive evidence, that they had near his person and high in his regard such an advocate as Esther. *Prid. Conn. vol. i. p. 361, &c. 8vo.* Ahasuerus is also a name given in scripture (*Ezra iv. 6.*), to Cambyfes, the son of Cyrus; and to Astyages, king of the Medes. *Dan. ix. 1.*

AHAZ, succeeded his father Jotham, as king of Israel, at the age of 20 years, reigned till the year before Christ, 726, and addicted himself to the practice of idolatry. After the customs of the heathens he made his children to pass through the fire; he shut up the temple, and destroyed its vessels. He became tributary to Tiglath-pileser, whose assistance he supplicated against the kings of Syria and Israel. Such was his impiety, that he was not allowed burial in the sepulchres of the kings of Israel. *2 Kings xvi. 2 Chron. xxviii.*

AHAZIAH, the son and successor of Ahab, reigned two years, and continued the impieties of his father. *1 Kings xxii. 31.*

AHAZIAH, was also the name of an idolatrous king of Judah, who succeeded Jehoram, and reigned one year. By his alliance with the house of Ahab, and the counsel of his mother Athaliah, he pursued evil practices; and he was slain by Jehu, in the year before Christ, 884. *2 Kings viii. 2 Chron. xxiii.*

A-HEAD, in *Sea-language*, refers to any object that lies immediately before a ship, or towards that point of the compass to which her stem is directed: used in opposition to A-STEERN.

AHEEN, in *Geography*, a tribe of the RAGPOUTI, in India.

AHER, a town of Persia, in the province of Aiderbeizan; 30 miles north-west of Ardevil.

AHIJAH, in *Scripture History*, a prophet of Shiloh; who is supposed to have delivered two messages from God to Solomon, one encouraging, whilst he was building the temple (*1 Kings vi. 11.*), and another threatening, expressive of displeasure, on account of his misconduct, (*1 Kings xi. 6.*) He is one of those who wrote the annals of this prince, *2 Chron. ix. 29.* He also predicted the usurpation of Jeroboam, declared the calamities that would befall his house on account of his idolatry, and also foretold the death of his son Abijah, *1 Kings xiv.* He lived to an advanced age; but the time and manner of his death are not recorded.

AHIMAAS, son of Zadok the high priest, succeeded his father about A. M. 3000, under Solomon. During the rebellion of Absalom, he informed David of the resolution adopted in his council; and he and Jonathan escaped their pursuers by being concealed at Baharim. Ahimaas was the first who gave intelligence to David of Absalom's death. He was succeeded in the priesthood by Azariah. *2 Sam. xv. 17. xvii. 17. 1 Sam. xxiii. 18-20. 1 Chron. vi. 9.*

AHITHOPHEL, a native of Giloh, who, after having been David's counsellor, joined in the rebellion of Absalom, and assisted him with his advice. Hushai, the friend of David, was employed to counteract the counsels of Ahithophel, and to deprive Absalom, under a pretence of serving him, of the advantage that was likely to result from the measures which he proposed. One of these measures was calculated to render David irreconcilable, and was immediately adopted; and the other to secure, or to slay him. Before the last counsel was followed, Hushai's advice was desired; and he recommended their assembling together the whole force of Israel, putting Absalom at their head, and overwhelming David by their number. The treacherous counsel of Hushai was preferred to that of Ahithophel; with which he was disgusted and hastened to his house at Giloh, where he put an end to his life. He probably foresaw Absalom's defeat, and dreaded the punishment which would be inflicted on himself as a traitor, when David was re-settled on the throne. A. M. 2981. Ante Christ. 1023. *2 Sam. xv. xvii.*

AHLDEN, in *Geography*, a bailiwick of the principality of Luneburg-Zell, in Germany, lying on both sides of the Aller, which in this bailiwick receives the Leine and Bohme. It is one German mile and a half in length, and as much broad; and consists of champaign, heaths, and sandy grounds; and, to the south of the Aller, has good marsh lands and pasturage. Its woods are chiefly oak; and great quantities of timber are conveyed in floats to Bremen. The inhabitants carry on a considerable trade in horses, cattle, wool, honey, and wax.

Ahldeu is also the name of a town situate on the old Leine, near the Aller, from the course of which it derives its name. Sophia-Dorothea, consort to king George I., after her separation, resided in the palace of this town, from 1694 to 1726.

AHLEM, a vogtey, or district of the principality of Calenberg, in Germany, containing seven villages; the chief of which is Limmer.

AHLEN, a small town of Munster, in Westphalia, situate on the Werse, which is summoned to the land-diets, contains a collegiate church, two nunneries of Augustines, and a princely and rural court. See ALEN.

AHLWARDT, PETER, in *Biography*, professor of logic and metaphysics at Griefswalde, was born of mean parentage, in that city, February 14, 1710. Having made

made considerable proficiency in the Greek and Latin classics, he became a student of theology in 1727; but applied chiefly to mathematics and philosophy. In three years he removed to the university of Jena; and in 1732, returned to Griefswalde, where he read a course of lectures on mathematics and philosophy. In 1743, he became an adjunct of the philosophical faculty in that place, and nine years after was chosen professor: he also preached often with great approbation. He largely contributed to the critical researches of the society at Griefswalde, of which he was a member. He founded also the order of the Abellites, and wrote a treatise on the occasion, entitled, "The Abelite." His other principal works are, "Considerations on the Confession of Augsburg;" "Thoughts on the Powers of the Human Understanding;" "An Introduction to Philosophy;" "A Treatise on the Immortality of the Soul;" and "Brontotheologia, or Thoughts on thunder and lightning." He is said to have been so accurate in his composition, that he never corrected what he had once written. He died March 1st, 1791. *Gen. Biog.*

AHMED Khan, one of the race of Jenghis or Zingis, was the son of Hulaku, and brother of Abaka khan, whom he succeeded as emperor of the Moguls, in 1282. He assumed the name Ahmed, on his embracing Mohammedism; and on this occasion, he offered protection to all Mussulmans, in a letter to the Sultan of Egypt and Syria. This change of religion offended the princes of his family to such a degree, that he could never regain their affection. His nephew Argun raised an army against him, but he was soon defeated and taken prisoner. He was afterwards released by some conspirators, and having killed the emperor's principal officers, he pursued and overtook him; and delivered him up to his mother-in-law, who, in revenge for the loss of her own sons whom Ahmed had caused to be slain, put him to death, after a reign of two years and two months. A. D. 1284. *Mod. Un. Hist.* vol. iv. 390, &c.

AHMEDABAD, or **AGMED's City**, in *Geography*, the capital of the province of Guzerat in India, so called from Sultan Ahmed, who was king of that province, and kept his court in that city. It is 224 measured coss distant from Delhi, and 86 coss from Surat. The city is situated in a delightful plain, watered by the little river Sabremelli. The walls are built with brick and stone, flanked at certain distances with large round towers and battlements. It has 12 gates; and, including the suburbs, is about four and a half miles in length. On the west side is the castle, walled with freestone, and as spacious as a little city: the caravanfary is on the south of the king's square, which is 700 paces long and 400 broad, planted round with trees, and is its chief ornament. Near this square is the king's palace with apartments richly ornamented; and in the midst of the city is the English factory. The Hindoos have in this place, which, from an eminence, appears like a wood being full of gardens, an hospital for sick birds, and another for sick brants. For magnitude and wealth, this city is little inferior to the best in Europe; and the revenue which it yields, is generally reckoned to be ten times as much as that of Surat. *Frazer's Kuli Khan*, p. 29. *Mod. Un. Hist.* vol. v. p. 293.

AHMEDNAGUR, a city in the province of Dowlatabad in India, distant from Delhi 280 measured coss. Auringzebe died in this city. *Frazer's Kuli Khan*, p. 35.

AHMELLA, in *Botany*. See **ACNELLA**.

AHOLIBAH and **AHOLAH**, in *Scripture History*, are two feigned names, used by Ezekiel (ch. xxiii. 4.) to denote

the two kingdoms of Judah and Samaria. They are represented as sisters of Egyptian extraction: Ahola being Samaria; and Aholibah, Judah. They both prostituted themselves to the Egyptians and Assyrians, by imitating their idolatrous and wicked practices; and for that reason they were made captives and reduced to the most ignominious and cruel servitude.

AHONI, in *Geography*, a sea-port town of Africa, on the coast of Benin.

AHOUI, in *Botany*, the name of a genus of plants, called by Linnaeus **CERBERA**.

AHOVAS, **AHWAS**, or **AHUAT**, in *Geography*, a town of Persia in the province of Chulistan; about 240 miles west-south-west of Ispahan.

AHR. See **AHER**.

AHRABAN, a town of Asia in the province of Diarbekir, 30 leagues south of Diarbekir.

AHRENSBECK, a town of Germany, in the duchy of Holstein; 12 miles north-north-west of Lubeck; and also a bailiwick.

AHRENSDORF, a town of Germany, in the middle mark of Brandenburg; six miles south-south-east of Potsdam.

AHRIMAN. See **ARIMANIUS**.

AHRWEILER, a small town of Germany, in the electorate of Cologne, seated on the river Ahr, and furnishing good wine. It is eight leagues north-west of Coblenz. E. long. 6° 43'. N. lat. 50° 35'.

AHSA or **AHASA**. See **AHOVAS**.

AHU, in *Zoology*, the ibex capensis of Kolben, the kevel of Buffon, the *flat-horned* ANTELOPE of Pennant, and the ANTELOPE *Kevella* of Gmelin's Linnaeus.

AHUCYATLI, the name of an American serpent, approaching to the nature of the hæmorrhus and rattlesnake, but larger than the former, and wanting the rattle of the latter; it is as fatal in the effect of its poison as any known species of serpent. Ray.

A-HULL, in *Sea-language*, denotes the situation of a ship, when all her sails are furled, on account of the violence of a storm, and when, having lashed her helm to the lee-side, she lies nearly with her side to the wind and sea, her head being somewhat inclined to the direction of the wind.

AHUN, in *Geography*, a town of France, in the department of the Creuse, and district of Gueret; three leagues south-east of Gueret. E. long. 1° 52'. N. lat. 49° 5'.

AHUYS, a town of Gothland, in Sweden, in the province of Schonen; about two leagues south-south-east of Christianstadt, near the Baltic sea. This is, as it were, the warehouse where the goods designed for Christianstadt are deposited. It has a good harbour, and was formerly a strong town, but is now decayed. E. long. 14° 10'. N. lat. 56° 20'.

AI, called by the LXX **GAI**, by Josephus **AISA**, and by others **AJAI**, in *Scripture Geography*, a town of Palestine, situate west of Bethel, and at a small distance north-west of Jericho. The 3000 men, first sent by Joshua to reduce this city, were repulsed, on account of Achan's sin, who had violated the anathema pronounced against the city of Jericho, by appropriating some of the spoil. A. M. 2553. After the expiation of this offence, the whole army of Israel marched against Ai, with orders to treat this city as Jericho had been treated, with this difference, that the plunder was to be given to the army. Joshua, having appointed an ambush of 30,000 men, marched against the city, and, by a feigned retreat, drew out the king of Ai with his troops; and upon a signal

given, by elevating his shield on the top of a pike, the men in ambush entered the city and set fire to it; and thus the foldiers of Ai, placed between two divisions of Joshua's army, were all destroyed; the king alone being preserved for a more ignominious death on a gibbet, where he continued till sun-set. The spoil of the place was afterwards divided among the Israelites. The men appointed for ambush are, in one place, said to be 30,000, and in another 5000. For reconciling this apparent contradiction, most commentators have generally supposed, that there were two bodies placed in ambuscade between Bethel and Ai, one of 25,000 and the other of 5000 men; the latter being probably a detachment from the 30,000 first sent, and ordered to lie as near to the city as possible. Mafius allows only 5000 men for the ambuscade, and 25,000 for the attack. As for the signal, used by Joshua on this occasion, the Rabbins suppose that the shield was too small for this purpose, and that it must have been the staff belonging to one of their colours, in which opinion Chevalier Folard acquiesces; adding, that the whole colours were used on this occasion, the part being substituted, agreeably to the figurative language of the east, for the whole. It has been suggested, that this was one of the fire-pots, which are employed as signals by the eastern caravans, whose smoke would ascend to a great height, be easily seen, and signify the fate intended for the city; and as the frame and staff of this instrument were of iron, it answers to the translation of the LXX and Aquila. Joshua viii. Patrick, in *loc.* Calmet.

Ai, in *Zoology*, the *BRADYPUS tridactylus* of Linnæus, or SLOTH, with three-toed feet and short tail.

AlA, or ALLIA, in *Ancient Geography*, a river of Italy which discharged itself into the Tiber, about 19 miles above Rome. On the banks of this river, 200 Fabians were destroyed in their engagement with the Veii, and the Romans were defeated by the Senones of Gaul, conducted by Brennus.

AJABIRE, or AJAVIRA, in *Geography*, a town of South America, in Peru; 35 leagues south of Cusco.

AJAH, אֵיָה, a Hebrew term, which St. Jerome translates vulture. Bochart supposes that it denotes the merlin; the Syriac renders it raven, and the Arabic owl. Our translation (Job xxvii. 7.) renders it vulture; but (Lev. xi. 14. Deut. xiv. 13.) kite. It is evidently a species of unclean bird, and most probably the vulture or kite, so called from its gluttony, or from its note. *Aim* (Jer. l. 39.) may perhaps be the plural of Ajah, and signify flights of vultures, which in some countries are very numerous; though Bochart conceives them to be jackals. Calmet. Bochart Op. tom. iii. p. 193. &c. Ed. Villem.

AIAlA, in *Ornithology*, the name of a Brazilian bird, of the PLATALEA, or SPOONBILL-kind, called by the Portuguese *colhorado*. Its specific character is, that its body is blood-coloured. It is exactly of the same shape, but somewhat smaller than the European species, and its beak is in the very same manner broad at the end, with a furrow parallel to the margin, and of a cinerous-white colour. It differs from the European species, by the rose or carnation which paints the white ground of its plumage on the neck, the back, and the sides; the wings are more strongly coloured, and the red tint turns into a crimson on the shoulders and the covers of the tail, of which the quills are rufous; the shaft of those of the wing is marked with fine earmine; the head and throat are naked and whitish; the legs grey; and the claws blackish. These beautiful colours, says Buffon, are found only in the adult.

This species is the *platea rosea* of Brisson, the *p. incarnata*

of Sloane and Ray, the Brazilian spoonbill, called *ajaja*, of Maregrave and Willughby, the *roseate spoonbill* of Latham, and the *spatule couleur de rose* of Buffon. There is a variety, called *TLAUHQUECHUL*, which Buffon supposes to be the same bird in its adult state. This rose-coloured spoonbill is common about the shores of rivers, feeds on small fish, and is, says Maregrave, of an agreeable taste. It is diffused in the new continent from north to south, from the coasts of Mexico and Florida to Guiana and Brasil. It is also found in Jamaica, and probably in the adjacent islands; but the species is no where numerous. In the morning and evening the spoonbills are seen on the sea-shore, or settling on trunks that float near the beach; but about the middle of the day in very sultry weather they enter the creeks, and perch high on the aquatic trees. However, they are not very wild; as they pass at sea very near the canoes, and on land they will allow a person to approach them within gun-shot. Buffon's Birds. vol. vii. p. 437. Eng. Ed.

AJALON, in *Scripture Geography*, a name given to four different cities, viz. one in the tribe of Dan, between Timnah and Beth-sheMesh, assigned to the Levites; probably that referred to by Joshua chap. x. 12:—another, in the tribe of Benjamin, between Bethel to the north, and Jerusalem to the south:—a third, in the tribe of Ephraim, about two miles from Shechem:—and a fourth, in the tribe of Zebulun, whose precise situation is not known.

AJAN, or AXAS, in *Geography*, a country extending along the eastern coast of Africa, from Magadoxo to Cape Guardafui, comprehending about 10 degrees of latitude. This maritime tract contains several petty kingdoms and states; the principal of which are the kingdoms of ADEL or Zeila, and MAGADOXO or Madagoxo, on the coasts, and some others inland, hardly known even by their names. The eastern coast of Ajan is sandy and barren, the habitation merely of wild beasts, and therefore called the desert coast: but farther towards the north the country is fertile, producing all sorts of provision, and furnishing means of commerce, and particularly an excellent breed of horses, which foreign merchants take in exchange for silks, cottons and other cloths. The inhabitants along the coast are generally white with long hair; but towards the south they become more tawny, and even black. The negroes intermarry with the Bedowin Arabs, and carry on a great commerce with them in gold, slaves, horses and ivory, which they commonly bring from Abyssinia, whither they occasionally repair for the sake of plunder. As they are all either zealous Mohammedans or Bedowins, they are enemies to the Abyssinians, who are Christians; and their irruptions into Abyssinia accustom them to war. Those of them, and especially of the Bedowins, who live near the trading coasts, are arrant thieves. Mod. Un. Hist. vol. xii. p. 304. &c.

AJANDUM, a town of Asiatic Turkey, in the province of Natolia; eight leagues west-south-west of Sinope.

AJAR, in *Natural History*, the name given by Adamson to the *CHAMA antiquata* of the Linnæan system.

AJARAFE, in *Geography*, a fertile district of Spain, in the kingdom of Seville; in which there is a little town situated on the Guadiamar, called Ciudad of St. Lucar la Mayor.

AJAS mons, a mountain of Marmarica, in Africa, according to Ptolemy.

AJAS, a small town of Asia, in Natolia, famous for its mineral waters; called also *Therma*.

AJAS is also a small town of Arabia Felix, situated in a valley, and about two days journey from Aden.

AJASALUCK, a name given by the Turks to the ancient **EPHESUS**. The name denotes the temple of the moon, and is derived from the magnificent structure formerly dedicated to Diana.

The ruins of this famous city serve now merely as a place of accommodation and shelter for the shepherds and their flocks, and is the occasional habitation of birds and beasts of prey. The glorious pomp, says Dr. Chandler, (*Travels*, p. 131) of its heathen worship is no longer remembered; and Christianity, which was there nursed by apostles, and fostered by general councils, until it increased to fulness of stature, barely lingers on in an existence hardly visible. By this writer it is described as exhibiting a very gloomy and melancholy appearance, though not absolutely without people. The fires which were lighted in the night among the bushes, and round which the villagers collected, afforded a dim prospect of ruin and desolation. A thrill owl, called *Cucavain* from its note, with a night-hawk, flitted near them; and a jackall cried mournfully, as if forsaken by his companions on the mountain. The biblical critic may possibly consider this description as a lively comment on the language of the prophet. *Zeph. ii. 7, &c.*

AJATOCHTLI, in *Zoology*, a name given by Hernandez to the *DASYPUS octocinctus*, or *eight-banded ARMA-DILLO*.

AJAX OILIADES, in *Classical Biography*, one of the leaders of the Greeks, in the expedition against Troy, was the son of Oileus, a powerful chief of the Locrians. Homer (*Iliad* lib. xiv. v. 520) ascribes to him agility, and a promptitude in executing whatever he undertook, and he is said to have excelled in the use of the bow and javelin, and in swiftness of foot. Horace is by some commentators supposed to refer to him, *Od. xv. l. 1. v. 19*. Such was his daring resolution, that even the Gods could not awe and subdue him. Homer *Odyss. lib. iv. v. 502*.

"Impious he roar'd defiance to the Gods,
To his own prowess all the glory gave."

POPE.

The offence which is reported to have incurred the displeasure of the Gods, was his violation of Cassandra, the daughter of Priam, in the sanctuary of Minerva, where she had taken refuge. Ajax however denied the fact, and imputed the charge to the artifice of Agamemnon, who wished to keep Cassandra for himself. In his return home, he and his whole fleet were wrecked by the vengeance of Minerva. Some say that he escaped; and that in the moment of danger he impiously exclaimed: "In spite of the Gods, I will escape."—Homer *ubi supra. v. 504*.

"The power defrauding who vouchsafed to save."

POPE. Gen. Dict.

AJAX Telamonius, was the son of Telamon, prince of Salamis, and one of the principal heroes of the *Iliad*, whom Homer represents as inferior only to Achilles in strength and valour, and as the chief bulwark of the Greeks, after the secession of that warrior. "His character," says a much approved biographer, "seems to be intended as the model of that steady, agreeable courage which is ever at hand, when its exertions are wanted, and requires no aid of circumstances to excite its energy. He is the only hero, who neither asks nor receives the assistance of a deity;"—and his character is exhibited as a striking instance of impiety and irreligion. It is said, that when he was going to the army, his father recommended to him always to join the assistance of God to his own per-

sonal courage. Ajax replied, that even cowards themselves were very often victorious by such aid; but for his part he should have no regard to it, and that he was sure of being able to conquer without it. Thus Sophocles, in *Ajace*, represents the matter. Homer, however, partly vindicates him from the charge of total irreligion: for though he did not pray to Jupiter himself, when he prepared to engage the valiant Hector, he desired others to pray for him, either with a low voice, lest the Trojans should hear, or louder if they pleased; "for," says he, "I fear no person in the world." *Iliad* lib. vii. v. 194. When the arms of Achilles were adjudged by the Greek chieftains to his rival Ulysses, Ajax was bereaved of his under-
standing; and first venting his rage against a flock of sheep, taking them to be Greeks, he then turned his sword against himself. Fable reports, that the flower called hyacinth sprung from his blood. The Greeks erected a noble monument to him on the promontory of Rhoeteum. Pausanias says, (lib. i.) that one of their tribes bore the name of Ajax, and that the people of Salamis built a temple to him. Herodotus (lib. viii. c. 64. c. 121.) informs us, that the whole country of Greece invoked him a little before the battle of Salamis, and dedicated to him, as part of the first fruits due to the Gods, one of the ships which they had taken from the Persians in that battle. Pausanias relates, amongst other wonderful tales, that the waves cast the arms of Achilles upon the tomb of Ajax, after the shipwreck of Ulysses. The fate of Ajax was the subject of several eminent tragedies. Gen. Dict.

In his last martial exploit, when he was endeavouring to preserve and rescue the dead body of Patroclus, and when he was overwhelmed with a mist or darkness, which intercepted his view of the Grecian host, he made the following address to Jupiter, which has been much admired for its moral sublimity:

"Lord of earth and air,
Oh king! oh father! hear my humble pray'r:
Dispel this cloud, the light of heaven restore:
Give me to see, and Ajax asks no more:
If Greece must perish, we thy will obey,
But let us perish in the face of day."

Iliad lib. xvii. v. 645, &c. POPE.

An ingenious writer has justly appreciated the character of this hero. After a concise abstract of his history, and a detail of his principal exploits, he adds, "Such is the Ajax of the *Iliad*:—a hero (as far as so rude an age admits of heroism) *in grain*; tried and proved by every difficulty and danger; not the meteor of a day, but standing with equal lustre through the whole period of action; always in his place; resorted to on every emergency, and never in vain; not hurried along by idle bravado or enthusiastic ardour, but making utility the guide of his actions: finally, never yielding but when mortal assistance was unavailable, and when a heaven-born champion, with celestial aid, was necessary to turn the tide of fortune. He may then stand in the number of *able and useful men*, whose value is superior to their fame:—a class of which there are members in every profession and rank of life, and to whose assistance, the first-rate characters owe great part of their celebrity and success."

"Such was the Antipater of Philip of Macedon:"—
"Such was the Labienus of Cæsar, the Agrippa of Augustus, the Sully of Henry IV., the Cecil of Elizabeth, the Ireton of Cromwell. Such appear to be the generality of those officers in the British navy, under whose
conduct,

conduct the empire of the ocean has been maintained for their country every where, against all foes, by dint of equal valour and unvarying skill. In science, in the arts, in the common business of life, in a word, might be pointed out. In general, they are those whom the leaders in important affairs would chuse for their seconds, to supply their places on occasion; act a counter to their plans, and take the management of separate and dependent parts. Their essential qualification is one, a perfect trust in their party, and a constant readiness to bring all their powers into full exertion:—firmness, vigilance, order, and the habit of fixing the attention upon particular objects." See Aikin's Letters to his Son. vol. ii.

AJAX, in *Antiquity*, a famous kind of dance, in use among the Grecians; intended to represent the madness of that hero, after his defeat by Ulysses, to whom the Greeks had given the preference in his contest for Achilles's arms.

Lucian, in his treatise of dancing, speaks of dancing the Ajax. There was also an annual feast, called *Amiaz*, consecrated to that prince, and observed with great solemnity in the island of Salamis, as well as in Attica; where, in memory of the valour of Ajax, a bier was exposed, set out with a complete suit of armour. Potter, Archæol.

AJAX, in *Entomology*, a species of the *PAPILIO equeus*, with wings obtusely caudated and brown colour, yellowish bands and tawny anus. It is the *papilio marcellus* of Cramer, and found in North America.

AJAX, in *Conchology*, is a variety of the *MUREX lampas* of Gmelin's Linnæan system; called also *Rubeta*.

AJAZZO, in *Geography*, a sea-port town of Natolia, on a gulf of the same name, in the province of Caramania, anciently Cilicia, at the north-east extremity of the Mediterranean sea, 30 miles north of Antioch, and 50 west of Aleppo; where the city of Iffus antiently stood. It is situated near the gulf of Scanderoon. Here Alexander the Great defeated Darius a second time, and took his family prisoners. In the time of the crusades, this belonged successively to Christians, Saracens, and Turks, who now possess it. E. long. 33° 10'. N. lat. 37°.

AJAZZO or **AJACCIO**, is a sea-port town, in a bay of the same name, in the south-west part of the island of Corsica, with a bishop's see under the archbishopric of Pisa. It is situated in a fertile territory, abounding with excellent wines. It is guarded by a small citadel; the streets are straight and large; the houses well built; the adjacent walks agreeable; and the number of inhabitants about 4000, many of whom are Greeks. Its commerce is supplied by a fishery of black, red and white coral, and by its timber. The bay, though incommoded by rocks, affords secure anchorage for ships of considerable burden. The ancient town was situated about a league from the present, which was built in 1435; and many ruins of it are still remaining. A colony of Greeks was established in the vicinity of Ajazzo in the year 1677; but the protection of the Genoese could not prevent its being dispersed and partly destroyed by the Corsicans. E. long. 8° 50'. N. lat. 41° 50'.

AIBAN-KESRA, an old castle of ancient Babylonia, situate on the banks of the Tigris, in the government of Bagdad, and supposed to have been the residence of Cosroes, and other Persian kings.

AIBLING, a town of Germany in Upper Bavaria, near the river Manguald, and not far from its junction with the Inn. Long. 55°. lat. 34°.

AICHA, a small town of Upper Bavaria, situated on

the Paar; four leagues east-north-east of Augsborg. It was taken by the Swedes in 1633, and in 1634 laid in ashes by them. E. long. 30° 45'. N. lat. 48° 35'.

AICHBERG, a town of Germany in Stiria; four miles south-south-east of Fridberg. There is also a town of the same name in the archduchy of Austria; eight miles north-west of Efferding.

AICHKIRCHEN, a town of Germany in the archduchy of Austria; seven miles west-north-west of Schwannau.

AICHLBERG, a town of Germany in Carinthia; four leagues west-south-west of Villach.

AICHMALOTARCHA. See *ÆCHMALOTARCHA*.

AICHSTADT, a city of Germany, the capital of a sovereign bishopric of the same name in Franconia, situated in a fertile valley on the river Altmuhl, and founded in the year 748, by St. Boniface archbishop of Mentz. The diocese is 18 leagues long and 7 broad; and its inhabitants generally profess the catholic religion. The place of the bishop in the general diet of the empire is between the bishops of Worms and Spire, and he is the suffragan of the archbishopric of Mayence. The bishop has for his guard three companies of infantry, a company of cuirassiers, and a company of dragoons. At the cathedral of this city, the eucharist is exhibited in a vessel of gold, denominated the sun, of the weight of 40 marcs, enriched with an incredible quantity of diamonds, pearls, and rubies. They reckon 350 diamonds, 1400 pearls, and 250 rubies, with many other precious stones. It was presented to the cathedral by the bishop of the diocese in 1611. But it is doubtful, whether some of the precious stones have not been exchanged, in some period of public distress, or by some artifice, for others of less value, that equally answer the purpose.

Aichstadt is four leagues north of Neuburg, five north-west of Ingolstadt, and 15 south of Nuremberg. E. long. 11°. N. lat. 49°.

AICHSTADT ober, is a town on the Altmuhl, one league west of the former.

AID, or **AYDE**, **AUXILIUM**, literally denotes the help, succour, or assistance, which any person lends another, when too weak to do, or avoid, something.

The word is French; formed, according to M. Menage, from the Italian *aitare*; and that from the Latin *adjutare*, to help or assist.

AID, or **AYDE**, in *Law*, is when a petition is made in court, for the calling in of help from another person interested in the matter in question; who, it is probable, may not only strengthen the party's cause who thus prays for aid, but also prevent a prejudice arising to his own right. Thus in real actions, the tenant may pray in aid, and call for assistance of another to help him to plead, because of the feebleness of his own estate. A tenant for life may also pray in aid of him that hath the inheritance in remainder or reversion; and an incumbent may pray in aid of the patron or ordinary: that is, that they shall be joined in the action, and help to defend the title.—This is called *aid prier*; but this course of proceeding is now much disused.

A city, or corporation, holding a fee-farm of the king, may pray in aid of him, if any thing be demanded of them relating thereto.

The *aid prier* is sometimes also used, in the king's behalf, to prevent any proceedings against him till his counsel be called, and heard what they have to say for avoiding the king's prejudice, or loss. Jenk. Cent. 64. Termes de Ley, 35. Stat. 4 Edw. I. and 14 Edw. III.

AID de camp, an officer in the army, whose business is to attend

attend the general officers, and receive and carry their orders, as occasion requires.

When the king is in the field, he usually appoints young volunteers of quality to carry his orders, who are called the king's aids de camp.

Aid major, or adjutant, is an officer whose business is to ease the MAJOR of part of his duty; and to perform it all in his absence.

Some majors have several aid majors.—Each troop of guards has but one major, who has two aid majors under him, or more, according as the business requires.

Every regiment of foot has as many aid majors as it contains battalions.—When the battalion is drawn up, the aid major's post is on the left, beyond all the captains, and behind the lieutenant-colonel.

Aid, Auxilium, in our *Ancient Customs*, denotes a subsidy or sum of money due to the lord, from his tenants, on certain occasions.

It differed from a *tax*, which is imposed at any time when wanted; whereas the *aid* could only be levied where it was customary, and where the particular occasion fell out.

Such was the *aid de relief*, due from the tenants in fee, upon the death of the lord mesn, to his heir, towards the charge of a relief of the fee, of the superior lord. This was abolished by king John's magna charta.

Such also was the *aid chevel*, or *capital aid*, due by vassals, to the chief lord, or the king, of whom they held *in capite*. Of this there are three kinds.

The first, of chivalry; or, as they call it, *par faire fitz chevalier*, toward making his eldest son a knight, when arrived at the age of fifteen years; the second of marriage, or *par fille marier*, towards marrying his eldest daughter.—Both these, with all charges incident thereto, are taken away by stat. 12 Car. II. See *TENURE, SERVICE, &c.*—Some will have them to have been first established in England by William the Conqueror, and afterwards transferred to Normandy: but the more common opinion is, that the Conqueror brought them with him.—The third was of a *ransom*, due when the lord was taken prisoner by the enemy.

It appears from Bracton (lib. ii. c. 16. §. 8) that, in the time of Henry III. these aids, which were allowed by the charter of king John, were supposed to be paid by the vassals, rather as tokens of good will and affection to their lords, than as proper concomitants of the service they owed. Glanville, on the contrary, considered them as due by their tenures. But, both by that author, and in the charter, it is said, that they ought to be taken in reasonable proportions. Glanville questions, whether the feudal lord could demand an aid of his tenants for the support of his war? And replies by saying, that he could not distrain for such aid; but they might give it, as a *benevolence*, and out of affection to their lord; whereas he considers the *aid of relief*, as a due, for which the lord, in virtue of his fief, had a legal right to distrain. Lyttelton's Hist. Henry II. vol. iii. p. 108. 8vo.

In some provinces there was a fourth kind of aid; due whenever the lord should undertake an expedition to the Holy Land.

We also read of aids paid the lord, when he was disposed to purchase any new land, or tenement. These were only granted once in his life.—Also aids for the repairing and fortifying of castles, seats, &c. and also aids to pay the lord's debts. To prevent this abuse, king John's magna charta ordained, that no aids be taken by the king without consent of parliament, nor in any wise by inferior lords, except only the three ancient ones above-mentioned, *viz.* for making the lord's eldest son a knight, for marrying his

eldest daughter, and for ransoming the lord's person, if taken prisoner. But this provision was omitted in Henry III's charter; and the same oppressions were continued till the 25 Edw. I. when the statute called *confirmatio chartarum* was enacted; which in this respect revived king John's charter, by ordaining that none but the ancient aids should be taken. But though the species of aid was thus restrained, yet the quantity of each aid remained arbitrary and uncertain. King John's charter, indeed, ordered that all aids taken by inferior lords should be reasonable; and that the aids taken by the king of his tenants *in capite* should be settled by parliament. But they were never completely ascertained and adjusted till the statute WeAm. 1. 3 Edw. I. c. 36, which fixed the aids of inferior lords at twenty shillings, or the supposed twentieth part of the annual value of every knight's fee, for making the eldest son a knight, or marrying the eldest daughter; and the same was done with regard to the king's tenant *in capite*, by stat. 25 Edw. III. c. 11. The other aid, for ransom of the lord's person, being not in its nature capable of any certainty, was therefore never ascertained. Blackst. Com. lib. ii. c. 5. vol. ii. p. 64. 8vo.

By the stat. 34 Edw. I. it is ordained, that the king shall levy no aid or tax without his parliament.

Aids seem to have been first established with a view to the clients and freedmen of ancient Rome, who made presents to their patron towards his daughters fortune, as also on his birth-day, and on other solemn occasions.—Accordingly, Bouteiller relates, that in his time these aids depended on the courtesy and good will of the vassals; for which reason they were called, *droits de complaisance*.

The bishops also received aids from their ecclesiastics, called *synodals*, and *pentecostals*. They were to be paid at the time of their consecration; or when they had a king to entertain; or when called by the pope to his court, or to a council; as also when they went to receive the *pallium*.

Add, that the archdeacons also exacted aids from the clergy of their jurisdiction. See *PROCURATION*.

A kind of feudal aids are still levied in Germany, &c. under the title of *collecie*.

Aids are also used in matters of polity, for any extraordinary taxes, or impositions, occasionally levied by the king and parliament, upon the subjects, to support the charges of the government, when the ordinary revenue is deficient.

Aid, royal, is a name frequently given to the land-tax.

Aid, in *Theology*; the aids or assistances of divine favour, which are offered to man, have been the subject of much dispute betwixt the Janfenists and Jesuits; for the composing whereof, a celebrated congregation was erected at Rome under the title of congregation of *aids*, *congregatio de auxiliis*.

Some divines, after St. Augustine, distinguish two kinds of aids, *viz.* *sine quo*, and *quo*.

Auxilium sine quo, that which the mind is at liberty either to use or refuse; such is supposed to have been the aid ministered to man in the state of innocence, while his mind and will were found and upright.

Auxilium quo amounts to what is otherwise called efficacious grace, which surmounts and subdues the will; such, according to the Calvinists and Janfenists, is supposed to be the aid ministered by grace, in the present and a state of human nature.

Aids, in the *Manege*, are helps or assistances by which the horseman contributes towards the motion or action required of the horse, by a judicious use of his body, or the appointments of the horse.

Aids are of the greatest service in the manage, and form the only true and proper basis of the matter and the horse; by these he is enabled to act with propriety and energy, and the necessity of correction is prevented; consequently it must be evident that vigour, animation, and spirit are requisite in their exhibition.

The principal aid is derived from the bridle; indeed the different management of this appointment forms several distinct aids, each of which is so useful and necessary that it might constitute a distinct lesson. The cavesson forms at once an aid and a correction of the most powerful kind, and in no way is the obedience of a horse so well secured as by this means. The spur is of this number likewise; when made use of as an aid, it is by gently closing the heels and applying the points only to the skin; but the calves of the legs are perhaps the best aids of this kind.

The whip is used as an aid to keep the attention of the horse alive, by elevating the hand and striking the aid, or gently patting the animal in different parts; judiciously managed to a well dressed horse, it forms a very lively and animating aid. The voice is likewise made use of as an aid. The motions of the thighs, knees, and the calves of the legs, form separate aids; that of the calves is the most important and useful, without a proper knowledge of which, both horse and rider must be defective. The calves are used together, or separate; when one calf alone is employed, it is usually accompanied with the hand, to alter the position of the body, or change the leg, by which any action is led. The elevation of the body in the stirrups forms another aid.

The aids made use of to make a horse go in airs, are either different in themselves, or differently applied, to those made use of on the ground. The general application of these aids on the road is a branch of riding in which English horsemen are by foreign masters deemed defective. The inner heel, inner leg, and inner rein, are called inner aids. The outer heel, outer leg, &c. are outer aids. See Berenger's Art of Horsemanship, vol. ii. p. 92, &c.

AIDS, in the *French Law*, denote a duty paid on all goods sold and transported either out of, or into the kingdom. In this sense aids answer to what the Latins call *vectigalia*, *u* *vehendis mercibus*, and are paid by all kinds of persons, privileged, or non-privileged; by which they differ from *tailles*, *taxes*, which are only paid by the peasants, being a sort of capitation, answering to what the Latins call *tributum*.

AIDS, *court of*, in France, a court erected for the cognizance of matters relating to the taxes. Appeals come to this from the court of elections, where matters relating to the *taille* are first heard. The *court of aids*, of a province, is sometimes separated from the parliament of the province, and fixed in another city, as at Montpellier, Montauban, &c. There are twelve courts of aids, of which the principal is that at Paris.

AIDAN, in *Biography*, a British bishop of the 7th century, was employed in instructing the inhabitants of the Northern parts of England in the Christian religion. He was a monk in the monastery of Hii, or Jona, one of the Hebrides, which was subject to Britain, but given to the Picts, who inhabited those parts of Britain, in recompence of the zeal with which they had preached to them the faith of Christ. The kingdom of Northumberland, though it had received the Christian doctrine from Paulinus, archbishop of York, relapsed into idolatry. When Oswald, in 634, became king of Northumberland, he sent to Scotland for a missionary, qualified for instructing his subjects in the doctrines and duties of christianity. It happened that a

very improper person, an ecclesiastic named Corman, of severe disposition and rugged manners, was first deputed for this purpose; but it soon appeared that Aidan, who was mild and prudent, was much fitter for the office; accordingly he was consecrated a bishop and sent to the court of Oswald. At his solicitation the episcopal see was removed from York to Lindisfarne, a peninsula adjoining the Northumbrian coast by a narrow isthmus, called also Holy Island, because it was chiefly inhabited by monks. Here Aidan exercised an extensive jurisdiction, and preached the gospel with great success; deriving encouragement and assistance in his labour, from the condescending services of the king himself. After the death of Oswald he continued to prebide in the church of Northumberland, and died in the year 651. We have an extraordinary instance of this bishop's liberality to the poor. Having received a present from king Oswin of a fine horse and rich housings, he met with a beggar, and dismounting, gave him the horse thus caparisoned. When the bishop expressed some displeasure at this singular act of humanity, and the slight put upon his favour, Aidan quaintly but forcibly asked, "which do you value most, the son of a mare or a son of God?" the king was so affected that he fell upon his knees and intreated the bishop's forgiveness. Bede describes the character of Aidan in terms of high commendation, and ascribes to him miracles, which the credulity of the times in which he lived would be disposed to admit. To the report of one of his miracles we are inclined to give our assent. When the bishop gave the priest, who was to conduct the betrothed wife of Oswi by sea to Northumberland, a phial of holy oil, instructing him, in case of a storm, to pour it into the sea, and assuring him that it would soon become calm, it is possible he might not be unacquainted with the efficacy of oil thus applied, which has been long known, and is now sufficiently established by observation and experiment. Biog. Brit.

AIDERBEITZAN, ADERBIDJAN, or, as the Persians call it, AZERBIJAN, in *Geography*, a province of Persia, borders to the east on the province of Ghilan, the Caspian Sea and Tabristan, to the south on Irac, Ajemi, to the west and north-west upon Curdistan and Upper Armenia, and to the north on Schirwan and Georgia. The etymology of the name given by the Persians to this province imports a country of fire, so called on account of the temple erected in it for keeping their sacred fire. The soil is fruitful, and the climate healthy, though cold. The most considerable cities in it are Tauris, Ardevil and Sultania. The province extends from about 48° to 54° E. long. and from 36° to 39° N. lat.

AIDHAB, or GAIDHAB, or ARDAH, a town of Africa, and sea-port of Nubia, on the coast of the Red Sea. E. long. 35° 59'. N. lat. 22° 12'.

AIDONA, a town of Sicily, in the valley of Noto; four miles north-east of Piazza.

AIELLO, a small town and dukedom of Naples, in the Abruzzo Ultra, belonging by marriage to the hereditary prince of Modena.

AIELLO is also a town of Naples, in the district of Calabria Citra, with the title of a principality; nine miles south-west of Cosenza.

AIEREBA, in *Ichthyology*, the name of a fish of the *passinaca marina* kind, but differing from all the others, in that the form of its body is regularly round, or oval, and its head placed far within the verge of its thin part. It is common in the Western Ocean; but it is not much esteemed for the table, being more loose and flabby in its flesh than the other kinds. Marcgrave.

AIGEN, in *Geography*, a town of Germany in the arch-dutchy

duchy of Austria, on the confines of Bohemia; 35 miles west of Vienna. E. long. $13^{\circ} 52'$. N. lat. $48^{\circ} 33'$.

AIGHENDALE, a liquid measure in Lancashire, containing seven quarts.

AIGITHALUS, *αιγιθαλος*, in *Ornithology*, a name by which Aristotle, and some of the old authors call the PARUS, or TITMOUSE.

AIGLANDE, in *Geography*, a town of France, in the department of the channel, and principal place of a canton, in the district of St. Lo; four leagues north-east of Coutances.

AIGLE (L'), AQUILA, a small well-built town of France, and capital of a district situate on the Rille, in the department of Orne; 10 $\frac{1}{2}$ leagues north-east of Alençon. Its principal commerce is corn, hard-wares and pins. It contains three parish churches, two convents, and a hospital; is surrounded with walls, and has six gates. E. long. $1^{\circ} 31'$. N. lat. $48^{\circ} 46'$.

AIGLE, a town of Switzerland, in a part of the Lower Valais, which belongs to the feignory of Berne, and forms part of a canton. It is situated on a small river, which runs into the Rhone, about a league below it; 12 leagues east-north-east of Geneva. The country about it has rich pastures, and good wines and fruit; but it often suffers from the inundations occasioned by the high mountains that bound it towards the north. The salt that is collected from the saline waters in its vicinity is refined at Aigle. E. long. $6^{\circ} 51'$. N. lat. $26^{\circ} 22'$.

AIGLE, a river of France, which waters part of the government of Orleans, rises near Mée in Beaufse, and discharges itself into the Loir, between Chateaudun and Cloye.

AIGLETTE, in *Heraldry*. See EAGLET.

AIGN, in *Geography*, a town of Germany, in the circle of Bavaria, and archbishopric of Saltzburg, near which is a medicinal spring; two miles south-east of Saltzburg.

AIGNAN, a town of France, in the department of Gers and district of Nogaro; seven leagues west of Auch.

AIGNEY-LE-DUC, a town of France, in the department of the Cote d'Or, a district of Chatillon; $4\frac{1}{2}$ leagues south-south-east of Chatillon. It is situated on a small mountain, at the foot of which runs a stream of the same name. Its chief subsistence is derived from bleaching and the commerce of linen cloth.

AIGRE, a town of France, in the department of the Charente and district of Raffee; $5\frac{1}{2}$ leagues north of Angoulême.

AIGREFEUILLE, a town of France, in the department of the Lower Loire and district of Clifton; $3\frac{1}{2}$ leagues south of Nantes.

AIGREMONTE, a small town of Burgundy in France, in the generality of Dijon.

AIGRETTE, in *Ornithology*, a name given by Buffon to several species of ARDEA, or the EGRETS of other authors.

AIGRETTE, in *Zoology*, a name given by Buffon to the SIMIA AYGULA.

AIGUE MARINE, in *Natural History*. See AQUA MARINA.

AICUEBELLE, in *Geography*, a small town of Savoy, on the river Arc, surrounded by high mountains; five leagues east from Chambery. The manufacture of this place is silk.

AIGUEBELLE is also a small town of France, in the department of the Drome; two leagues south-east of Montelimart.

AIGUE-PERSE, a small town of France, in the de-

partment of Puy-de-Dome, and late province of Auvergne; 18 miles north of Clermont and 26 $\frac{1}{2}$ south of Paris. The cold water of a fountain near it has the appearance of boiling, and is said to be fatal to the animals that drink it. E. long. $3^{\circ} 20'$. N. lat. $45^{\circ} 50'$.

AIGUES, a river of France, which runs into the Rhone, near Orange.

AIGUESCAUDES, is situated in the valley of Ossau, in the principality of Bearn, in France; and is famous for a spring of water, foamy and sulphureous, and smelling like a rotten egg, which is deemed salutary in many inward and outward disorders.

AIGUES-MORTES, a town of France, in the department of the Gard and district of Nîmes; $4\frac{1}{2}$ leagues south of Montpellier. The soil in the neighbourhood is sandy, and the air unwholesome on account of the stagnant waters that surround it. It formerly stood on the sea and had a harbour; but it is now above two leagues up the country, and the harbour is filled up. This place is famous for an interview which took place in 1538, between Charles V. and Francis I. after 20 years of open hostility or secret enmity; on which occasion they vied with each other in expressions of respect and friendship. E. long. $5^{\circ} 8'$. N. lat. $43^{\circ} 34'$.

AIGUES-VIVES, a town of France, in the department of the Gard and district of Sommieres, five leagues north-east of Montpellier.

AIGUILLON, a town of France, in the department of the Lot and Garonne, and district of Tonneins; six leagues north-west of Agen. This town carries on a considerable trade in wines, brandy and hemp. E. long. $6^{\circ} 22'$. N. lat. $44^{\circ} 25'$.

AIGUINES, a town of France, in the department of the Var and district of Barjols; $5\frac{1}{2}$ leagues north-east of Barjols.

AIGUISCE', AIGUISSE', or EGUISCE', in *Heraldry*, a term applied to a CROSS, when its four ends are sharpened, but so as to terminate in obtuse angles.

The cross *aiguisee* differs from the cross FITCHEE, in that the latter goes tapering by degrees to a sharp point; whereas only the ends of the former are tapered.

Crosses were so formed by the Christians in their pilgrimages for the convenience of fixing them in the ground at their devotion. In the English blazon this kind of cross is called a *cross ardè*.

AIGURANDE, or AGURANDE, in *Geography*, a town of France, in the department of the Indre, late province of Berry, and district of La Chatre; $8\frac{1}{2}$ leagues south of Chateauroux. The country round it furnishes fat cattle. E. long. $1^{\circ} 44'$. N. lat. $46^{\circ} 27'$.

AI, a people of India, placed by Ptolemy on this side the Ganges.

AIKES, a town of Transylvania, six leagues north-east of Klausenburg.

AIKMAN, WILLIAM, in *Biography*, a painter of considerable eminence, the son of William Aikman, Esq. of Cairney in Scotland, was born October 24th, 1682, and intended by his father, who was an advocate at the Scots bar, for his own profession; but the son declined the study of the law, and devoted himself to the fine arts, and particularly to that of painting. Having prosecuted his studies for some time in Britain, he removed to Italy in 1707, and resided for three years at Rome. He then travelled to Constantinople and Smyrna, and in 1712 returned from Rome to his own country; and in 1723 he settled in London, and followed the profession of painting under the patronage of the Duke of Argyle, the Earl of Burlington, Sir Godfrey Kneller, and some other encouragers of the arts of that period.

part. For the Earl of Burlington he painted a large picture of the royal family, which his death prevented his making. It is now in the possession of the Duke of Devonshire. Toward the close of his life he executed many other pictures, and some of the finest in the world; and it is a singular circumstance, that the last picture which he painted was a portrait of the Duke of Hamilton, who died. This picture was finished in London, Jan. 17, 1733, and it is said that he painted it six months before he died. On the 17th, three remains were removed to his grave, and remained in the church in the City of London. A Latin inscription to his friends we may reckon Mr. W. Somerville, the well-known author of the *Chace*, &c. Mr. Mallet, Mr. Allan Ramfay, and Mr. Thomson, each of whom painted the tribute to his memory. The following epigram by Mr. Mallet, was engraven on his tomb.

"Dear to the good and wife, disquail'd by none,
Here sleeps in peace, the father and the son;
Be virtue, and thy nature, close ally'd,
The painter's genius, but without the pride:
Worth unambitious, wit afraid to fling;
Honour's clear light, and friendship's warmth divine:
The son following, knew too short a date;
But, oh! how more severe the father's fate!
He saw him torn untimely from his side,
Felt all a father's anguish—wept, and dy'd."

Mr. Thomson's poem on the death of Mr. Aikman, closes with the following lines:

"A friend, when dead, is but remov'd from sight,
Sunk in the lustre of eternal light;
And when the parting storms of life are o'er,
May yet rejoice us on a happier shore.
As those we love decay, we die in part;
String after string is sever'd from the heart,
Till loosen'd life, at last, but breathing clay,
Without one pang is glad to fall away.
Unhappy he, who latest feels the blow,
Whole eyes have wept o'er every friend laid low;
Dragg'd lingering on from partial death to death,
Till dying, all he can resign is breath."

For the eight last lines, see Thomson's Works, vol. ii.

p. 283.

In his style of painting Mr. Aikman seems to have aimed at imitating nature in her pleasing simplicity; his lights are soft, his shades mellow, and his colouring mild and harmonious. His touches have neither the force nor harshness of Rubens; nor does he seem, like Reynolds, ever to have aimed at adorning his portraits with the elegance of adventitious graces. His mind, tranquil and serene, delighted rather to wander with Thomson in the enchanting fields of Tempe, than to burst, with Michael Angelo, into the ruder scenes of the terrible and the sublime. His compositions are distinguished by a placid tranquillity of ease rather than a bold brilliancy of effect; and his portraits may be more readily mistaken for those of Kneller than any other eminent artist; not only because of the general resemblance in the features, which were those of the times, as they were contemporaries, but also for the manner of working, and the similarity and bland mellowness of their tints. Biog. Dict.

AIIAH, formerly *ÆLANA* and *LIATH* of Scripture, a ruined town of Arabia Petræa, on the north-west coast of the gulf of Akaba or Ailaba; about 140 miles south-east of Suez. E. long. 35° 0'. N. lat. 29° 20'.

AIIAN, a river of Siberia, which runs into the Penzinskaia gulf near Okhotsk.

AILANTHUS, formed of the Amboina name *Ay-lanto*, which denotes the tree of heaven, so called on account of its lofty growth, in *Botany*, a genus of plants, the class and order of which are not ascertained. Prof. Martyn refers it to the *polyamia monœcia*, Schæffer to the *dicella dendrobia*, and Gmelin to the *dendrobia trigyna*. Its characters are, that it has male, female and hermaphrodite flowers. The calyx of the male is a one-leafed, five-parted, very small perianthium; the corolla has five petals, lanceolate, acute, convolute at the base and spreading; the stamina have ten filaments, compressed, of the length of the corolla; the anthers are oblong and versatile. The calyx of the female is like that of the male, permanent; the corolla the same; the pistillum has from three to five germs, curved inwards; the styles are lateral and the stigmas capitate; the pericarpium has as many capules as there are germs, compressed, membranaceous, sabre-shaped, acute, on one of the edges emarginate; the seeds are solitary, lens-shaped, bony, close to the emarginature. The calyx of the hermaphrodite is the same with that of the male and female; the corolla the same as in the male; the stamina have two or three filaments, as in the male; the pistillum, pericarpium and seed as in the female. There is one species, viz. *A. glandulosa*, or *tall ailanthus*, which is a tree with a straight trunk, 40 or 50 feet high, a native of China, and first raised in England about the year 1751. It grows fast in our climate, and as it rises to a considerable height, it is proper for ornamental plantations. A resinous juice, which soon hardens, flows from the wounded bark. The wood is hard, heavy, glossy like fatten, and susceptible of a very fine polish. This is the *Rhus Sinense*, &c. of Ellis. See Phil. Trans. vol. xxxix. p. 870, and vol. l. p. 446. Martyn's Miller.

AILE, or **AIEL**, formed of *Fr. aieul, avus, grandfather*, in *Law*, a writ which lies where the grand-father, or great-grandfather, called *besaile*, was seized of lands or tenements in fee-simple, on the day he died; and a stranger abates or enters the same day, and dispossesseth the heir or grand-child. See **ABATEMENT**.

AILERONS, a diminutive of the French *aile, wing*, in *Natural History*, petty wings, a French term expressing two small shelly substances, resembling parts of wings, or young and just growing wings, and found in the two-winged flies, situated at the root of the larger wings. Reaumur.

AILES vitrées, in *Natural History*, a French term used to express the wings of a series of insects, which seem of a middle nature, between the fly and the butterfly kind, and are therefore called *PAPILION mouches* by these writers. The wings of these insects are in part covered with dust, or scales, and in part free from it, and transparent. In these free part they look glassy; whence their name, signifying *glassy wings*.

AILES BURY, in *Geography*. See **AYLESBURY**.

AILLANT-SUR-THOLON, a town of France, in the department of the Yonne, and district of Ivigny: 3½ leagues north-west of Auxerre.

AILLAS, a village of France, in the department of the Gironde, and district of Bazas; two leagues north-east of Bazas.

AILLY, a village of France, in the department of the Somme, and district of Abbeville; five leagues west-north-west of Amiens.

This is also the name of a town of France, in the same department, and district of Montdidier; three leagues south-south-east of Amiens.

AILLY, PETER D', in *Biography*, bishop of Cambray, and a bigoted ecclesiastic, was born of an obscure family at Compeigne in 1350. He finished his studies at Paris, and gave

gave proofs of a superior understanding even at an early age. His treatises "On Logics," "On the Nature of the Soul," and "On Meteors." In 1384 he was appointed grand-maître of the college of Navarre, where he had been educated. His zeal for the Catholic faith contributed to his advancement as much as his learning. He was pleaded in 1387, in favour of the miraculous conception of the Virgin, he was appointed confessor to Charles VI. and dean of the University, and in 1391 bishop of Carbury. He distinguished himself on various occasions as an advocate for the doctrines and ceremonies of the church; and at the general council of Constance, which failed from the year 1414 to the year 1418, he was principal agent in the proceedings, which convicted Wickliff and Huls of heresy, and at last brought the latter to the stake, upon whom he pronounced the sentence of death. Notwithstanding his zeal against heresy, he is said to have been a friend to reformation, and that he wrote a book "On the Reformation of the Church," which, however, is not found among his works. His ideas of reformation must have been very partial and restricted, as he took pains to obtain a general council for terminating schism, and was attached to the absurdities of judicial astrology. On this subject he wrote a treatise, in which he maintained, that Noah's flood, the birth of Christ, and other such miraculous events, might have been predicted by astrology. He died in 1425, as some say, and according to others in 1419 or 1420, with the character of "the Eagle of France, and the indefatigable Mallet of Heretics." The epitaph on his tomb is as follows:

"Mors rapuit Petrum; petram subiit putre corpus:
Sed petram Christum spiritus ipse petit."

i. e. "Death seizes Peter, and under this stone,
His body decays; his spirit is flown
To Jesus his rock."

Of his numerous works several treatises and sermons were printed at Strasburg in 1490; his "Questiones in Sphaeram Mundi" was printed at Paris in 1498, and at Venice in 1508; his "Treatise of Meteors" appeared at Paris in 1504, and his "Life of Cælestin V." in 1539. Cave Hist. Lit. vol. ii. Append. p. 84. Gen. Dict.

AILEDRED, ÆTHELRED, or EALRED, abbot of Revesby, in Lincolnshire, was born in 1109, and educated in Scotland, with Henry, son of David. He declined ecclesiastical preferment, and lived in studious retirement. His "History of the War of the Standard in the reign of Stephen;" "Genealogy of the English Kings;" "History of the Life and Miracles of Edward the Confessor;" and "History of the Nun of Watthun," written in Latin, are extant in the *Decem Scriptores*, published by Twysden, in London, 1652. His "Sermons," "Mirror of Charity," treatise "On the Child Jesus," and another "On Spiritual Friendship," were published at Douay, in 1631, and may be found in the *Bibliotheca Patrum*, tom. xxiii. He died in 1166. Cave Hist. Lit. vol. ii. p. 227. Biog. Brit.

AILSA, in *Geography*, an insulated rock near the isle of Bute, in Scotland, about two miles in circumference and 900 feet high, accessible on the north-east side, and the habitation of goats and rabbits, and sea-fowl, particularly the Solan geese, some of which are taken for food, and others for their feathers. The banks about it are well-stocked with cod and other fish.

AIMAKAN, a river of Siberia, which runs into the sea of Ochotskoi. E. long. 139° 14'. N. lat. 54° 44'.

AIMARGUES, or AYMARGUES, a town of France, with the title of a barony, in the department of the Gard, and diocese of Nîmes, situated in a marshy country on the

river Vézère; 3 leagues from the Ardèche; 12 miles E. long. 3° 4'. N. lat. 44° 5'.

AIN, a river of France, a small town of Savoy, on the river Isère; six leagues east-north-east of Montfrier.

AINMER, one of the Seichidis, or grand divisions of Hindostan, according to the Ayeen-Akbery, or distribution of the emperor Akbar, is entirely in the possession of Sindiah and the Marattahs, and contains seven circars or counties, and 197 pergunnahs or hundreds. Its revenue is 2,18,411 7 daams, 320 daams being equal to a pound sterling. It has 86,500 cavalry, and 347,000 infantry.

AIMON, in *Biography*, a Benedictine Monk, wrote about the year 840, and is chiefly known as the author of a "History of France."

AIMONTE, in *Geography*, lies on the east side of the river Gaudiana near its mouth, which is the boundary from Portugal on the west, and is one of the best havens on the whole coast. W. long. 7° 15'. N. lat. 37° 5'.

AIMOUTIER, a town of France, in the department of Upper Vienne, and district of St. Leonard; seven leagues south-east of Limoges.

AIN, אֵין, signifying *fountain*, is an initial word prefixed to several Hebrew and Arabic appellations of places.

AIN, a river of France, whence one of the departments derives its name. It rises in Mount Jura, near Nozeroy, and after traversing a course from North to South of about 35 leagues, discharges itself into the Rhone, about five leagues above Lyons. The department of the Ain is one of the four departments, which are composed of the *ci-devant* Bresse, Bugey and Valromey, and the principality of Dombes; and into which the former province of Bourgogne is divided. It is bounded on the north by the department of Jura; on the east, by those of Lemane and Mont Blanc; on the south, by the river Rhone, which separates it from that of Isère; and on the west, by the department of the Rhone. Its surface is about 1,077,432 square acres, or 549,905 hectares; its population amounts to about 288,700 persons; and it is divided into four communal districts. Its chief town is Bourg.

AIN, a town of Asia, in the Arabian Irak; 30 leagues west of Bassorah.

AINAD, a town of Arabia, in the province of Hadramaut.

AINAY-LE-CHATEAU, a town of France, in the department of Allier and district of Cerilly; eight leagues north-west of Moulins.

AINCREVILLE, a town of France, in the department of the Meuse, and district of Stenay; one league south-west of Dun.

AINEB-GUL, a town of Asiatic Turkey, in Natolia; 40 miles north-west of Degnizlu.

AIN-EL-CALU, a town of Africa, in the province of Tremecen, and kingdom of Fez.

AIN GEBEL, a town of Asia, in the province of Diarbekir; 16 leagues south-west of Mosul.

AINLING, a market town of Germany, in Upper Bavaria; ten miles north-west of Augsburg.

AINOD, a town of Germany, in the duchy of Stiria; eight miles north of Cilley.

AINSA, a small town of Spain, in the kingdom of Aragon, on the river Ara; six leagues north of Balbastro.

AINSWORTH, HENRY, in *Biography*, an eminent Nonconformist divine and Biblical commentator, flourished at the close of the 16th and commencement of the 17th century. About the year 1590, he united with the Brownists; and after struggling for some years with the dangers and troubles to which persons of this description were exposed by the indolent zeal of the bishops and the intolerance

of queen Elizabeth, he retired with many others of similar sentiments to Holland. At Amsterdam, Ainsworth and one of his brethren in exile, whose name was Jekelson, established a church; and in 1622 published a confession of faith of the people called Brethrens. But trivial points of discipline occasioned dissensions in the church, and these two leaders, with their respective parties, though they had fled from persecution at home, could not tolerate each other, nor live harmoniously in the same city. Johnson with his adherents removed to Embden, where he soon died, and his congregation was dissolved. Ainsworth withdrew to Ireland; and after some time returned to his friends at Amsterdam, and continued with them till his death, which was sudden, and not without suspicion of violence. The circumstance that is said to have occasioned it was somewhat extraordinary and deserves to be mentioned. Having found a diamond of great value in the streets of Amsterdam, he advertised it; and when the owner, who was a Jew, came to demand it, he offered him any acknowledgment which he would desire. Ainsworth, though poor, would accept of no remuneration but a conference with some of the Jewish rabbies, upon the prophecies of the Old Testament relating to the Messiah, which the Jew promised; but not having interest sufficient to obtain it, some have supposed that through shame or vexation, or from some other motive, he poisoned Ainsworth. This event happened about the year 1629. Mr. Ainsworth's distinguished talents and biblical learning were universally acknowledged. To these Bishop Hall paid a tribute of respect, even whilst he was writing against the party to which he belonged; and his annotations on the scriptures, though less regarded in England than they deserved, were much sought after and commended by persons of various sects in other countries. These "Annotations" appeared at different times; but in 1627 they were printed in one volume in folio, and another edition appeared in 1639, which is now become very scarce. To this work, it is said, the learned Lightfoot was much indebted. Of the other pieces of Ainsworth, we shall only mention his "Arrow against Idolatry." Neal's Hist. of the Puritans, vol. i. p. 386. 437. 4to. Biog. Brit.

AINSWORTH, ROBERT, a learned grammarian, was born at Woodyale, near Manchester, in Lancashire, in the year 1660, and was educated at Bolton, in the same county, where he afterwards kept a school. From Bolton he removed to Bethnal Green, near London, and he there continued the profession of school-master. At this period he published his "Short Treatise of Grammatical Institution." After pursuing in different places the labour of tuition till he had acquired a decent competency, he retired from business; and amused himself by searching the shops of brokers for old coins and other valuable curiosities, which he purchased at a small expence. He died at London in 1743, and was buried at Poplar. The following monumental inscription was written by himself:

"Rob. Ainsworth et uxor ejus, admodum senes,
Dormituri, vestem detritam hic exuerunt,
Novam, primo mane surgentes, induturi.
Dum fas, mortalis, sapias, et respice finem,
Hoc suadent manes, hoc canit Amramides."

Thus imitated—"Here Robert Ainsworth and his wife
Put off the worn-out vest of life;
Hoping the morn will soon appear,
When they a brighter robe shall wear.
To thy reflection, mortal friend,
Th' advice of Moses I commend,
Be wise, and meditate thy end."

To Ainsworth's judgment, industry, and perseverance in compiling a dictionary for the use of schools, great commendation is due. This useful work was undertaken by him in 1714; and after many interruptions and delays was completed in 1736, and dedicated to Dr. Mead. It has been since improved by Patrick, Ward, Young, and other learned men; and in 1773 there appeared a new edition, farther enlarged and improved by Morell. We have an useful abridgment of this dictionary by Mr. Thomas, in two large 8vo. volumes. Patrick's Pref. to the second edition of Ainsworth's Thesaurus, Biog. Brit.

AIN-ZAMIEL, in *Geography*, a town of Africa, in the province of Tremecen and kingdom of Fez.

AIOMAMA, or AIOMANO, a town of European Turkey, on a gulf of the same name, in the province of Rometia; 14 leagues south-east of Saloniki. Cape Paillaios is the south-east limit of the gulf, and Cape Drapano its north-east extremity. The south point is about E. long. 24° 40'. and N. lat. 39° 50'.

AJOVEA, in *Botany*, a genus of the *hexandria monogynia* class and order; the characters of which are, that the calyx is single-leaved and tridentated, the corolla has three petals, the filaments are terminated with two glandules, the antheræ are doubly excavated, the stigma is divided in six segments, and the fruit is a roundish, single-celled, monospermous berry. There is one species, viz. *A. guianensis*; which grows in the forests of Guiana.

AIOTOCHTLI, in *Zoology*; the Mexican name of the ARMADILLO.

AIPIMIXIRA, in *Ichthyology*, the name of an American fish, more usually known by the name of PUDIANO. It is a small fish, of the shape of the perch, with a purple back, and yellow sides and belly. Marcgrave.

AIR, in *Physics*, a thin, fluid, elastic, transparent, ponderous, compressible, and dilatable body; surrounding the terraqueous globe to a considerable height.

Air was considered by some of the ancients as an element; but then, by element, they understood a different thing from what we do. See ELEMENTS.

It is certain, that air, taken in the popular sense, is far from the simplicity of an elementary substance; though some of its properties and uses in a state of combination with various substances, from which it has been extricated by modern analysis, may entitle it to this appellation. Hence air may be distinguished into *proper* or *elementary*, and *vulgar* or *heterogeneous*.

AIR, *elementary*, or AIR *properly so called*, is a subtle, homogeneous, elastic fluid: the basis, or fundamental ingredient of the atmospherical air, and that which gives it the denomination.

In this sense, it likewise enters into the composition of most, or perhaps all bodies, existing in them under a solid form, deprived of its elasticity and most of its distinguishing properties, and serving as their cement, and the universal bond of nature; but capable, by certain processes, of being disengaged from them, recovering its elasticity, and resembling the air of our atmosphere. See Hales's Vegetable Statics, chap. vi.

The peculiar nature of this aerial matter we know but little of; what authors have advanced concerning it being chiefly conjectural. We have no way of altogether separating it from the other matters with which in its purest state it is more or less combined, and consequently no way of ascertaining, with satisfactory evidence, its peculiar properties, abstractedly from those of other bodies.

Dr. Hook, and some others, maintain, that it is the same

same with their *ether*, or that fine, fluid, active matter, diffused through the whole expanse of the celestial regions; which coincides with Sir I. Newton's *subtile medium*, or spirit. In this view it is supposed to be a body *sui generis* , ingenerable, incorruptible, immutable, present in all places, and in all bodies.

Others, considering only its property of elasticity, which they account its essential and constituent character, suppose it to be mechanically producible; and to be no other than the matter of other bodies, so modified and altered, as to become permanently elastic. Sir Isaac Newton observes, that the particles of dense, compact, and fixed substances, cohering by a strong attractive force, are not separable without a vehement heat, or perhaps not without fermentation; and such bodies being at length rarefied by such heat or fermentation, become true *permanent air*; and distinguishable from vapour, which is only *apparent*, or *transient air*, as is evident from the experiment with the *æolipile*. Optics, Qu. 31, p. 371, 372. ed. 3. See AIR, *atmosphærical*.

AIR, *vulgar* or *heterogeneous*, is a condition of corpuscles of various kinds, constituting together one fluid mass, in which we live and move, and which we are continually receiving and expelling by respiration. The whole assemblage of this makes what we call the atmosphere; where this air, or atmosphere, terminates, there *ether* is supposed to commence; which is distinguished from air by its not making any sensible refraction of the rays of light, as air does.

Air, in this popular and extensive meaning of the term, is acknowledged by Mr. Boyle to be the most heterogeneous body in the universe. Boerhaave shews it to be an universal chaos, or colluvies, of all kinds of created bodies. Besides the matter of light or fire, which continually flows into it from the heavenly bodies, and probably the magnetic effluvia of the earth; whatever fire can volatilize is found in the air.

Hence, for instance, 1. The whole fœtile kingdom must necessarily be found in it; for all of that tribe, as salts, sulphurs, stones, metals, &c. are convertible into fume, and thus capable of being rendered part of the air. Gold itself, the most fixed of all natural bodies, is found to adhere close to the sulphur in mines; and thus to be raised along with it. Mr. Boyle observes, that beside the saline effluvia of the common sort, such as the nitrous, vitriolic, marine, &c. there may be many compounded kinds of salts in the air, which we have not on earth, arising from different saline spirits, fortuitously meeting and mixing together. Thus, the glass windows of ancient buildings are sometimes observed to be corroded, as if they had been worm-eaten; though none of the simple salts above-mentioned have the faculty of corroding glass.

Sulphurs too must make a considerable ingredient of the air, on account of those many volcanos, grottos, caverns, and other spiracles chiefly affording that mineral, dispersed through the globe.

2. All the parts of the animal kingdom must also be in the air: for besides the copious effluvia continually emitted from their bodies, by the vital heat, in the ordinary process of perspiration; by means of which an animal, in the course of its duration, impregnates the air with many times the quantity of its own body; we find that any animal when dead, being exposed to the air, is in a certain time wholly incorporated with it.

3. As to vegetables, none of that class can be supposed wanting; since we know that all vegetables, by putrefaction, become volatile.

The associations, separations, attractions, diffusions, and other operations of one kind of matter upon another, may likewise be considered as forms of numerous other neutral, or anonymous bodies, unknown to us.

4. Water is also diffused through the air in great abundance. Many familiar instances might be alledged to this purpose. A bottle of wine, when taken out of the cellar in the driest and hottest day of summer, will soon be covered with a dense vapour, which is water deposited by the air. The same appearance is observed on the outside of any metallic vessel, which, in warm weather, contains water cooled by ice or the solution of salt, or even spring water, which is some degrees colder than the air. For other facts of similar kind, see WATER.

Air, in this general sense, is one of the most considerable and universal agents in all nature; being concerned in the preservation of life, and the production of most of the phenomena relating to our world. Its properties and effects, including a great part of the researches and discoveries of the modern philosophers, have in a considerable degree been reduced to precise laws and demonstrations, in which form they make a very extensive and important branch of the mixed mathematics, called *astronomies*.

AIR, *mechanical properties and effects of*. The most considerable of these are its *fluidity*, *weight*, and *elasticity*.

I. *Fluidity*. That the air is a fluid, is evident from the easy passage it affords to bodies through it; as in the propagation of smells, and other effluvia, and the easy conveyance it affords to sounds: for these and similar effects prove it to be a body, whose parts give way to any force impressed, and, in yielding, are easily moved among themselves; which is the definition of a fluid. Besides, it is certain, that no condensation by pressure, nor any degree of cold that has ever yet been produced, natural or artificial, have been sufficient to deprive it of its fluidity. It is true, indeed, that real permanent air may be extracted from solid bodies, and may be also absorbed by them; and in this state it must be very much condensed: but under what form it exists in those bodies, or how its particles are combined together, the researches of philosophy and chemistry have not yet been able to explore.

They who, with the Cartesians, make fluidity to consist in a perpetual intestine motion of the parts, find that air answers also to that character: thus, in a darkened room, where the species of external objects are brought in by a single ray, they appear in a continual fluctuation; and thus even the more accurate thermometers are observed never to remain a moment at rest.

The cause of this fluidity of air is attributed by some later philosophers to the fire intermixed with it; without which, they imagine, the atmosphere would harden into a solid impenetrable mass. And hence, the greater the degree of fire, the more fluid, moveable, and pervious is the air: and thus, as the degree of fire is continually varying, according to the circumstances and position of the heavenly bodies, the air is kept in a continual reciprocation. See Buffon's Hist. Nat. Supp. vol. i. Hence, in a great measure, it is said, that on the tops of the higher mountains, the senses of smelling, hearing, &c. are found very feeble. The increased rarity of the air at a considerable height may account for this effect; but the above hypothesis is contradicted by the more sensible experience of cold: the air, near the surface of the earth, deriving greater heat from the reflected than from the direct rays of the sun. See MOUNTAINS.

II. Weight of gravity. Of this property of air the ancients were not altogether ignorant; though their sentiments on the subject were confused and unsatisfactory. Aristotle (*de Cælo*, lib. iv. c. 1. op. tom. i. p. 485.) observes, that all the elements, fire excepted, have weight; and he adds, that a bladder inflated with air, weighs more than when it is quite empty. Plutarch (*de Placitis*, lib. i. c. 12. tom. ii. p. 883.) and Stobæus (*Eclog. Phys.* lib. i. c. 17. p. 32. Ed. 1609.) quote Aristotle as teaching, that the weight of air is between that of fire and earth; and he himself, treating of respiration, (*cap. vii. oper. tom. i. p. 722.*) reports the opinion of Empedocles, who ascribes the cause of it to the weight of the air, which by its pressure insinuates itself with force into the lungs. Plutarch (*de Placit.* lib. iv. c. xxii. tom. ii. p. 903.) expresses, in similar terms, the opinion of Asclepiades on this subject: and represents him as saying, that the external air, by its weight, opened its way with force into the breast. Heron of Alexandria, in his treatise intitled *Spiritualia*, constantly applies the elasticity of the air to produce such effects as are sufficient to convince us that he well understood that property of it: and Ctesibius, admitting the principle of the air's elasticity, invented wind-guns, which have been considered as a modern contrivance. Philo of Byzantium (in *Veter. Mathem.* p. 77. Ed. Paris.) describes these curious machines, constructed upon the principle of the air's being capable of condensation. Seneca also (*Quæst. Nat.* lib. v. c. v. and vi.) was acquainted with the weight and elastic force of the air; for he describes the constant effort by which it expands itself when it is compressed, and affirms, that it has the property of condensing itself, and forcing its way through all obstacles that oppose its passage. See Dutens's Inquiry into the origin of the Discoveries attributed to the Moderns, p. 186. 1769. The followers of Aristotle, however, abandoned the sentiments of their master on this subject; and for many ages maintained a contrary doctrine. The effects which are now known to result from the weight and elasticity of the air, were for a long time attributed to the imaginary principle, called *fuga vacui*, or nature's abhorrence of a vacuum; and Galileo himself admitted the principle, though he assigned a limit to it, corresponding to the weight of a column of water 34 feet high. This distinguished philosopher, however, was well apprised of the weight of the air as a body; and, in his Dialogues, he points out two methods of demonstrating it, by weighing it in bottles. But the pressure of the air was discovered by his disciple, Torricelli. In the year 1643, it occurred to him, that whatever might be the cause by which a column of water, 34 feet high, is sustained above its level, the same force would sustain a column of any other fluid, which weighed as much as that column of water, on the same base; and hence he concluded, that quicksilver, being about 14 times as heavy as water, would not be sustained at a greater height than that of 29 or 30 inches. He then made the experiment, called after his name; and inferred from it, that the weight of the air incumbent on the surface of the external quicksilver, counterbalanced the fluid contained in the tube. By this experiment he not only proved, as Galileo had before done, that the air had weight, but that its weight was the cause of the suspension of water and quicksilver in pumps and tubes, and that the weight of the whole column of it was equal to that of a like column of quicksilver, 30 inches high, or of water 34 or 35 feet high; but he did not ascertain the weight of any particular quantity of it, as a gallon, or a cubic foot; nor its specific gravity to water, which had been done, though inaccurately, by Galileo. Torricelli's experiment was published at Warsaw, in Poland, by Valerianus

Magnus, as his own discovery; but from the letters of Roberval, it appears, that Torricelli's claim to priority is indisputable; and that neither Valerianus, nor Honoratus Fabri, to whom it has been ascribed so early as the year 1641, can justly dispute it with him. The first discovery of the weight and elasticity of the air has been lately ascribed to Jean Rey, who wrote in 1629, before Galileo, Torricelli, Des Cartes, and Pascal. His fourth and tenth essays have been cited in favour of his claims; but though he was apprized that compression augmented the weight of the air, and he seems to have believed, with Aristotle and others at a very ancient period, that air was heavy, yet the proofs which he alledges were not sufficient to convince the incredulity of the peripatetics. The Torricellian experiment, by which the fact was established, and which father Merfenne received an account of in 1644, was immediately communicated to the philosophers of France, and repeated in various ways by Messrs. Pascal and Petit: and this gave occasion to the ingenious treatise published by Pascal, at 23 years of age, intitled, "*Experiences Nouvelles touchant la Vuide.*" Having, after some hesitation, adopted Torricelli's idea, and abandoned the principle of a *fuga vacui*, he devised several experiments for confirming it. One of these was to make a vacuum above the reservoir of quicksilver, in which case he found that it sunk to the common level: and he then engaged M. Perrier, his brother-in-law, to execute the famous experiment of Puy-de-Domme, who found that the height of the quicksilver half way up the mountain was less by some inches than at the foot of it; and that it was still less at the top. These facts incontrovertibly proved, that it was the weight of the atmosphere which counterpoised the quicksilver. Des Cartes had also just notions of the power of the air for sustaining fluids above their level, as appears by some letters about this time, and some years before; and in one of these he lays claim to the idea of the Puy-de-Domme experiment. See Cartesii opera. tom. ii. p. 243, 246.

The experiment of Pascal was repeated in various parts of the world; and particularly in 1653, by Dr. Power, in England; and in 1661, by Mr. Sinclair, professor of philosophy at Glasgow, in Scotland.

That the air is heavy, follows from its being a body; weight being an essential property of matter. And that it is a body, is evident from its excluding all other bodies out of the space it possesses; for if a glass jar be inverted into a vessel of water, the air, of which it is full, will allow but little water to enter into it. But we have many arguments to the same purpose from sense and experiment: thus, the hand, applied on the orifice of a vessel empty of air, soon feels the load of the incumbent atmosphere. Thus, glass vessels, exhausted of their air, are easily crushed to pieces by the weight of the air without. So, two small hollow segments of a sphere, four inches in diameter, exactly fitting each other, being emptied of air, are pressed together with a force equal to 188 pounds, by the weight of the ambient air; and that they are kept together by the pressure of the air is evident, by suspending them in an exhausted receiver, where they will separate of themselves. Farther, if a tube, close at one end, be filled with mercury, and the other end immersed in a basin of the same fluid, and thus erected, the mercury in the tube will be suspended at the height of about 30 inches above the surface of that in the basin. The reason of which suspension is, that the mercury in the tube cannot fall lower without raising that in the basin; which being pressed down by the weight of the incumbent atmosphere cannot give way, unless the weight of the mercury in the tube exceeds that of the air out of it.

it. That this is the case, is evident; because, if the whole apparatus be included in the receiver of an air pump, the mercury will fall in proportion as the air is exhausted; and on gradually letting in the air again, the mercury re-ascends to its former height. This makes what is usually called the *TORRICELLIAN experiment*.

To say no more, we can actually weigh air; for a vessel, full even of common air, is found, by a very nice balance, to weigh more than when the air is exhausted; a quart of air weighing about 17 grains; and the effect is proportionably more sensible, if the same vessel be weighed full of condensed air, and more especially in a receiver void of air.

The weight of air is continually varying, according to the different degree of heat and cold, and the concurrence of other causes. Pascal observed it in France; and Des Cartes in Sweden, in 1650. Mr. Boyle, and others, observed it in England, in 1656. Some observers noticed, that it was generally greatest in the night and in winter; and that its variations were most considerable during winter, and in the northern regions. Hence arose the application of the BAROMETER to the uses of a WEATHER-GLASS. Ricciolus estimates the weight of air to that of water, to be as 1 to 1000; Merennus as 1 to 1300, or 1 to 1356; Lana, as 1 to 640; Galileo only makes it as 1 to 400. Mr. Boyle, by a more accurate experiment, found it about London, as 1 to 938; and thinks, all things considered, the proportion of 1 to 1000 may be taken as a medium; for there is no fixing any precise ratio, since not only the air, but the water itself, is continually varying. Besides, experiments made in different places necessarily vary, on account of the different heights of the places, the seasons of making the experiment, and the different densities of air corresponding to these circumstances. It must be added, however, that by experiments made since, before the Royal Society, the proportion of air to water was, first, found as 1 to 840; then, as 1 to 852; and a third time, as 1 to 860. Phil. Trans. N° 181. And lastly, by a very simple and accurate experiment of Mr. Hawksbee, the proportion was settled, as 1 to 885. Phys. Mechan. Exper. But these experiments being all made in the summer months, when the barometer was 29½ inches high, Dr. Jurin thinks, that at a medium between heat and cold, when the barometer is 30 inches high, the proportion between the two fluids may be taken as 1 to 800; which agrees with the observation of the honourable Mr. Cavendish, the thermometer being at 50°, and the barometer at 29½ inches. Phil. Trans. vol. lvi. p. 152.

Sir George Shuckburgh, (Phil. Trans. vol. lxvii. p. 560.) by a very accurate experiment, found it as 1 to 836; the barometer being at 29,27 inches, and the thermometer at 53°; and the comparative gravity of quicksilver to air, as 11364,6 to 1. The medium of all these is about one to 832 or 833, when reduced to the pressure of 30 inches of the barometer, and the mean temperature 55° of the thermometer. Upon the whole, it may be concluded, that when the barometer is at 30 inches, and the thermometer at the mean temperature of 55°, the density or gravity of water is to that of air as $833\frac{1}{3}$ to 1; that is, as $\frac{2500}{3}$ to 1, or as 2500 to 3; and for any changes in the height of the barometer, the ratio varies proportionally; and also that the density of the air is altered by the $\frac{1}{440}$ th part, for every degree of the thermometer above or below temperate. This number, which is a very good medium, having the fraction $\frac{1}{3}$, gives exactly $1\frac{1}{3}$ th of an ounce for the mean weight of a cubic foot of air; the weight of the cubic foot of water

being just 1000 ounces avoirdupois, and that of quicksilver equal to 13600 ounces.

Air, then, being heavy and fluid, the laws of its gravitation, or pressure, may be inferred to be the same as those of other fluids; and consequently its pressure must be proportional to its perpendicular altitude. This is also confirmed by experiment. For removing the Torricellian tube to a more elevated place, where the incumbent column of air is shorter, a proportionably shorter column of mercury is sustained; and that nearly at the rate of 1.0 foot for $\frac{1}{12}$ th of an inch of quicksilver. On this principle depend the structure and office of the BAROMETER.

From hence, also, it follows, that the air, like all other fluids, must press equally every way. This is confirmed by observing, that soft bodies sustain this pressure without any change of figure, and brittle bodies without breaking; though the pressure upon them be equal to that of a column of mercury thirty inches high, or a column of water of thirty-two or somewhat more feet. It is obvious, that no other cause can preserve such bodies unchanged, but the equable pressure on all sides, which resists as much as it is resisted. And hence, upon removing or diminishing the pressure on one side only, the effect of the pressure is soon perceived on the other. For the quantity and effect of this pressure of the atmosphere on the human body, and on the surface of the earth, and the laws of different heights, see ATMOSPHERE.

From the gravity of the air, considered in connection with its fluidity, several of its uses and effects may be easily deduced.

1. By means of its weight, &c. it closely invests the earth, with all the bodies upon it; and constringes and binds them down with a force amounting, according to the computation of M. Pascal, to 2232 pounds weight upon every square foot, or upwards of 15 pounds upon every square inch. Hence it prevents, *e. gr.* the arterial vessels of plants and animals from being too much distended by the impetus of the circulating juices, or by the elastic force of the air, so plentifully contained in the blood.—Thus we see, in the operation of cupping, that, upon a diminution of the pressure of the air, the parts of the body grow tumid; which necessarily alters the manner of the circulation through the capillaries, &c.

The same cause hinders the juices from ousing and escaping through the pores of their containing vessels: this is experienced by such as travel up high mountains, who, in proportion as they ascend, find themselves more and more relaxed; and at length become subject to a spitting of blood, and other hæmorrhages; because the air doth not sufficiently constringe the vessels of the lungs. Similar effects are observed in animals that are enclosed under the receiver of the air-pump, who, as the air is taken from them, pant, swell, vomit, and discharge their urine and excrements. See VACUUM.

2. The weight of the air promotes the mixture of contiguous fluid bodies. Hence many liquids, as oils and salts, which readily and spontaneously mix in air, remain, on the removal of it, in a state of separation.

3. This gravity of air does in some cases determine the action of one body above another.

4. To the same principle are chiefly owing our winds, which are only air put in motion by some alteration in its equilibrium. It is the weight of the air that causes the clouds and vapours to float in it.

III. *Elasticity*.—or a power of yielding to an impression by contracting its dimensions; and upon removing or diminishing the impressing cause, of returning to its former space or figure, is another quality of air. This elastic force

from its being long accounted the distinguishing property of air; the other properties hitherto enumerated being common to it with other fluids; though, from late experiments, it appears more than probable, that the capacity of being compressed and expanded is not peculiar to air. See *WATERS* and *COMPRESSION*.

This property of air has been long known, and was ascertained by some experiments of lord Bacon, who, upon this principle, constructed his *vacuum ad aurem*, the first thermometer. Bacon. Nov. Organ. lib. ii. aph. 13.

Of this power we have numerous proofs.—Thus, a blown bladder being squeezed in the hand, we find the included air forcibly rent; so that upon ceasing to compress, the cavities or impressions, made in its surface, are readily expanded again, and filled up.

On this property of elasticity, the structure and office of the *AIR-PUMP* depend.

Every particle of air always exerts this nifus, or endeavour to expand, and thus strives against an equal endeavour of the ambient particles, whose resistance happening by any means to be weakened, it immediately diffuses itself into an immense extent. Hence it is, that thin glass bubbles, or bladders filled with air, and exactly closed, being included in the exhausted receiver of an air-pump, burst by the force of the included air. So a bladder quite flaccid, containing only the smallest quantity of air, swells in the receiver, and appears quite full. The same effect is also found by carrying the flaccid bladder to the top of a high mountain. This experiment shews, that the elasticity of air is different from that of solid bodies: after these have been compressed, they only resume the figure which they had lost; whereas air, when the compressing force is removed, not only dilates, but occupies a much greater space than it did before; nor is it easy to assign the limits of its expansion. From some experiments of Col. Roy (Phil. Trans. vol. 67. p. 708.) it would seem, that the particles of air may be so far removed from one another, by the diminution of pressure, as to lose a very great part of their elastic force. It also appears that the elastic force of common air is greater than when its density is considerably augmented or diminished by an addition to, or subtraction from the weight with which it is usually loaded; a fact which contradicts the experience of Boyle, Mariotte, and others. These experiments also shew, that the elastic force of moist air is greatly superior to that of dry air; in some cases the total expansion of the former was more than four times that of the latter.

It has been questioned among philosophers, whether this elastic power of the air is capable of being destroyed or diminished. Mr. Boyle made several experiments, with a view to discover, how long air, brought to the greatest degree of expansion to which he could reduce it in his air-pump, would retain its spring; and could never observe any sensible diminution. De-faguliers found that air, after having been enclosed for half a year in a wind-gun, had lost none of its elasticity; and Roberval, after preserving it in the same manner for sixteen years, observed, that its expansive projectile force was the same as if it had been recently condensed. Nevertheless, Mr. Hauksbee concludes, from a later experiment, that the spring of the air may be so disturbed by a violent pressure, as to require some time to return to its natural tone. Dr. Hales inferred, from a number of experiments, that the elasticity of the air is capable of being impaired and diminished by a variety of causes, and of being actually destroyed, so that it is reduced to a fixed state. Hence he also concludes, that elasticity is not an essential immutable property of the particles of air; and that the atmosphere is a chaos, consisting not only of elastic, but also of unelastic air-

particles, which copiously float in it. Statical Essays, vol. i. p. 316.

The weight or pressure of the air, it is obvious, has no dependence on its elasticity; but would be the same, whether the air has such a property or not. But the air, being elastic, is necessarily affected by the pressure, which reduces it into such a space, as that the elasticity which re-acts against the compressing weight, is equal to that weight. Indeed, the law of this elasticity is, that it increases as the density of the air increases; and the density increases as the force increases by which it is pressed. Now, there must necessarily be a balance between the action and re-action; *i. e.* the gravity of the air, which tends to compress it, and the elasticity of the air, which endeavours to expand it, must be equal. And the elasticity of the air not very different from its natural state, being as the density, will of course be inversely as the space which it occupies.

Hence the elasticity increasing, or diminishing, universally, as the density increases or diminishes, *i. e.* as the distance between the particles diminishes, or increases, it is no matter whether the air be compressed and retained in such space, by the weight of the atmosphere, or by any other means; it must endeavour, in either case, to expand with the same force. And hence if air near the earth be pent up in a vessel, so as to cut off all communication with the external air, the pressure of the inclosed air will be equal to the weight of the atmosphere. Accordingly, we find mercury sustained to the same height, by the elastic force of air inclosed in a glass vessel, as by the whole atmospherical pressure.

On the same principle air may be artificially condensed; and hence the structure of the *AIR-gun*.

Although it may be admitted as a general principle, that the density of the air is proportional to the force by which it is compressed, as the experiments of Mr. Boyle and Mr. Mariotte have evinced; yet in the case of condensed air, the rule will not be strictly applicable. When air is very forcibly compressed, so as to be reduced to $\frac{1}{4}$ th of its ordinary bulk, it makes a greater resistance, and requires a stronger force to compress it than the above principle allows. Hence it appears probable, that the particles of air cannot, by any possible pressure, be brought into perfect contact, or form a solid mass; and therefore that the degree of condensation has its limit. Thus also in very high degrees of rarefaction, the elasticity is decreased rather more than in an exact proportion to the weight or density of the air; whence it may be concluded, that there is a limit to its rarefaction or expansion, so that it cannot be expanded to infinity. Nevertheless, the utmost limits to which air of the density which it possesses at the surface of the earth, is capable of being compressed, have not been ascertained. Mr. Boyle reduced it at one time to the 14th part, and at another to the 40th part of its natural space. (Works. vol. iii. p. 507.) Dr. Halley says, that he has seen it compressed so as to be 60 times denser than in its natural state, which is farther confirmed by Mr. Papin, and M. Huygens. Dr. Hales (Stat. Exp. vol. ii. p. 343, &c.) by means of a press, condensed it 38 times; and by freezing water in an iron ball or globe, into 1522 times less space than it naturally occupies: in which state its density or specific gravity must be nearly double that of water; and as water is very slightly compressible, the particles of air must be in their nature different from those of water; since it would otherwise be impossible to reduce air to a bulk 800 times less than that which it occupies in its natural state.

However, Dr. Halley has asserted, in the Philosophical Transactions, (Abr. vol. ii. p. 17.) that from the experi-

ments made at London, and by the Academy del Cimento at Florence, it might be safely concluded, that no force whatever is able to reduce air into 800 times less space than that which it naturally possesses on the surface of our earth. In answer to which, M. Amontons, in the Memoirs of the French Academy, maintains, that there is no affixing any bounds to its condensation; that greater and greater weights will still reduce it into less and less compass; that it is only elastic in virtue of the fire which it contains; and that as it is impossible ever absolutely to drive all the fire out of it, it is impossible ever to make the utmost condensation.

The elasticity of the air exerts its force equally in all directions; and when released from the force that compresses it, it assumes a spherical figure in the interstices of the bodies that contain it. By exhausting the air from liquors placed under the receiver of an air-pump, the bubbles that gradually arise and are enlarged in size, retain their round figure. Such are also the bubbles that discharge themselves from a plate of metal immersed in a fluid in the same circumstances. On this account large glass globes are always formed of a spherical shape by blowing air through an iron tube into a piece of melted glass at the end of the tube.

The dilatation of the air by virtue of its elastic force, is found to be very surprising; and yet Dr. Wallis suggests, that we are far from knowing the utmost of which it is capable. In several experiments made by Mr. Boyle, it dilated first into 9 times its former space; then into 31 times; then into 60; and then into 150. Afterwards, it was brought to dilate into 8000 times its first space; then into 10,000, and even at last into 13,679 times its space; and this altogether by its own expansive force, without the help of fire. Boyle's Works by Birch, vol. i. p. 21, 22. vol. iii. p. 498, 499.

On this depend the structure and use of the MANOMETER. Hence it appears, that the air we breathe near the surface of the earth is compressed by the weight of the superincumbent column into at least the 13679th part of the space it would possess *in vacuo*. But if the same air be condensed by art, the space it will take up when most dilated, to that it possesses when condensed, will be, according to the same author's experiments, as 550,000 to 1.

We hence see how wild and erroneous the observation of Aristotle was, that air, rendered ten times rarer than before, changes its nature, and becomes fire.

It has generally been supposed, that air expands $\frac{1}{273}$ with each degree of the thermometer, commencing from the mean temperature 55°; and upon this principle tables have been computed by astronomers for correcting their mean refractions; but Sir George Shuckburgh allows at this temperature an expansion of $\frac{1}{273}$ for 1°. Phil. Trans. v. 67. p. 564. Mr. Hauksbee observed, that a portion of air, included in a glass tube, when the temperature was at the freezing point, formed a volume which was to that of the same quantity of air in the greatest heat of summer in England as 6 to 7. Moist air has been expanded into more than 12 times the space occupied by it in its freezing state; and Mercennius by means of the æolipile expanded it into more than 70 times its natural bulk. Muschenb. Introd. ad. Phil. Nat. tom. ii. p. 884. 4to.

M. Amontons, and others, we have already observed, attribute the rarefaction of the air wholly to the fire contained in it; and therefore, by increasing the degree of heat, the degree of rarefaction may be carried still farther than its spontaneous dilatation. Air is expanded $\frac{1}{2}$ of its bulk by boiling water. Hist. Acad. Sc. 1699.

Dr. Hales found that the air in a retort, when the bottom of the vessel was just beginning to be red hot, was expanded

through twice its former space, and in a white, or almost melting heat, it occupied thrice its former space; but Mr. Robins found, (New Principles of Gunnery, ch. 1. prop. 5. p. 12.) that air was expanded by the heat of iron, just beginning to be white, to four times its former bulk. Thus we account for the apparent inflation of a flaccid bladder, when it is warmed by the fire, and on this principle depend the structure and office of the THERMOMETER, and also the formation and ascent of air-balloons. See ATROSTATION.

M. Amontons first discovered that air will expand, in proportion to its density, with the same degree of heat. On this foundation, the ingenious author has a discourse, to prove, 'that the spring and weight of the air, with a moderate degree of warmth, may enable it to produce even earthquakes, and other of the most vehement commotions of nature.'

According to the experiments of this author, and M. de la Hire, a column of air on the surface of the earth, 36 fathoms high, is equal in weight to three lines depth of mercury; and it is found, that equal quantities of air possess spaces reciprocally proportioned to the weights with which they are pressed; the weight of the air, therefore, which would fill the whole space possessed by the terrestrial globe, would be equal to a cylinder of mercury, whose base is equal to the surface of the earth, and its height containing as many times three lines, as the atmospherical space contains orbs equal in weight to 36 fathoms of that wherein the experiment was made.—Hence, taking the densest of all bodies, *e. gr.* gold, whose gravity is about 14,630 times greater than that of air in our orb, it is easy to compute, that this air would be reduced to the same density as gold, by the pressure of a column of mercury 14,630 times 28 inches high, *i. e.* 409,640 inches, since the bulks of air, in that case, would be in the reciprocal ratio of the weights by which they are pressed. These 409,640 inches, therefore, express the height at which the barometer must stand, where the air would be as heavy as gold, and the number $2\frac{5}{8}\frac{6}{13}\frac{2}{3}$ lines, the thickness to which our column of 36 fathoms of air would be reduced in the same place.

Now, we know, that 43,528 fathoms, which is the depth, where the above pressure, and consequent reduction take place, are only the 74th part of the semidiameter of the earth; and, therefore, beyond that depth, whatever matter exists, it must be heavier than gold. It is not improbable, therefore, that the remaining sphere of 6,451,538 fathoms diameter may be full of dense air, heavier by many degrees than the heaviest bodies which we know. Hence, again, as it is proved, the more air is compressed the more does the same degree of fire increase the force of its spring, and render it capable of a proportionably greater effect; we may infer, that a degree of heat, which in our orb can only produce a moderate effect, may have a very violent one in such lower orb; and that, as there may be many degrees of heat in nature, beyond that of boiling water, it is probable there may be some, whose violence, thus assisted by the weight of the air, may be sufficient to tear asunder the solid globe. Mem. de l'Acad. an. 1703. See EARTHQUAKES.

This elastic property of air is supposed by many philosophers to depend on the figure of its corpuscles, which they apprehend to be ramous; some maintain that they are so many minute *floculi*, resembling fleeces of wool; others conceive them rolled up like hoops, and curled like wires, or shavings of wood, or coiled like the springs of watches, and endeavouring to restore themselves in virtue of their texture: so that to produce air, must be to produce such a figure and disposition of parts; and those bodies only are

proper

which are susceptible of such disposition; and that, in the smoothness, roundness, and disposition of their pores, are not.

But Sir Isaac Newton (*Optics*, p. 371.) explains the matter otherwise; such a texture, he thinks, by no means sufficient to account for that vast power of elasticity observed in air, which is capable of distending itself into above a million of times more space than it before possessed. But, as all bodies are known to have an attractive and repelling power; and as both these are stronger in bodies, the denser, more compact, and solid they are; hence it follows, that when by heat, or any other powerful agent, the attractive force is diminished, and the particles of the body separated so far as to be out of the sphere of attraction; the repelling power which then commences, makes them recede from each other with a strong force proportionable to that with which they before cohered; and thus they become permanent air. And he has proved, that particles, endeavouring to recede from each other with forces reciprocally proportional to the distance between their centres, will compose an elastic fluid, whose density shall be proportional to its compression. Hence, says the same author, it is, that as the particles of permanent air are grosser, and rise from denser bodies, than those of transient air, or vapour, true air is more ponderous than vapour; and a moist atmosphere is lighter than a dry one.

The elastic power of the air above illustrated and evinced, is the second great source of the effects of this important fluid. By this property, it insinuates itself into the pores of bodies, and by possessing this prodigious faculty of expansion, which is so easily excited, it must necessarily put the particles of bodies into which it insinuates itself into perpetual oscillations. Indeed, the degree of heat, and the air's gravity and density, and consequently its elasticity and expansion, never remaining the same for the least space of time, there must be an incessant vibration, or dilatation and contraction of all bodies.

We observe this reciprocation in several instances, particularly in plants, the tracheæ, or air-vessels of which perform the office of lungs; for the contained air alternately expanding and contracting, as the heat increases or is diminished, by turns compresses the vessels, and eases them again: and thus promotes a circulation of their juices. See *AIR-VESSELS*.

Hence, we find, that no vegetation nor germination will proceed *in vacuo*. Indeed beans have been observed to grow a little tumid therein; and this has led some to attribute that to vegetation, which was really owing to no other cause than the dilatation of the air within them.

The air is very instrumental in the production and growth of vegetables, not only by invigorating their several juices, while in an elastic active state, but also by greatly contributing in a fixed state to the union and firm connection of their several constituent parts, and by supplying them with that food or palulum, which contributes to their growth.

From the same cause it is, that the air contained in bubbles of ice, by its continual action, bursts the ice; and thus also, as well as by the expansion of freezing fluids, glasses and other vessels frequently crack, when their contained liquors are frozen. Thus also, entire columns of marble sometimes cleave in the winter time, from some little bubble of included air's acquiring an increased elasticity: and to this it is owing, that few stones will bear to be heated by the fire without cracking by the expansive force of the air confined within their pores. From the same principle arise *putrefaction* and *fermentation*; neither of which will proceed, even in the best disposed subject, *in vacuo*.

Since we find such great quantities of elastic air, generated in the solution of animal and vegetable substances, a good deal must constantly arise from the dissolution of these elements in the stomach and bowels, which is much promoted by it: and respiration, and even animal life, depend in a great measure upon the air.

In reality, all natural corruption and alteration seem to depend on air; and metals, particularly gold, only seem to be durable and incorruptible, in virtue of their not being pervious to air.

Air, effects of the different ingredients of. Air not only acts by its common properties of gravity and elasticity, but there are numerous other effects, arising from the peculiar ingredients of which it consists.

Thus, 1. It not only dissolves and attenuates bodies by its pressure and attrition, but as a *chaos* containing all kinds of menstua, and consequently possessing powers for dissolving all bodies. It is known that iron and copper readily dissolve, and become rusty in air, unless well defended with oil. Boerhaave assures us, that he has seen pillars of iron so reduced by air, that they might be crumbled to dust between the fingers; and as for copper, it is converted by the air into a substance much like the verdigrise produced by vinegar.

Mr. Boyle relates, that in the southern English colonies the great guns rust so fast, that after lying in the air for a few years, large cakes of *crocus martis* may be separated from them. Acosta adds, that in Peru the air dissolves lead, and considerably increases its weight. Yet gold is generally esteemed indissoluble by air; being never found to contract rust, though exposed to it ever so long. In the laboratories of chemists, however, where *aqua regia* is prepared, the air becoming impregnated with an unusual quantity of this menstruum, gold contracts a rust like other bodies.

Stones also undergo the changes incident to metals.—Thus, Purbeck stone, of which Salisbury cathedral consists, is observed gradually to become softer, and to moulder away in the air; and Mr. Boyle gives the same account of Blackington stone. He adds, that air may have a considerable operation on vitriol, even when a strong fire could act no further upon it. And he has found, that the fumes of a corrosive liquor work more suddenly and manifestly on a certain metal, when sustained in the air, than the menstruum itself did, which emitted fumes on those parts of the metal which it covered; referring to the effects of the effluvia of vinegar on COPPER.

The dissolving power of air is increased by heat, and by other causes. It combines with water; and, by access of cold, deposits part of the matter which was kept dissolved in it, by a greater degree of heat. Hence the water, by being deposited and condensed upon any cold body, such as glass, &c. in windows, forms fogs, and becomes visible. Air, likewise, has been supposed, by means of its dissolving power, to accelerate EVAPORATION and DISTILLATION. 2. Air volatilizes fixed bodies. Thus, sea-salt, being first calcined, then fused by the fire, and when fused, exposed to the air to liquify; when liquified set to dry, and then fused again, repeating the operation, will, by degrees, be almost wholly evaporated; nothing but a little earth remaining. Helmont mentions it as an arcanum in chemistry, to render fixed salt of tartar volatile; but this is easily effected by air alone: for, if some of this salt be exposed to the air, in a place replete with acid vapours, the salt draws the acid to itself, and when saturated with it, is volatile.

3. Air also fixes volatile bodies. Thus, though spirit

of nitre, or aquafortis, readily evaporates by the fire: yet if there be any putrefied urine near the place, the volatile spirit will be fixed, and fall down in form of *AQUA SECUNDA*.

4. Air brings many quiescent bodies into action; *i. e.* excites their latent powers. Thus, if an acid vapour be diffused through the air, all the bodies of which that is the proper menstruum, being dissolved by it, are brought into a state proper for action.

In the various operations of chemistry, air is a very necessary and important agent, the result of particular processes depending on its presence or absence, on its being open or enclosed. Thus the parts of animals and vegetables can only be calcined in open air; in close vessels they never become any other than black coals. And these operations are effected by the changes to which the air is liable. Many instances might be alledged to this purpose. Let it suffice to observe, that it is very difficult to procure oil of sulphur, *per campanam*, in a clear dry atmosphere; but in thick moist air it may be obtained with greater ease, and in larger quantities. So pure well-fermented wine, if it be carried to a place where the air is replenished with the fumes of new wine, then fermenting, will begin to ferment afresh.

The changes in the air arise from various causes, and are observable not only in its mechanical properties, such as gravity, density, &c. but in the ingredients that compose it. Thus, at Fahlun, in Sweden, noted for copper-mines, the mineral exhalations affect the air in such a manner, as to discolour the silver coin in purses; and the same effluvia change the colour of brass. In Carniola, Campania, &c. where are mines of sulphur, the air sometimes becomes very unwholesome, which occasions frequent epidemic diseases, &c.

The effluvia of animals also have their effect in varying the air, as is evident in contagious diseases, plagues, murrains, and other mortalities, which are spread by an infected air.

The sudden and fatal effect of noxious vapours has generally been supposed to be principally, if not wholly, owing to the loss and waste of the *vivifying spirit of air*. But Dr. Hales attributes this effect to the loss of a considerable part of the *air's elasticity*, and to the grossness and density of the vapours with which the air is charged. He found, by an experiment made on himself, that the lungs will not rise and dilate as usual, when they draw in such noxious air, the elasticity of which has been considerably diminished. For having made a bladder very supple by wetting it, and then cutting off so much of the neck as would make a hole wide enough to admit the biggest end of a large socket, to which the bladder was bound; and then having blown the bladder, he put the small end of the socket into his mouth, and, at the same time, pinched his nostrils so close, that no air might pass that way, and he could only breathe to and fro the air contained in the bladder, which, with the socket, contained seventy-four cubic inches. In less than half a minute, he found a considerable difficulty in breathing; and at the end of a minute, the bladder was become so flaccid, that he could not blow it above half full, with the greatest expiration which he could make; and at the same time, he could plainly perceive that his lungs were much fallen, in the same manner as when we breathe out of them all the air we can at once. Hence he concluded, that a considerable quantity of the elasticity of the air was destroyed; and that when the suffocating quality of the air was the greatest, it was with much difficulty that he could dilate his lungs in a very small degree. From this, and several other experiments, he inferred, that the life of animals is preserved rather by the

elastic force of the air acting on their lungs than by its vivifying spirit; and that candles and matches cease to burn, after having been confined in a small quantity of air, not because they have rendered the air effete by consuming its vivifying spirit, but because they have discharged a great quantity of acid fuliginous vapours, which partly destroy its elasticity, and retard the elastic motion of the remainder. He likewise found, that air, which passed through cloths dipped in vinegar, could be breathed to and fro as long again as the like quantity of air, which was not thus purified; so that sprinkling the decks of ships with vinegar may refresh the air; and this is confirmed by experience. But where the corruption of the air is much greater, as in close prisons, &c. nothing can be an adequate and effectual remedy but a *VENTILATOR*. He observed, likewise, that air is not disqualified for respiration merely by the additional moisture which it receives, but by some bad quality in that moisture. See his *Statistical Essays*, vol. i. p. 250. vol. ii. p. 320, &c.

Dr. Priestley observes, that, when animals die upon being put into air, in which other animals have died, after breathing in it as long as they could, it is plain that the cause of their death is not the want of any *pabulum vite*, which has been supposed to be contained in the air; but because the air is impregnated with something stimulating to their lungs; for they almost always die in convulsions, and are sometimes affected so suddenly, that they are irrecoverable after a single inspiration. And he has found the same effect from many other kinds of noxious air. He concludes, from subsequent experiments, that the air becomes phlogisticated in its passage through the lungs, by means of the blood. *Experiments and Observations on Air*, vol. i. p. 71. vol. ii. p. 31. vol. iii. p. 55. See *AZOT, BLOOD, and RESPIRATION*.

Vegetables likewise produce a change in the state of the air. Thus when a great part of the clove trees, which grow so plentifully in the island of Ternate, was felled at the solicitation of the Dutch, in order to heighten the value of that fruit, such a change ensued in the air, as shewed the salutary effects of the effluvia, or rather of the vegetation of the clove-trees, and their blossoms; the whole island soon after they were cut down, being exceeding sickly. See *AZOT*.

The air is also liable to alterations from the season of the year. Thus few subterraneous effluvia are emitted in the winter, because the pores are locked up by the frost, or covered by snow; the subterraneous heat being at work, and preparing a heat to be discharged in the ensuing spring. Again, from the winter solstice to the summer solstice, the sun's rays become more and more perpendicular, and consequently their impulse on the earth's surface more powerful; so that the globe, or soil, is more and more relaxed, softened, and putrefied, till he arrives at the tropic; where, with the force of a chemical agent, he resolves the superficial parts of the earth into their constituent principles, water, oil, salt, &c. which are all swept away into the atmosphere.

The height and depth of the air produce a farther alteration; the exhalations not rising high enough in any great quantity, to ascend above the tops of high mountains.

From some experiments with air-balloons, it has been proved, that the air of the higher regions is more impure than that at the surface of the earth; which is reasonably ascribed to the oxygen supplied by vegetation to the lower and contiguous stratum of air.

Nor must drought and moisture be denied their share, in varying the state of the atmosphere; in Guinea, the heat, with the moisture, conduces so much to putrefaction, that the purest white sugars are often full of maggots; and their

drugs from life their virtue; and many of them grow venereal: it is said, that in the island of St. Jago, they are obliged to expose their sweet-meats daily to the sun, in order to destroy the mephitic matter contracted in the night, which would otherwise be fatal to them to putrefy.

Certain principles depend the structure and use of the human body.

See the reflecting power of air; see REFRACTION.

Generally, force of our more curious and penetrating intellect has discovered certain effects of air, which do not appear to flow from any of the properties, or material, above mentioned. In this view, Mr. Boyle has composed a treatise of speculations about some unknown properties of the air. The phenomena of fire and flame *in vacuo* seem, according to him, to argue some unknown vital substance diffused through the air, on account of which that fluid becomes necessary to the subsistence of flame. Buffon supposes that air is necessary to the subsistence of fire, because it is most adapted to acquire that expansive motion, which is the principal property of fire. On this account fire combines with air; in preference to any other substance, and in a more intimate manner, as being of a nature most nearly approaching to its own; and therefore air is the proper aliment and most powerful assistant of fire. Hist. Nat. Suppl. vol. i.

According to Dr. Priestley, the air is a menstruum for the phlogiston emitted by burning bodies; which must cease to burn when that menstruum is saturated with it. And he accounts in the same manner for the suffocation of animals in a confined space. When the phlogiston, emitted by burning bodies and breathing animals, can no longer be absorbed by the ambient air, both life and flame are extinguished. Exp. and Obs. &c. vol. i.

For the modern hypothesis, with regard to this subject, see COMBUSTION and PHLOGISTON.

Thus we find, that many causes combine to produce very considerable alterations in the state of the air, whereby it becomes less fit for respiration, and other purposes of nature; and if there were no provision for restoring its salubrity, it must, in time, become universally injurious and fatal. Dr. Priestley, in the course of his inquiries on this subject, has discovered the great restoratives, which are provided for this purpose. One of these is vegetation. In order to ascertain this fact, he put a sprig of mint, in a vigorous state, under a glass jar, inverted in water; and he found, contrary to his expectation, that this plant not only continued to live, though in a languishing way, for two months; but that the confined air was so little corrupted by the effluvia of the mint, that it would neither extinguish a candle, nor kill a small animal, which he conveyed into it. He found, likewise, that air, vitiated by a candle left in it till it was burnt out, was perfectly restored to its quality of supporting flame, after another sprig of mint had vegetated in it for some time. And, in order to shew that the aromatic flavour of the plant had no share in producing this effect, he observed, in a variety of other experiments, that vegetables of an offensive smell, and even such as had scarce any smell at all, but were of a quick growth, proved the best for this purpose. Nay, more, the virtue of growing vegetables was found to be an antidote to the baneful quality of air, corrupted by animal respiration and putrefaction; and he infers from a number of similar facts, that the injury, which is continually done to the atmosphere, by the respiration of so many animals, and the putrefaction of such masses of both vegetable and animal matter, is, in part at least, repaired by the vegetable creation; and notwithstanding the prodigious mass of air that is corrupted daily by the

above mentioned causes; yet, if we consider the immense profusion of vegetables upon the face of the earth, growing in places suited to their nature, and consequently at full liberty to exert all their powers, both inhaling and exhaling, it can hardly be thought, that the remedy is not adequate to the evil. Dr. Franklin, in a reflection on this discovery, expresses his hope, that it will give some check to the rage of destroying trees that grow near houses, which has accompanied our late improvements in gardening, from an opinion of their being unwholesome; adding, from long observation, that there is nothing unhealthy in the air of woods, "since the Americans have their country habitations in the midst of woods, and no people on earth enjoy better health, or are more prolific." Dr. Priestley has since discovered that light is necessary to enable plants to purify air: however, pure air is not produced by light, or plants, but only by the purification of the impure air to which the plants have access. Obs. and Exp. on Air, vol. v. p. 18, 24, &c.

The sea, and other large bodies of water, are the second resource, which nature has provided for restoring the salubrity of corrupted air. Dr. Priestley found, that all kinds of noxious air were restored by continued agitation in a trough of water; the noxious effluvia being first imbibed by the water, and thereby transmitted to the common atmosphere. And he hence concludes, that the agitation of the sea, and of large lakes and rivers, must be highly useful for the purification of the atmosphere; the putrid matter being absorbed by the water, and imbibed by marine, and other aquatic plants, or applied to purposes yet unknown. Exp. and Obs. vol. i. sect. 2. and 4.

This ingenious philosopher apprehends, that the agitation of water, and the vegetation of plants, purify noxious air, by absorbing part of the phlogiston with which it is loaded; and that this phlogistic matter is the most essential part of the food and support of both vegetable and animal bodies. Ib. vol. i. p. 138, 139.

Dr. Priestley, improving upon the experiments and investigations of Boyle, Hales, Brownrigg, Black, Macbride, Cavendish, and others, has discovered many species of air, extracted by various processes from different kinds of substances; of which a summary account will be given in the course of this work. See also his curious and valuable Experiments and Observations on different Kinds of Air, in five volumes. And for a compendium of the history of discoveries on this subject, Lavoisier's Essays Physical and Chemical, vol. i.

For the resistance of the air, see RESISTANCE.

Air, undulation of. See SOUND and UNDULATION.

Air, in Chemistry. See GAS.

Air, *Atmosphérique*, common air, *Gas atmosphérique*, Fr. Atmospheric air does not appear to have been the subject of chemical investigation before the time of Boyle; for though Aristotle, Pliny, and Paracelsus, have written largely concerning this fluid, they have confined themselves to the imperfect examination of some of its physical properties, to the mention of a few obvious facts, and to the invention of hypotheses, which, as they do not profess to be founded on experiment, may, in the present state of knowledge, be safely neglected.

It was, indeed, natural, that the great improver of Otto Guericke's original air-pump, fond as he was of chemical pursuits, should exercise his talents in researches on the properties of the atmosphere, more especially as, from the number of substances continually assuming the form of vapour, it was not improbable that common air should prove a very heterogeneous and easily decomposable mixture. The difficulty,

difficulty, however, of separating, by the only method then known, a portion of air from the rest of the atmosphere, and the necessary uncertainty of the first rude attempts to operate upon an invisible elastic substance, occasioned the progress of discovery in this department of chemical science to be unusually slow. The following facts, however, were ascertained by Boyle, which, when we consider the numerous obstacles from bad and imperfect apparatus that he had to contend with, are highly creditable to his industry and sagacity. He proved, that the presence of air was necessary to combustion and to animal life, by shewing, that in the exhausted receiver flame was almost immediately extinguished, and various small animals, and even fish, while in water, were in a short time killed: that the same phenomena take place, but more gradually, in a confined portion of atmospheric air; and that the death of animals, in this situation, was not owing to the heated exhalations from their bodies, as was then supposed, since the same effects took place when the apparatus was put into a frigorific mixture: he also ascertained, that animals live longer, *ceteris paribus*, in a given bulk of condensed than of rarefied air. On account of the imperfection of his apparatus, he was induced to believe, that no absorption of air took place in respiration; and he appears to have had no suspicion that pure atmospheric air was a compound substance.

Immediately after Boyle, succeeded Mayow, unquestionably the greatest chemical genius of that age, but whose works, by a singular fatality, excited little or no interest among his contemporaries, and were soon totally forgotten. In this state of unmerited neglect they remained for more than a century; and it is only within a very few years, that the public attention has been directed to the writings of a philosopher, who nearly anticipated those discoveries of Priestley, Lavoisier, and Cavendish, upon which are based almost all the modern improvements in chemistry. The first great improvement of Mayow in the analysis of atmospheric air, was the invention of a proper apparatus; for this purpose, rejecting the use of the air-pump, he made choice of glass jars, inverted in water, as the best method of confining the gasses upon which he experimented. Setting out from the facts discovered by Boyle, he argues, that since a lighted candle is extinguished much sooner in an exhausted receiver than in the same when filled with air, there must be something contained in the atmosphere necessary to the continuance of flame; and that a candle, in confined air, is not suffocated by its own fuliginous exhalations, but dies away for want of an aerial pabulum. The necessity of air to combustion is also proved, says he, from the impossibility of kindling a combustible body in vacuo by the concentrated solar rays, or by any other method. Having established this first position, he proceeds to infer, that it is not the whole air but only its more active particles, that are capable of supporting flame, because a candle goes out in confined air, while yet the greatest part of the elastic fluid remains unconsumed. Also, since sulphur, when mixed with nitre becomes capable of inflammation in vacuo, or even under water, it follows that nitre and atmospherical air contain some substance in common, which he calls *fire-air* particles (*particule igneo-aeræ*.) He next determined the analogy between flame and animal life; and shewed, that each depended for their continuance on a supply of fire-air particles: that there was an actual consumption of air in combustion and respiration he proved, by the use of water in the jars in which a live animal or a lighted candle was inclosed; and that the loss of bulk was owing to the abstraction of fire-air, appeared from the inability of the residue to support animal life. He also inferred, that the fire-air

particles were the heavier part of atmospheric air, because, if two mice or two candles were confined in a tall cylindrical jar, inverted in water, so as that one should be near the upper part of the vessel, and the other at the bottom, the upper one, whether a candle or animal, would be extinguished some time before the lower one. With regard to the proportion of fire-air in the atmosphere, he only observed, that air rendered unfit for combustion by the breathing of an animal, lost about one fourteenth of its bulk; at the same time remarking, that there was probably only a part of the fire-air consumed: he afterwards, indeed, found, that the solution of iron in aquafortis occasioned a diminution of about 25 per cent. in atmospheric air; but though, in this case, he produced nitrous gas, and thus abstracted the oxygen of the atmosphere, yet, as he himself draws no conclusions from it, we should rather consider this as an accident than a discovery. Mayow never obtained the fire-air of the atmosphere in a separate state, and therefore was unable to confirm his analysis of atmospherical air by the synthetic proof; nevertheless, he was warranted by a very high probability in affirming that the atmosphere consisted of two kinds of air, of which the igneo-aerial was in the proportion of at least one to 13; that it exceeded the other part in its specific gravity, and was absolutely essential to the continuance of flame and animal life. The influence, however, of the prevalent hypothesis was at that time too strong to be shaken by sober experiment; and the labours and very name of Mayow, shortly sunk into oblivion; the atmosphere was still supposed to be an undecomposable element, and its effect on chemical processes was very generally overlooked.

In 1774, exactly a century after the publication of Mayow's work, the important discovery of dephlogisticated air, by Dr. Priestley, took place. This philosopher having inclosed some *mercurial precipitate per se*, in a jar filled with mercury, and inverted over the same, procured from it, by means of heat, a quantity of gas, in which a candle burnt with an enlarged flame, and increased light; the coincidence of this, with the effect produced by dephlogisticated nitrous gas in the same circumstances, as had been already observed by Dr. Priestley, induced him to believe that there was some common principle in nitrous acid and atmospherical air; and this suspicion was still further confirmed by the discovery, that common *red precipitate*, which is prepared by means of nitrous acid, yielded dephlogisticated air in the same manner as the precipitate *per se*. Hence, too, he concluded, that pure atmospherical air was not an element, and that dephlogisticated air was that one of its component parts to which the continuance of flame and animal life was entirely owing. Thus we find, both Mayow and Priestley arriving at the same general conclusions, through the medium of entirely different experiments; the fire-air of the one, and the dephlogisticated air of the other, being only two words for the same substance: the experiments of the latter possess, however, this capital superiority, that they exhibit in a separate uncombined state, that vital part of the atmosphere, the existence of which was only to be inferred from those of the former. There yet remained, however, for the complete proof of the composition of the atmosphere, that a part of it should be actually decomposed, so as to shew its elements separated; and then, by their union, to recombine atmospherical air. This deficiency was supplied by Lavoisier. He confined a few ounces of mercury and a certain portion of atmospherical air in a proper glass apparatus, and exposed the mercury for 12 days to a heat nearly equal to that of ebullition; during this period a part of the mercury was converted into a red oxyd, a certain portion of

the air, the vessel, the cylinder was capable of supporting it, and the weight of the air, oxyg. exactly counterbalanced the weight of the mercury, and the air, thus raised, being then heated in a small retort, was decomposed into burning mercury and gas, which exhibited all the properties of dephlogisticated air; finally, this air, being mixed with the due portion of water, recomposed atmospheric air. From these and various other similar experiments, it appeared, that the lower part of the atmosphere consists of 27 parts of air, and 73 of a combustible air, which upon burning analysis, yielded about 72 parts of Azote, 1, and 1 of carbonic acid. These experiments will be further detailed under the term PNEUMATICS.

From the slight affinity of these gasses with each other in the air, it is probable that they are not so much in a state of combination, or of intimate mixture; and hence there are scarcely any chemical actions produced by the atmosphere, which are not more properly referable to some one or other of its constituent parts.

Atmospherical air, as such, is soluble in water; from which it may be separated by the action of the air-pump, or by long boiling, or distillation; hence fish, confined in fresh distilled water, soon die for want of air: if, however, the water has been previously exposed to the atmosphere, a sufficient portion is absorbed to supply the demands of these animals. In like manner water is soluble in air, but the proportion of this must necessarily vary according to the differences in temperature and barometrical pressure. Boyle's works, vol. ii. Mayow, Tractatus, &c. Priestley on Air. Lavoisier's Elements.

Air, factitious. While pneumatic chemistry was in its infancy, all those elastic fluids produced in chemical experiments, were distinguished by this appellation from the air of the atmosphere; since, however, these factitious airs have acquired peculiar names, the term has fallen into disuse.

Air, acid. } See MURIATIC ACID.
— MARINE. }

Air, fixed. } See CARBONIC ACID.
— FIXABLE. }
— MEPHITIC. }

Air, VITRIOLIC ACID. See SULPHUREOUS ACID.

Air, FLUORIC ACID. } See FLUORIC ACID.
— SPARRY ACID. }

Air, DEPHLOGISTICATED MARINE. See OXYMURIATIC ACID.

Air, VEGETABLE ACID. See ACETOUS ACID.

Air, NITROUS. See NITROUS GAS.

Air, DEPHLOGISTICATED NITROUS. See NITROUS OXYD.

Air, MEPHITIC ATMOSPHERICAL. } See Azot.
— PHLOGISTICATED. }
— NITROGENOUS. }

Air, VITAL. } See OXYGEN.
— PURI. }
— FIST. }
— DEPHLOGISTICATED. }

Air, INFLAMMABLE. See HYDROGEN.

Air, SULPHURATED INFLAMMABLE. } See HYDROGEN
— HEPATIC. } *sulphureted.*

Air, HEAVY INFLAMMABLE. See HYDROGEN carbonated, or CARBON, *giffous oxyd of.*

Air, ALKALINE. See AMMONIA.

For an account of Dr. Priestley's numerous experiments and observations on these several species of air, the reader is referred to the excellent work already cited.

Air, innate, in *Anatomy*, is a fine aerial substance, supposed, by some anatomists, to be enclosed in the labyrinth of the EUSTACHIAN, and to minister to the due conveyance of sounds to the fenestra.

But the existence of such innate air, has been called in question, and rendered very improbable. See EAR.

Air, in *Geography.* See ATRA.

Air, a mountain of Arabia Felix, to the north of Medina, and near it. It abounds with trees that yield frankincense.

Air, atmospheric, in *Medicine*, when combined with motion, different degrees of heat, electricity, and various effluvia and miasmata, constitutes the ATMOSPHERE; and forms one of those six external circumstances so celebrated in the schools, called NON-SATURATI. Simple atmospheric air is no further an object of medicine or physiology than as it forms the medium of RESPIRATION. See the preceding and subsequent articles.

Air, in *Music*, signifies the MELODY, or treble part of a musical composition.

The word is also used for a tune, or song itself, that is, for a series of sounds whose movement is regular and graceful. Rhyme is as necessary in a musical air, whether vocal or instrumental, as in the words of a song. Each bar of an air should be well accented, and the periods well phrased.

The rules for harmony are mechanical, and neither difficult to learn nor teach, as may easily be conjectured from the innumerable treatises in all languages for combining sounds in composition. Aristotle, Horace, Boileau, and Pope, have told us how good poems are constructed; but who shall tell us how to think, how to invent, to ferment ideas? Among all the receipts for constructing harmony, we have none that are intelligible for melody: we are told what *may* be done, by what *has* been already successfully achieved; but this is only telling us what we may imitate, and whom we may plunder. There are no magic wands to point out, or vapours hovering over springs of invention; no indications where the golden mine of new conceptions lies hidden. So that from age to age, memory and compilation supply common minds, and satisfy common hearers. It has been said:

“Sometimes a hero in an age appears;
 But scarce a Purcell in a thousand years.”

Handel was our magnus Apollo during the last century, and Rameau that of France. At present, Haydn and Mozart “are the gods of our idolatry,” and those of all Europe. But it is only such gifted men as these who furnish the rest of mankind with ideas.

The origin and progress of melody, derived from harmony, and phrased and formed into *Air*, have been fully detailed in the Gen. Hist. of Music, in tracing the progress of the musical drama or OPERA. National music every country, not wholly savage, has had from time immemorial. In Europe, Sicily, Spain, Provence, Venice, Scotland, Ireland, and Wales, have characteristic melodies or tunes, of great antiquity. But the first pleasing *Airs*, in cultivated music, that I have been able to find *harmonized*, and in regular modulation, were printed in three and four parts in separate books at Naples, in 1565. Of these the measures are airy, the intervals pleasing, and the counterpoint simple: all the parts generally moving together. They are printed without bars. The modulation borders a little on that of the ecclesiastical modes, but it begins and ends in the same key, which does not often happen in national tunes.

Air, in music, has various applications: in the melodrama, or opera, it distinguishes measured melody from recitative.

A bal-

A ballad, tune, or short instrumental air, consists of two strains or parts.

No very satisfactory etymology has been found for the word *Air*. Saumaise believes that it comes from *Aer*, Lat.; but Menage disputes this derivation, in his *Etymological Dictionary*, without furnishing a better. The term *Aria* in Italian, is of no light quality: the first instance of its use in the *Cruica Dictionary* is from Rado, who died in 1608. We know, however, that the word became of general use about the middle of the 17th century.

Though Air sometimes implies the words of a song, as well as the melody in general; more determination requires, that we should confine its import to melody, a tune, alone, and *give* to the words. A duet or playing air has nothing to do with the poetry, which may be free, though ill fit. And the air may be beautiful, even to non-sensical words.

Measured air, in an opera, is opposed to recitative, where no regular time is observed. The musical declamation, which needs only two kinds of notes, crotchets and quavers, with pauses at the end of a verse, approaches nearer to what we conceive to have been the vocal music of the ancients, confined to longs and shorts, than any of our Airs, except such as are very simple, can do. Chanting, in the Cathedral service, is more rapid than recitative; but resembles it by the absence of regular measure, more than Air, which must be arranged in some one of the divisions of common or triple time.

In accompanied recitative, short passages or fragments of Air occur in the instrumental parts, in measured melody, which is often called symphony; but the Italians, with more propriety, style these fragments Ritornelli; which see. Sometimes indeed the instruments accompany the reciter in regular time, which obliges the singer to pronounce the recitative in measure, (which likewise see). Of this the performers are informed by the words *a tempo*, in time.

A vocal air is only the melody of a single part or voice. If another part is added to it, in different intervals, it is styled a *Duo*, or *Duet*; in three parts, a *Trio*; in four, a *Quatuor*, or *Quartet*, &c.

The Ancients had Airs, both vocal and instrumental, called *Nomes*. The words of lyric measures, which we should call songs, were styled *Scolia*, (which see under their several articles).

In the work of Philodemus on music, which has been recovered from the cinders of Herculaneum, the best and only musical information it contains, after being so long expected, and with such difficulty deciphered, is the solution of the miraculous powers ascribed by the poets to Amphion, of building cities by music. We find in this tract, (which is but a fragment, and neither a treatise nor an eulogium on music, but a severe satire) that every trade, occupation, and profession, had its nomes or peculiar and appropriate Airs, which were played to the workmen; so that towns were not built *by* music, but *to* music, ΦΙΛΟΔΗΜΟΥ ΠΕΡΙ ΜΟΥΣΙΚΗΣ. We see in *Bass-relievi* and ancient sculpture, that there was a musician at the stern of every vessel, to regulate and animate the rowers. Orpheus, civilising the world, and introducing religion and order among mankind, implied only that religious rites were accompanied by music. See PHILODEMUS.

The derivation and progress of air in dramatic music will be found under the article opera, in which lyric poetry became subordinate to music. We fear the word *subordinate* will offend the poets, and such as love poetry better than music. "The words (says Franklin) are only an excuse for

singing." And Stillingfleet asks "who reads the *quarrels* of a song but the author?" In a musical drama, the business is all transacted in recitative, or declamation: which business, at the end of a scene, is interrupted by a ballad, or a few passionate lines, not to be called music, as before, but a *troupeau*; and these are calculated to draw the passions of a singer, and to increase the probability of a concert. Were this not the case, and if the poetry were better fitted and underlined by the more animated and impassioned declamation of common speech, why distinguish and involve it in a tune, accompanied and incumbered by different melodies?

"A song, or the words of an air for a great composer to set, and a capital singer to execute, should consist only of *one judge* or *passion*, expressed in as few and *but words as possible*." Metastasio has furnished the best model of words for airs in the Italian opera. And with respect to English dramas for music, on the Italian plan in all things, except the dialogue being declaimed in common speech, instead of the musical tones of *recitation*, we shall venture to quote, on the subject of song-writing, opinions which we thought just 30 years ago, and which, during that period, we have seen no reason to retract.

"Since the refinement of melody, and the exclusion of recitative, a song, which usually recapitulates, illustrates, or closes a scene, is not the place for epigrammatic points, or for a number of heterogeneous thoughts and clashing metaphors; if the writer has the least pity for the composer, or love for music, or wishes to afford the least opportunity for symmetry in the air, the thought should be *one*, and the numbers as smooth, and the expression as easy and laconic as possible. What sublime ecclesiastical music has Handel composed on the single words *Alleluiah*, and *Amen*! But, in general, every new line in our songs, introduces a new thought; so that if the composer is more tender of the poet's reputation than his own, he must, at every line, change his subject, or be at strife with the bard; and in either case, the alternative is injurious to the general interest of the music, poetry, and audience.

"In an air, it is by reiterated strokes that passion is impressed; and the most passionate of all strains, is, perhaps, that in which a beautiful passage is repeated and varied, and when the singer, by a few appropriate notes of taste, feeling, or spirit, returns to the first subject, while it still vibrates on the ear, and is recent in the memory; this licence, no doubt, may be, and often is, abused; but not by men of true genius and taste." *Present state of Music in France and Italy*.

Alessandro Scarlatti, Vinci, and Pergolesi, were the first who refined, phrased, and polished vocal melody, and settled the form and cantilena of dramatic airs. But these elegant strains composed for great singers, and a polite audience, are totally different from national melodies, which are traditional, and were invented long before either the gammut or modulation was settled: as may be discovered by innumerable old tunes of different nations, that begin in one key, and end in another. Indeed the ancient chants of the Romish church did the same. See CHANT and CANTO FERMO.

The Gluckists, in France, censure all airs that they are unable to sing, or that are likely to draw the attention of the audience from the poet to the musician. M. Suard, in a long and well written article of the new *Encyclopedie Methodique*, has analysed several of the most exquisite and renowned Italian opera airs that have ever been sung on the stage, with a severity that borders on insensibility. All the charms,

chance, illusion, and extatic pleasure, arising to ears disposed to be pleased by vocal combinations, is lost away. It would be more for the advantage of real lovers of music, if they would reason less and listen more at musical performances. Music is an object of passion, not of intellect. Does the composition please by its melody, grace, and variety? Does the voice or tone of the instrument by which it is executed, delight and charm you, by its intrinsic sweetness and accurate execution?—You then may venture to pronounce to yourself, that the composition and performance are perfect, without being supercilious, and often superficial critics, what you are to say.

In spite of our reverence for poetry, and partiality to the dramas of Metastasio, we are inclined to think that airs, on the best models of Italy, may be introduced in a musical drama, without injuring the poet or the interest of the piece. No one is more delighted with the poetry of Milton, Dryden, or Pope, than the author of this article, when he reads or hears them; but he never wishes it to be sung. Lyric poetry is a distinct species of verse, and varied versification, which is to delight by other means than ratiocination, logic, or philosophy. As painting is a refinement of the ocular sense, music purifies and augments the power of the auricular organ. We can exist without either painting or music; both are innocent luxuries: in the one, we have objects in nature to copy and judge by; but in music, wholly a work of art and imagination, of which we have no type in nature; every arrangement and combination of sounds that is grateful, graceful, and pleasing, which has not been rendered uncouth by time, or vulgar by common use, is in the storehouse of a composer; whose business it is to select, adjust, and introduce it to the ear, as propriety and occasion may require.

To give a specimen of every species of air, vocal and instrumental, which cultivated genius has produced, would occupy many volumes of our work. All we can do is to give the *nomenclature* of those movements that are, and have been, in most general use, with their definitions: such as *preludio, allmanet, corant, minuet, jig, saraband, siciliana, polka, rousau, horn pipe, country dance*; and in Italy, *barcarola, aria alla napoletana, alla calabrese, veneziana*, &c. &c. all which see under their several heads.

Recitatives and airs for a single voice, succeeded madrigals of three, four, and more voices; as sonatas and concertos did Fantasias for instruments. (See these terms in their several places.)

In dramatic music, there are three several kinds of *air*: *Aria di cantata*, a pathetic song; *aria di bravura*, a song of execution; and *aria parlante*, a speaking air; besides the *andante, rondo, cavatina*, &c. These and the several movements in the dances of an opera, are varied to infinity. But the scale, as it is now divided and extended, offers ample materials for them all. If we but consider that the number of changes in eight bells, where there is no modulation or change of key, amounts to 40,320; that the twelve semi-tones of the octave, every one of which made a key-note, major and minor, generates as many transpositions as the key of C; that the melodies found in these 12 scales may be still varied by the different lengths of notes, and may be truly said to be incalculable; and lastly, if we consider what variety may be given to an air or melody arising warrantably from the fundamental base of each key, by different accompaniments, inversions, and double counterpoint, we shall be lost in the maze of infinite divisibility! The changes upon 12 bells, (suppose from G in alt, 5th space in the treble, to C 6th line in the bass) amounting to 479001600; would employ, to ring them all, 12 men,

night and day, for 75 years, ten months, one week, and three days, according to the proportion of ringing 720 changes in an hour of an astronomical day of 24 hours, 365 of which complete the year! See BELLS, CARILLONS, and CHANGES.

Since *da capo*s have been abandoned in the opera *airs*, which occasioned many dramatic absurdities, the *cavatina*, or single strain, without a second part, prevailed; but that not furnishing an opportunity for fingers of great abilities to manifest all their powers of execution, taste, and expression, in the same air; of late, every air for a great finger is a *due caratteri*, of two characters, consisting of two distinct movements, usually an *andante* and an *allegro di bravura*. It is often difficult from the sense of the words, to assign any other reason for these sudden gusts of passion, after a soothing and pathetic movement, but that of convincing the audience of a finger's marvellous agility of throat, and powers of exciting surprise by *des tours de force*. If such airs were composed purposely for a concert, at which a performer, from the multiplicity of his or her engagements, could only stay to sing *one song*, and that connected with nothing else, airs of two characters might encrease the finger's fame, and the pleasure of the audience, without absurdity; but in a serious drama, where character, connexion, and propriety should be supported, after labouring through a slow movement in a melancholy drag, as every finger does, if not gifted with powers of new and appropriate embellishments, the setting off full speed without a word appearing in the *libretto*, or opera book, for the necessity of taking flight in such an outrageous manner, we pity the poet and ourselves for being thus defrauded of all dramatic interest. In the course even of *two acts*, to which an opera is now cut down, opportunities for displaying all the powers of a finger, however extraordinary and various, may be found in every principal part, without violating the dignity of character, and rules of common sense. See MELODY, SONG, TUNE, and OPERA.

AIR, in *Mythology*, was adored by the heathens under the names of Jupiter and Juno; the former representing the superior and finer parts of the *atmosphere*, and the latter the inferior and grosser parts. The augurs also drew prefaces from the clouds, thunder, lightning, &c.

AIR, in *Painting*, &c. denotes the manner and very life of action; or it is that which describes such of those refined expressions, that do not arise from the motion of the features of the face, which are to be considered as the more immediate agents expressing the passions of the soul (see PASSIONS); but from the turn of the body, and especially of the head and neck. This term *air* is more particularly synonymous with GESTURE, or GRACEFUL ACTION or ATTITUDE. Painters are in danger of falling into affectation, while they attempt to give an air of elegance above vulgar ideas. Corregio and Guido have excelled in the airs of the heads, as well as of the whole figures they painted; but, perhaps, in some instances, even they may have exceeded the due bounds of nature.

AIR, in *Painting*, is also a great subject of consideration, as the interposing medium which tends to diminish the force or strength of objects and colours. See the article PERSPECTIVE AERIAL.

AIR, in *Surgery*. The application of gaseous matters to the purposes of surgery, has not been sufficiently attended to. There is reason to believe that several aeriform substances might be employed locally, as well as internally, to considerable advantage; but it would exceed the bounds we have prescribed to this department of our work, were we to adduce all the facts that might be brought forward to

illustrate

illustrate the medicinal powers of air, in its different combinations. The application of fixed air, or carbonic acid gas, by means of the fermenting cataplasin, is pretty generally known, in cases of fetid and gangrenous sores. It has been advantageously used also in malignant ulcers of the nose, tongue, and mouth, as well as in caries of the bones.

Fixed air is plentifully obtained from a mixture of alkaline or chalky substances with vitriolic acid; and during the effervescence, applying the gas which is extricated immediately to the morbid part; or by impregnating water with it, compress may be looked in the water, and laid frequently over the seat of the disease. Mr. Loeffer, a German surgeon, has recommended a particular apparatus for this purpose, which may be easily constructed, and which he employs for saturating water with fixed air, by the mixture of chalk and vitriolic acid, or during the process of fermentation.

When we wish to apply the air to a cancerous breast, for example, we are to fill a bladder with the air as it rises from the above mixture. Then introduce a tube, fixed to its orifice, into another bladder, which is to be cut round in such a manner that it can be applied like an open bag around the breast, and held close to it with the hands. When it is fastened below, it must be untied, so that the fixed air may pass out of the first into the second bladder, and find access to the ulcerated part. In order to facilitate this process, a gentle degree of pressure is to be applied to the bladder; and, as one bladder will not be sufficient, a number of them should be provided in readiness, and filled for immediate use in succession. This operation is to be continued half an hour or longer each time, and repeated twice or thrice a day.

Mr. Wittstock, who has written a German treatise on this subject, and with extraordinary success, recommends us to apply the carbonic acid gas, by means of a receiver or air-bell, connected with a flexible tube or pipe, sufficiently air-tight; but as the vitriolic acid produces too strong a commotion, the gas is extricated for such purposes from a mixture of fixed alkali and vegetable acid.

The medicinal use of facitious airs is a subject which has been diligently considered by Dr. Beddoes, Dr. Thornton, Mr. Hill, Mr. Davy, and some other gentlemen in England; but the enquiry is still in its infancy, and has not been productive of so much public benefit as its zealous friends anticipated. Perhaps the attention of medical men to the local and external influence of gaseous matters, would better repay them for their trouble. Surgeons are not exactly agreed, whether the atmospheric air be hurtful to wounds and internal cavities, merely as air, or as it may be cold, hot, moist, dry, or variously modified. We hope these superficial hints will serve to excite the attention of professional gentlemen to this branch of the healing art. It likewise deserves further enquiry, whether the injection of fluids into the urinary bladder, impregnated with fixed air, &c. &c. be so efficacious, in calculous cases, as some persons have pretended.

From observations on bleeding in rheumatisms, and after taking cold, it is evident, the air can enter with all its qualities, and vitiate the whole texture of the blood, and other juices.

From the palsies, vertigoes, and other nervous affections caused by damps, mines, &c. it is evident, that air thus qualified can relax and obstruct the whole nervous system. And from the colics, fluxes, coughs, and consumptions produced by damp, moist, and nitrous air, it is evident it

can corrupt and spoil the noble organs, &c. See ATMOSPHERE, and preceding articles.

Air-bag, in *Botany*, a distended bladder-like foot-vessel, opening on one side, as in the periwinkle, or bladder-fennel. It signifies also other kinds of distended air-vessels. See FOLLICULUS.

Air-balloons, a name lately given to those aerostatic machines that have been employed in aerial navigation. See AEROSTATION.

Air-bladder, in *Ichthyology*, a kind of vesicula, containing elastic air, found in the bodies of fish, by means whereof they are enabled to sustain themselves in any depth of water, and either to rise or sink at pleasure.

The air-bladder is the same with what is otherwise called the swim, or swimming-bladder. This membranous bag lies close to the back-bone, and is furnished with a strong muscular coat, by which it has the power of contraction and dilatation. It is connected with a glandular substance, which contains a quantity of red blood; and some have supposed that the air contained in the swimming-bladder, is derived from this substance. Two processes or appendices issue from its anterior part, and terminate in the fauces; and it is supposed by some writers to be that part which is called the *font*.

The discovery of the use of the air-bladder took its rise from observing, that a bubble of air in rising from the bottom of a fluid, continually dilates till it reaches the top, by reason of the continual diminution of the weight, or pressure, of the incumbent water. For the air, in the bladder, is like the bubble, more or less compressed, according to the depth the fish swims at, and takes up less or more space; and consequently the body of the fish, part of whose bulk this bladder is, is greater or less according to the several depths, though it retains the same weight. The rule of hydrostatics is, that a body heavier than so much water as is equal in quantity to the bulk of it, will sink; a body lighter, will swim; a body of equal weight will rest in any part of the water. By which rule, if the fish in the middle region of the water be of equal weight with an equal bulk of the water, the fish will rest there, without any tendency either upwards or downwards; and if the fish be deeper in the water, its bulk becoming less by the compression of the bladder, and yet retaining the same weight; it will sink and rest at the bottom: on the other side, if the fish be higher than the middle region, the air dilating itself, and the bulk of the fish consequently increasing, without any increase of the weight, the fish will rise and rest at the top of the water.

Perhaps the fish by some action can emit air out of the bladder, and afterwards out of its body; and also when there is not enough taken in more air, and convey it to this bladder; in which case it will be no wonder, that there should be always a fit proportion of air in the bodies of all fishes, to serve their use, according to the depth of water they live in; perhaps also, by some muscle, the fish can contract this bladder beyond the pressure of the weight of water; and perhaps it can by its sides, or some other defence, keep off the pressure of the water, and give the air leave to dilate itself. In these cases, the fish will be helped in all intermediate distances, and may rise or sink from any region without moving a fin.

If the air-bladder of a fish be pricked or broken, the fish presently sinks to the bottom, unable either to support or raise itself up again. Flat fishes, as soles, plaice, &c. which always lie groveling at the bottom, have no air-bladder.

Dead fishes are found swimming on the surface of the water, & can't the muscles of the membrane cease to act; and their bellies are upwards, as the backbone ceases to yield, and the distended air is protruded into the abdomen, and the backbone consequently heaviest at its upper part.

In some fishes there is a manifest channel, leading from the gullet or upper orifice of the stomach to the air-bladder, which doubtless serves for conveying air into it. In a *Pleuronectes* M. W. Linchby observed, that upon pressing the bladder the stomach perfectly swelled; so in that fish it forms the air-pipes freely both ways. Possibly the fish while alive may have a power to raise up this valve, and let out air on occasion.

In a variety of other fishes there are communications with some parts of the alimentary canal, particularly the oesophagus and stomach. The salmon has an opening from the fore-end of the air-bladder into the oesophagus, which is surrounded by a kind of muscular fibres. The herring has a sort of funnel, connecting the bottom of the stomach with the air-bag; by which the air probably comes out from it.

All the fishes of the cartilaginous kind want air-bladders: by what means it is they ascend and descend in water is yet unknown. The cetaceous kind, or sea-beasts, are also without the air-bladder: indeed, as these differ little from quadrupeds, but in the want of feet, the air which they receive into their lungs in inspiration, may serve to render their bodies equiponderant to water; and the constriction or dilatation of it, by the help of the diaphragm and muscles of respiration, may possibly assist them to descend, or ascend, in the water, by a light impulse thereof with their fins. Most of the eel-kind have bladders, yet they can hardly raise themselves in the water, by reason of the length and weight of their tails; the air-bladder being near their heads, may help them to lift up their heads and fore part. Ray's *Wisd. of God*, &c. part i. p. 26. Phil. Trans. N° 114, Abridgment, vol. ii. p. 845.

There is great diversity in air-bladders, in respect of figure, substance, situation, and connection, in different fish. In some, the air-bladder, is divided into two, *e. gr.* in *carps*; and in others, into three. Needham maintains, that all fish which have teeth in their jaws have only a single air-bladder; whereas those without teeth have a double one; or, which amounts to the same, the air-bladder of these last is divided into two cells. Sig. Redi refutes this distinction; giving instances of fish with teeth, whose air-bladder is double; and of others without teeth, which have only a single air-bladder.

Dr. Priestley conjectures that the air, enclosed in the air-bladder of fishes, serves some farther purpose in their economy besides that of enabling them to rise or sink in water. Some fish have no air-bladder, and yet rise or sink without difficulty. That fishes cannot live without air is a well-known fact, established long ago by the experiments of Mr. Hauksbee. The fishes he employed were gudgeons, which are lively in the water, and which subsist for a considerable time when taken out of it. Having put three of these into a vessel of water, which had no communication with the external air, and which was designed to resemble a frozen pond, and other three into a vessel of water exhausted of its air; he observed, that in about half an hour the latter manifested signs of uneasiness by an unusual motion of their mouth and gills; and the former frequently ascended to the top of the vessel in which they were confined and then sunk down again, without any sensible alteration. After five hours the gudgeons in the vessel exhausted of its air, became less active; and in about three hours more those in the confined air lay at the

bottom of the vessel with their bellies upwards, without moving their fins or tail, but indicating life by a motion with their mouths. On uncovering the vessel, they revived in two or three hours, and were perfectly well next morning; at which time those in the vessel purged of its air were also recovered. When this last vessel was put under the receiver of an air-pump, and the air was exhausted, they all died. When the air was exhausted, they remained at the top, but on its readmission, they sunk to the bottom. It is not easy to explain the manner in which fishes are supplied with air, nor the benefit they derive from it; nor are the nature and qualities of the air, contained in their air-bladder, satisfactorily ascertained. Dr. Priestley (*Exp. and Obs. relating to Nat. Philos.* vol. ii. p. 138), confined minnows, and other small fishes in water without any access of common air, till they died, and upon examining this water, he found that it was somewhat worse than air in which a candle just goes out. Hence he infers, that air contained in water, in an unelastic state, is as necessary to the life of fishes, as air in an elastic state is to that of land-animals. Upon putting fishes into water impregnated with phlogisticated air, he found that it was not only injurious, but in process of time fatal to them; although he observes, that fishes, like insects and some other exsanguineous animals, can live a considerable time without any thing equivalent to respiration. In mentioning some experiments on the state of the air, which is contained in the air-bladder of fishes, he remarks, that when these are taken out of the fish, the air cannot be discharged from them by pressure through any existing aperture, but he was always obliged to cut or burst them. The air itself, obtained from many of them, was not affected by nitrous air; but that of some, particularly of roaches, exhibited slight indications of the effect of this test. Upon the whole it thus appears, that he seldom met with oxygen, and with that only in a small quantity. Fourcroy made experiments on the air contained in the air-vessel of the carp, and found that for the most part it was perfectly pure azotic gas, though it sometimes contained a small quantity of carbonic acid gas. From the nature of the fluid he infers, that the air in the bladders of fishes is produced in the stomach. *Ann. de Chem.* i. 47. Dr. Monro, in his lectures, led his auditors to conclude, that it was fixed air. But Dr. Brod-belt of Jamaica, collecting about a quart of the air from the bladder of a large sword-fish, which, he says, consisted of innumerable cells that had no communication with one another, found to his surprise that it was oxygen. A flame was brightened and an ignited stick was rekindled by it; and it was so strong and pure, that the common experiment of a piece of steel-wire, heated and put into it, succeeded well, and threw out a most vivid light when melting. This pure air, he supposes, is adapted to serve the purposes of life, when the fish is far below the surface of the water. *Duncan's Ann. of Med.* for 1796, p. 393.

The water-snake, in lieu of a bladder, has a large membranous air-bag on its back, which empties and fills with air at pleasure, by an aperture, which it can shut very close, from without inwards, by means of a sort of valve, so that the least globule of water cannot enter without its consent. By this artifice it can enlarge or lessen the bulk of its body, and inhabit all depths of the water; though a conjecture has been advanced by Mr. Ray, that it is by the help of water which they take in and let out by two holes in the lower part of their abdomen, near to the ventricle. They sink in the water, by letting in some of it at these holes; the orifices whereof are opened and shut at pleasure, by means of proper muscles. The water being thus received

into the cavity of their abdomen, serves to make them preponderate the water, and descend; when they would ascend again, a compression is made by the muscles of their abdomen, and the water forced out again, at least so much as suffices to give the degree of levity wanted. Ray's *Wisd. of God*, part ii. p. 346.

Air-bladders, or *Air-bags*, in *Ornithology*, are cells or receptacles of air in the bodies of birds, which communicate with the lungs, and which are lodged both among the fleshy parts, and in the hollow bones of these animals. Mr. John Hunter, F. R. S. (*Philos. Transf.* vol. lxiv. part 1. p. 205, &c.) has published some curious observations on this subject, leading to a more particular inquiry into the final cause of this peculiarity in the structure of birds, which had not been sufficiently noticed and examined by anatomists and natural historians. He informs us, that the air-cells, which are found in the soft parts of birds, have no communication with the cavity of the common cellular membrane of the body; some of them communicate immediately with one another; and all of them may be said to have a communication together, by means of the lungs as a common centre. Some of them are placed in larger cavities, such as the abdomen; others are so lodged in the interstices of parts, that they would, at first, appear to be the common connecting membrane, as about the breast, axilla, &c. The bones which receive air are of two kinds; some, as the sternum, ribs, and vertebræ, have their internal substance divided into innumerable cells; whilst others, as the os humeri and the os femoris, are hollowed out into one large canal. These bones may be distinguished from those that do not receive air by their less specific gravity; by being less vascular, and consequently whiter, than others; by containing little or no oil; by having no marrow nor bloody pulpy substance, even in their cells; by not being, in general, so hard and firm as other bones; and by the ease with which the passage that conveys the air into the bones may be perceived.

The mechanism by which the lungs are adapted for communicating air to the above-mentioned parts consists principally in the attachment of the lungs to the diaphragm and their connection with the ribs and sides of the vertebræ. These adhesions are peculiar to this tribe of animals. For the communication of the air from the lungs to the other parts the diaphragm is perforated with large holes, which open a free passage between the cells of the lungs and the abdomen: and to each of these perforations is annexed a distinct membranous bag, which is very thin and transparent, and these bags, which receive the air, are extended over the whole abdomen. The lungs open at their anterior part, or towards the sternum, into membranous cells, which lie upon the sides of the pericardium, and communicate with the cells of the sternum. The superior part of the lungs opens into large cells of a loose net-work, through which the trachea, oesophagus, and large vessels, in their way from and to the heart pass. When these cells are distended with air, the size of the part where they lie is enlarged, and this distension indicates passion, as appears in the turkey-cock, pouting-pigeon, &c. and in the breast of a goose, when it cackles. These cells communicate with others in the axilla, under the large pectoral muscle, &c.; and those again with the cavity of the os humeri by small openings in the hollow surface, near the head of that bone. The posterior edges of the lungs, which lie on the sides of the spine, and project backwards between the ribs, open into the cells of the bodies of the vertebræ, ribs, canal of the medulla spinalis, sacrum, and other bones of the pelvis; and thus the air finds a passage to the cavity of the thigh-bone. This supply of the bones with air is not wholly by means of the lungs; for

the cells of the bones of the head, in some birds, are filled with it, as in the case of the owl, which has the diploe between the two plates of the scull cellular, and capable of admitting a considerable quantity of air from the Eustachian tube. Mr. Hunter, in his conjectures concerning the use of these cavities, concluded at last that they were to be considered as appendages to the lungs; and that they answer the same purpose with the two bags that form the lungs of amphibious animals which are continued down through the belly, the upper part of which performs the office of respiration, and the remainder of which is a reservoir of air. In consequence of this conformation these animals can breathe less frequently than others; and birds are thus aided in their flight, which must render frequency of respiration difficult, and a reservoir of air singularly useful. He farther suggests that this construction of the respiratory organs may assist birds in singing; and that the long continuance of the song of a canary-bird between its breathings may be owing to this cause. Dr. Latham (*Linnean Transactions*, vol. iv. p. 94.) queries, whether this construction may not enable some birds to dive and stay for a considerable time under water. These air vesicles, according to Dr. Monro, are of considerable use in two respects. They serve, by distending the lungs with air, to render the bodies of birds specifically light, and also to straiten the trachea arteria, and thus return the air; and moreover to supply the place of a muscular diaphragm and strong abdominal muscles, and thus to aid the exclusion of the eggs and fæces.

Air-chamber, is a name given by Dr. Henshaw to a room contrived for obtaining the benefit of change of air, without going out of the house. According to his whimsical proposal, it is to be twelve feet square, and air-tight, furnished with a very large pair of organ bellows, to or from which air is to be conveyed through the wall by a copper pipe, with valves for opening inwardly and outwardly as occasion shall require. With these bellows, the air in the room is either to be condensed and made heavier, by forcing air in, or lighter and rarer by conveying air out of the room. See his *Aero-Chalinos*, or *Phil. Transf.* N° 133. See *VENTILATOR* and *Blowing-Wheel*.

Air-gun, or *Wind-gun*, a machine which serves to explode bullets, and other shot, with great violence, by the expansive force of the air. This sort of implement, charged with air, has an effect scarcely inferior to that of a common fire-arm charged with gun-powder; but it discharges itself with a much less report; and it is this which probably gave occasion to the fable of white gun-powder. The first account of an air-gun, that has been noticed, is found in the *Elements d'Artillerie* of David Rivaut, who was preceptor to Louis XIII. of France. He ascribes the invention to one Marin, a burgher of Lifieux, who presented one to Henry IV.

The common air-gun (*Pneumatics*, Plate iii. fig. 14.) is made of brass, and has two barrels: the inside barrel K A of a small bore, from which the bullets are shot, and a larger barrel E C D R on the outside of it. In the stock of the gun there is a syringe, S M N P, whose rod M draws out to take in air, and piston S N drives the air before it through the valve E P into the cavity between the two barrels. The ball K is put down into its place in the small barrel with the rammer, as in another gun. There is another valve at S L, which, being opened by the trigger O, permits the air to come behind the bullet, so as to drive it out with great force. If this valve be opened and shut suddenly, one charge of condensed air may make several discharges of bullets; because only part of the injected air will go out at a time; and a new bullet may be put into the place K; but if the whole air be discharged on a single bullet, the ball

ball will be expelled more forcibly. This discharge is effected by means of a lock *kl* (fig. 15.) placed here as in other guns; for the trigger being pulled, the cock *k* will go down, and drive a pin *a*, that will open the valve, and let the air upon the ball *K*.

Another mode of the most modern and approved construction is represented in fig. 16. *A* is the iron gun-barrel, with the lock, stock, ram-rod, &c. of about the size and weight of a common fowling-piece. Under the lock at *b* is a round tube, with a small moveable pin in the inside, which is pushed out by the spring of the lock, when the trigger *a* is pulled. To this tube, *b*, is screwed a hollow copper-ball, *c*, containing a spring-valve at its aperture; and perfectly air-tight. Each gun has usually two of these balls, which are fully charged with condensed air by means of the condensing syringe *B*, fig. 17. Having rammed down the leaden bullet into the barrel, and screwed the copper ball home to the lock at *b*, let the trigger, *a*, be pulled, and the pin at *b* will be forcibly and instantly driven out against the valve in the ball, and will thus liberate a portion of the condensed air; which, rushing up through an aperture in the lock into the barrel immediately before the ball, will propel it to the distance of, at least, 60 or 70 yards. By cocking the piece, another discharge may be immediately made, and thus repeated 15 or 16 times, with a very small hissing noise, which at a distance is not audible. The condensed air is forced into the ball by the following apparatus. The ball, *c*, is screwed to the brass syringe *B* (fig. 17.) quite close. In this syringe is adapted a moveable piston and piston-rod, *a*, at the end of which is a strong ring, into which is placed a stout iron rod, *kl*: upon this rod the feet are firmly placed, and the hands are applied to the wooden handles, *ll*, fixed to the syringe. By steadily moving the barrel *B*, up and down on the rod *a*, the ball, *c*, will become charged with condensed air; and it is easily known when it is filled to the utmost by the irresistible action which the air makes against the piston, when you are working the syringe. At the end of the rod *kl*, is usually an eight-square hole, which serves as a key to make the ball fast on the screw, *b*, of the gun, and on the syringe. The piston-rod works air-tight by a collar of leathers on it, in the barrel, *B*; and therefore, when the barrel is pulled up, fresh air will rush in at the hole *b*; when the barrel is pushed down, the air in it can only pass into the ball at top; the barrel being drawn upwards, the operation is repeated, until the condensation is so strong as to resist the action of the piston.

Dr. Macbride (Exper. Ess. p. 81.) mentions an improvement of the air-gun by Dr. Ellis, in which the chamber for containing the condensed air is not in the stock, which makes the machine heavy and unwieldy, but has five or six hollow spheres belonging to it, of about three inches diameter, fitted to screw on the lock of the gun. These spheres are contrived with valves for confining the air, which is forced into their cavities, so that a servant can carry them ready-charged with condensed air; and thus the gun of this construction is rendered as light and portable as one of the smallest fowling-pieces.

The magazine air-gun is an improvement of the common air-gun, invented by an ingenious artist called L. Colbe. By his contrivance ten bullets are so lodged in a cavity, near the place of discharge, that they may be drawn into the shooting barrel, and successively shot so quickly, as to be nearly of the same use with so many different guns; the only motion required, when the air has been previously injected, being that of shutting and opening the hammer, and cocking and pulling the trigger. In fig. 18, is exhibited a section of the gun, as large in every part as the gun

itself; and so much of its length is shown as is necessary to give a complete idea of the whole. *AEH* is part of the stock; *G* is the end of the injection syringe, with its valve, *H*, opening into the cavity, *FFFF*, between the barrels. *KK* is the small or shooting barrel, which receives the bullets, one at a time, from the magazine, *ED*, which is a serpentine cavity, wherein the bullets, *b, l*, &c. are lodged, and closed at the end *D*. The circular part, *SI&MI*, is the key of a cock, having a cylindrical hole, *IK*, through it, equal to the bore of the small barrel, and forming a part of it in the present situation. When the lock is taken off, the several parts, *Q, R, T, S, W*, &c. come into view, by means of which the discharge is made, by pushing up the pin, *Pp*, which raises and opens a valve, *V*, to let in the air against the bullet, *I*, from the cavity, *FFFF*; which valve is immediately shut down again by means of a long spring of brass, *NN*. This valve, *V*, being a conical piece of brass, ground very true in the part which receives it, will of itself be sufficient to confine the air. To make a discharge, pull the trigger, *ZZ*, which throws up the sear, *yx*, and disengages it from the notch, *x*; upon which the strong spring, *WW*, moves the tumbler, *T*, to which the cock is fixed. The end, *u*, of this tumbler bears down the end *v*, of the tumbling lever, *R*, which, by its other end, *m*, raises the flat end, *l*, of the horizontal lever, *Q*, by which means the pin, *Pp*, is pushed up, and opening the valve, *V*, discharges the bullet; all which is evident from a bare view of the figure.

To bring another bullet instantly to succeed *I*, there is a part *H*, called the hammer, represented in fig. 19. and fig. 20. which by a square hole goes upon the square end of the key of the cock, and turns it about so as to place the cylindric bore of the key *IK*, in any situation required.

Thus, when the bullet is in the gun, the bore of the key coincides with that of the barrel *KK*; but when it is discharged, the hammer *H* is instantly brought down to shut the pan of the gun; by which motion the bore of the key is turned into the situation *ik*, so as to coincide with the orifice of the magazine; and upon lifting the gun upright, the ball next the key tumbles into its cavity, and falling behind two small springs, *ss*, fig. 18. is by them detained. Then opening the hammer again, the ball is brought into its proper place, near the discharging valve, and the bore of the key again coincides with that of the shooting barrel. It appears how expeditious a method this is of charging and discharging a gun; and if the force of condensed air was as great as that of gunpowder, such an air-gun would actually answer the end of many guns, and prove the best defence against highwaymen or robbers; because, when there is reason to suspect them, they might then make five or six discharges before the robber can come within pistol-shot.

From the experiments of Mr. Robins, in his New Principles of Gunnery, (See Mathem. Tracts of Robins, by Wilfon, vol. i. p. 73.) it appears, that the force of gunpowder, at the moment of its explosion, is 1000 times greater than that of the elasticity of common air; and, therefore, that the latter may produce the same effect with the former, its condensation must be 1000 times greater than that of its natural state. But as the velocities with which equal balls are impelled are directly proportional to the square roots of the forces, the velocity with which an air-gun, containing air condensed only ten times, will project a ball, will be $\frac{1}{\sqrt{10}}$ th of that arising from gun-powder; and if the air were condensed 20 times, it would communicate a velocity of $\frac{1}{\sqrt{20}}$ th of that of gun-powder. In the air-gun, however, the reservoir of condensed air is commonly very large, in proportion to the tube which

contains the ball, and its density will be very little altered by expanding through that narrow tube; consequently the ball will be urged by nearly the same uniform force with that of the first instant: whereas the elastic fluid of inflamed gun-powder, bears a small proportion to the barrel of the gun, and by dilating from the small portion of it near the but-end into a comparatively large space, its elastic force will be proportionally weakened, and its action on the ball in the barrel will become gradually less and less. Hence it appears, that the air-gun will project its ball with a much greater proportional degree of velocity than that which is above stated; inasmuch that air condensed ten times will produce a velocity not much inferior to that arising from the gun-powder.

However, in this kind of gun, and in all cases which require a very considerable condensation of air, it will be requisite to have the syringe of a small bore, *viz.* not exceeding half an inch in diameter; because the pressure against every square inch is about 15 pounds, and against every circular inch about 12 pounds. If, therefore, the syringe be one inch in diameter, when one atmosphere is injected, there will be a resistance of 12 pounds against the piston; when two, of 24 pounds; and when ten are injected, there will be a force of 120 pounds to overcome; whereas ten atmospheres act against the circular half inch piston, whose area is but one-fourth part so big, with a force but one-fourth as great, *viz.* 30 pounds; or 40 atmospheres may be injected with such a syringe as well as ten with the other. Defaguliers's Exp. Phil. vol. ii. p. 398, &c. Martin's Phil. Brit. vol. ii. p. 189, &c. Adams's Lect. on Nat. and Exp. Phil. by Jones, vol. i. p. 133.

Air-jacket, a jacket of leather, furnished with bags or bladders of the same material, inflated with air, and serving to buoy up the person who wears it, and to prevent his sinking in water, without any effort of swimming. These bags communicate with each other, and are filled with air by means of a leathern pipe, having at the end of it a stop-cock, accurately ground, so as to admit the injected air, and, when closed, to prevent its escape. The jacket must be well moistened with water before the bags are filled: otherwise the air will escape through the pores of the leather.

Air-lamp, a pneumatic machine, formed by the combination of inflammable air and electricity, which, by turning a stop-cock, produces a flame that may be restrained or continued at pleasure. The contrivance of machines of this sort was suggested by the experiments of Mr. Volta, Dr. Ingenhouz, &c. The air-lamp is now constructed in the following manner. A, (*Plate iii. Pneumatics, fig. 21.*) is a glass jar for containing the inflammable air; B, an open glass urn, that contains water, by the pressure of which the air is forced out of the jar A, through the brass-pipe *a*; C, is the stop-cock, so perforated, that the water may descend from B into A, and the air pass out through the pipe *a*. By turning the bar of the stop-cock to an horizontal position, the communication between the two vessels is closed, and the passage of the air obstructed; and by turning it into a vertical position, the communication is opened. The lower jar, A, is supplied with inflammable air by means of the bladder, (*fig. 22*); and two bladders of this kind accompany each lamp. It is used in the following manner: Take off the cover D, from the lamp, and turn the stop-cock upwards; then pour as much clear water into it as will fill the vessel A, up to the pipe *a*; unscrew this pipe, and in its stead screw the small brass piece (*fig. 23.*) and to this screw one of the stop-cocks and bladders, (*fig. 22.*) With the bladder under one arm, one hand

to the cock at C, and the other to that of the bladder, open the apertures and pack the bladder at the same time; and thus the air will be forced upon the water in A, and driven up the glass pipe through the tube into B, with a bubbling noise. When the vessel, A, is thus charged with air, the stop-cocks are to be turned, so as to cut off the communication with the external air. Care must be taken that the common atmospheric air does not mix with the inflammable; for if a mixture of these airs were fired, the explosion would be great and dangerous.

The apparatus for lighting this lamp is of the electrical kind; and it is as follows. The mahogany basin, E F, is a sort of box, about 12 inches square, and 5 inches deep; and in this is placed an electrophorus, consisting of a resinous cake *c*, and metallic plate *d*, which by a hinge at its back, admits of being pulled upwards and let down by the silken string *b*, connected both with it and with the stop-cock C. When this cake is once excited, its electrical effect upon the metal plate will be continued for a long time. A metallic chain, G, communicates with a wire and ball *e*, passing through a glass tube below, in the box over the plate, and above with a fine wire passing through a glass tube. This upper wire is bent to about $\frac{1}{4}$ th of an inch distance from the flame-pipe. It is evident that when the electrophorus in the box is previously excited, and the stop-cock, C, turned, the silken string, *b*, will raise the metallic plate; and this will give an electric spark to the ball and wire above, which will convey it instantly to the flame-pipe, and inflame the air issuing out of the pipe, in consequence of the pressure of the water in its descent into the vessel A. The cock, C, being turned back, the flame ceases; and turned again, appears; and will serve to light a candle, match, &c. whenever it may be thought proper. The number of times in which light may be produced will be very great, and will depend on the quantity of the inflammable air in the vessel A. If the cock is not turned back, the flame will continue till the whole of the inflammable air is consumed. The light thus produced will be sufficient for reading a large print in the night, or seeing the hour by a watch. When the electrophorus is to be excited, the silken string, *b*, is unhooked from the plate, and the apparatus taken out of the box; and the metallic plate is lifted up, whilst, with a silken or dry cat-skin rubber, you briskly rub the surface of the resinous cake. About 20 revolutions in rubbing will be sufficient, so that the plate will give a spark to the knuckle about the distance of an inch; and by the strength of the spark the degree of excitation is to be estimated. The silken string and small glass tubes, through which the wire, G, passes, should always be very dry, that the passage of the electrical spark may be quite perfect. The whole length of this apparatus is about 22 inches; but it may be made of any dimensions. Dr. Ingenhouz used a small apparatus, constructed upon a similar principle, in obtaining light for domestic purposes, both when at home and on his travels. Adams's Lectures by Jones, vol. ii. p. 99, &c.

Air-pipes, a contrivance invented by Mr. Sutton, a brewer of London, for clearing the holds of ships and other close places of their foul air. The principle upon which this contrivance is founded is well known. It is no other than the rarefying power of heat, which, by causing a diminution of the density of the air in one place, allows that which is in contact with it to rush in, and to be succeeded by a constant supply from remoter parts, till the air becomes every where equally elastic. If a tube, then, be laid in the well, hold, or any other part of a ship, and the upper part of this tube be sufficiently

heated to rarefy the impending column of air, the equilibrium will be maintained by the putrid air from the bottom of the tube, which being thus drawn out, will be succeeded by a supply of fresh air from the other parts of the ship; and by continuing the operation, the air will be changed in all parts of the ship. Upon this principle, Mr. Sutton proposed to purify the bad air of a ship, by means of the fire used for the coppers, or boiling places, with which every ship is provided. Under every such copper or boiler there are two holes separated by a grate, one for the fire and the other for the ashes; and there is also a flue, communicating with the fire-place, for the discharge of the smoke. The fire, after it is lighted, is preserved by the constant draught of air through these two holes and the flue; and if the two holes are closed, the fire is extinguished. But when these are closed, if another hole, communicating with any other airy place, and also with the fire, be opened, the fire will of course continue to burn. In order to clear the holds of the ships of the bad air, Mr. Sutton proposed to close the two holes above mentioned, *viz.* the fire-place and ash-place, with substantial iron doors, and to lay a copper or leaden pipe of sufficient size from the hold into the ash-place, and thus to supply a draught of air for feeding the fire; a constant discharge of air from the hold will be thus obtained, and fresh air will be supplied down the hatches, and by such other communications as are open into the hold. If other pipes are connected with this principal pipe, communicating either with the wells or lower decks, the air that serves to feed the fire will be drawn from such places.

In large ships, there is not only a copper, but a fire-grate, like those used in kitchens; behind this grate an iron tube might be fixed, and inserted quite through the brick-work and through the deck, so that one end of it might stand about a foot, or somewhat more, in the chimney above the brick-work, and the other made to enter into the hold or any other part of the ship. When the upper end of this tube is heated, the draught of air will be supplied from below, as in the other case. Mr. Sutton's practicable and useful contrivance was much opposed at its first proposal; and though his pipes were recommended by Dr. Mead and Mr. W. Watfon, after several trials of their effect, they were very slowly introduced, and in process of time very much neglected. Mr. Sutton, after considerable delay, and with no small difficulty, obtained a patent for his invention.

Mr. Watfon recommends the use of these pipes for the circulation of fresh air in houses, prisons, hospitals, wells, &c. And they have undoubtedly this obvious advantage, that by causing the putrid and noxious air to pass into the fire, they not only dissipate but destroy it. *Phil. Transf. abr. vol. viii. p. 628. 630. Mead's Works, p. 397—437.*

For other inventions adapted to the same purpose, see *AIR-TRUNK, BELLOWS, Ship's-LUNGS, VENTILATOR, Blowing-WHEEL, and WIND-FAILS.*

AIR-PUMP, a machine, by means of which the air may be exhausted out of proper vessels.

The use and effect of the air-pump is to make what we popularly call a *vacuum*; but this, in reality, is only a degree of rarefaction sufficient to suspend the ordinary effects of the atmosphere.

By this machine, therefore, we learn in some measure, what our earth would be without an atmosphere; and how much all vital, generative, nutritive, and alterative-powers, depend upon it.

The principle on which the air-pump is constructed, is the elasticity of the air; as that on which the common, or water-pump is founded, is the gravity of the same air.

The structure of the air-pump is, in itself, more simple even than that of the water-pump.—The latter supposes two principles, gravity and elasticity likewise: so that the water-pump must first be an air-pump, *i. e.* it must rarefy the air before it can raise the water.—In effect, water being a dormant unelastic fluid, needs some external agent to make it ascend; whereas air ascends in virtue of its own elastic activity: its natural tendency is to separate and leave a vacuum; and all that remains for art is to prevent the ambient air from supplying the place of that which thus spontaneously escapes. To make water ascend, the force wherewith it is pressed downwards is either to be diminished or increased in one part more than another; like a balance *in equilibrio*, one of whose scales may be made to rise, either by diminishing its own weight, or increasing that of the other; the water, therefore, recedes from the common centre of gravity by the very power with which it tends towards it indirectly or secondarily applied; because, two similar centripetal forces being made to act contrary to each other, what in the one over-balances the other must have the effect of a centrifugal force.—Whereas, the principle whereby air is rarefied or diminished, does not respect the centre of the earth, but the centres of its own particles; being no other than a certain implanted power, whereby they immediately tend to recede from each other.

The invention of this noble instrument, to which the present age is indebted for so many fine discoveries, is ascribed to Otto de Guericke, the celebrated consul of Magdeburg, who exhibited his first public experiments with it, before the emperor and the states of Germany, at the breaking up of the imperial diet at Ratisbon, in the year 1654: but his description of the instrument, and of the experiments performed with it, is contained in his "*Experimenta nova Magdeburgica de Vacuo Spatio*," and was not published before the year 1672, at Amsterdam.

Dr. Hooke and M. Duhamel, indeed, ascribe the invention of it to Mr. Boyle; but that ingenious author frankly confessed de Guericke to have been beforehand with him. In a letter which he wrote to his nephew, Lord Dungarvan, at Paris, about two years after Schottus's book was published, he introduces the acknowledgment of his obligation, for the discovery of this useful machine, to what he had heard of it, though he had not then perused it, by that well-applied passage of Pliny, *Lenignum est et plenum ingenii pudoris fateri per quos profeceris*. Some attempts, he assures us, he had made upon the same foundation, before he knew any thing of what had been done abroad: but the information he afterwards received from Schottus's *Mechanica Hydraulico Pneumatica*, published in 1657, wherein was an account of de Guericke's experiments, first enabled him to bring his design to any thing of maturity. From hence, with the assistance of Dr. Hooke, after two or three unsuccessful trials, arose a new air-pump more easy and manageable than the German one; and hence, or rather from the great variety of experiments that illustrious author applied it to, the engine came to be denominated *machina Boyleana*, and the vacuum produced by it, *vacuum Boyleanum*.

AIR-PUMP, structure and use of the. The basis or essential part in the air-pump, is a metalline tube, answering to the barrel of a common pump, or syringe; having a valve at the bottom, opening upwards; and a moveable piston or embolus, answering to the sucker of a pump, furnished likewise with a valve opening upwards. The whole must be duly fitted to a vessel as a recipient or receiver.

The rest, being only circumstances chiefly respecting convenience, have been diversified and improved from time

to time, according to the several views and address of the makers.

In our further account of the air-pump, we shall trace the various alterations it has undergone from the rude and inconvenient construction of Otto de Guericke to its present improved state. Guericke's machine is exhibited in *Plate iv. Pneumatics, fig. 24.* It consists of an iron three-legged frame, *a b c d f*, supporting a round iron plate, *b c*, in the middle of which is inserted a brass syringe, *g h*. The upper part of this syringe is furnished with a rim of lead, *y*, (*fig. A.*); and it is fastened below by means of an iron ring, *k k*, and three iron arms, *o o o*, to the legs of the frame. Within the rim *y*, there is a brass plate *m n*, (*fig. B.*) encompassed by a ring of leather, and fixed by three screws which terminates upwards in a small tube *n*, into which the pipe connected with the vessel to be exhausted is inserted, as occasion requires, and to which, on the lower side, is adapted a valve of leather, through which the air passes into the syringe. In this plate there is also another small valve at *z*, opening upwards, through which it escapes. This plate is covered by a copper vessel, *x x*, intended for containing water. The piston of the syringe *s h*, (*fig. 24.* and *fig. C.*) is connected by a joint at *t*, with the iron rod *t u*, which is fastened to the handle, *w u u*; and this moves round the pin at *u*, by which it is connected with one of the legs of the frame. In order to prevent air from entering into the syringe, a copper vessel of water is suspended by hooks to the arms, *o, o, o*, so that the lower part of the syringe at *k k*, and the piston, may be always covered with water, when the machine is at work. The receiver, *L*, is a glass sphere, adapted to a brass cap, *P P*, which has a pipe with a stop-cock, *q r*; and this pipe is fitted to the tube, *n*, above mentioned. From this brief description of the machine, its operation will be easily understood. When the piston, *s h*, is depressed, the air will be expanded in the syringe, *g h*, and that of the receiver will descend into it through the valve in the lower surface of the plate, *m n*; but when the piston is elevated, and the air is compressed, this valve shutting upwards will close the passage to the receiver, and make its escape through the valve *z*, which opens upwards. In order to render the exhaustion more complete, a small exhausting syringe is adapted to the plate, which is represented at *m*. See Guericke's *Exper. Nov. Magdeb. Amst. 1672. lib. iii. c. iv. and v. p. 77.*

This machine, though it might be deemed an excellent contrivance at the time of its invention, when the doctrine of the elasticity and expansion of the air was new, had many defects which it is hardly necessary now to mention. The force necessary for working it was very great, and the progress of its operation very slow. Besides, it was to be wrought under water, and it allowed of little change of subjects for experiments. Mr. Boyle, whose ideas of this machine, first suggested to him by Schottus's report of Guericke's construction, were executed by Dr. Hooke, whom he then employed as his operator, removed some of these inconveniences and diminished others.

The form of Mr. Boyle's air-pump appears in *Plate iv. Pneumatics, fig. 25.* It consisted of a spherical receiver, *A*, with a round hole at the top, whose diameter, *B C*, was about four inches; this was covered with a plate, having a brass rim, *D E*, which was firmly cemented to the ring of glass that surrounded the hole; and to the tapering orifice of the brass rim was adapted a brass stopple, *F G*, ground so exactly as to exclude as much as possible the admission of air. In the centre of the cover was a hole, *H I*, of about half an inch in diameter, provided with a socket, to which

the brass stopple, *K*, was so fitted as to prevent the entrance of air; and the lower part of this stopple was perforated with a hole, through which passed the string, *8, 9, 10*, for the convenience of moving to and fro the subjects of experiments. To the neck of the receiver a stop-cock, *N*, was fastened; and to the shank of the cock, *X*, a tin-plate, *M T U W*, was so cemented as to preclude the admission of air. The lower part of this machine consisted of a wooden frame with three legs, *1 1 1*, and a transverse board, *2 2 2*, on which the pump rested. The cylinder of this pump was cast brass; and it was fitted with a sucker, *4 4, 5 5*; of which one part, *4 4*, was covered with shoe-leather, so as exactly to fill the cavity of the cylinder; and to this was fastened the other part, which was a thick and narrow plate of iron, *5 5*, somewhat longer than the cylinder, indented on one edge with narrow teeth, so as to admit the corresponding teeth of a small iron nut, fastened by two staples to the under side of the transverse board *2, 2, 2*, on which the cylinder rests; and this is turned to and fro by the handle, *7*. The last part of this cylinder is the valve, *R*, consisting of a hole bored through at the top of the cylinder, somewhat tapering towards the cavity; into which hole is ground a tapering peg of brass, to be thrust in and taken out at pleasure. In order to prevent more effectually the admission of air, and to prepare the sucker of the pump for motion, a quantity of salad oil was poured in at the top of the receiver and also into the cylinder. The operator, having fixed the lower shank, *O*, of the stop-cock into the upper orifice of the cylinder, turns the handle, and thus forces the sucker to the top of it, so that no air may be left in its upper part. Then shutting the valve with the plug, and turning the handle the other way, he draws down the sucker to the bottom of the cylinder, and thus its cavity, into which no air is admitted, will be in an exhausted state. By turning the stop-cock, and opening a passage between the cylinder and the receiver, the air contained in the one will descend into the other; and this air being prevented from returning, by turning back the key of the stop-cock, will be made to open the valve and to escape into the external air by forcing the sucker to the top of the cylinder; by alternately moving the sucker upward and downward, turning the key and stopping the valve, as occasion requires, the exhaustion may be continued. See Boyle's Works, by Birch, vol. i. p. 7—10.

Mr. Boyle has described a second air-pump in the first continuation of his *Physico-mechanical experiments*. See his works, vol. iii. p. 180. This, like the former, had only one barrel, by which the receiver was exhausted; but it was so contrived as to be every where surrounded with water, that the ingress of air might be more effectually prevented. Besides, the receivers, which were of several forms and sizes, were fastened to an iron plate by means of a soft cement, so that they could be removed and changed at pleasure. The interposition of a moistened leather for fixing them, does not seem at this time to have occurred to him.

Notwithstanding all the precautions of Mr. Boyle, and his contrivances for excluding air by oil and leather, he found that the working of his pump by a single barrel was laborious, on account of the pressure of the atmosphere, a great part of which was to be removed at every elevation of the piston, when the exhaustion was nearly completed: and he himself candidly acknowledges, that it was rarely and with great difficulty, that he was able to produce any great degree of rarefaction. This useful machine was gradually improved by Papin, Mariotte, and others; but the introduction of a second barrel and piston was the principal

rapid improvement which it received about this period. To whom this was owing, it is not easy to decide: some ascribe it to Dr. Hooke, others to Papin, and others again to Hauksbee. An engine of this kind, with a double valve, is described by Mr. Boyle, in the second continuation of *Physico-mechanical Experiments*, works, vol. iv. p. 516.; but the manner of working it, by means of a pulley and of two stirrups or treads, upon which the operator stood, must have been extremely inconvenient. However, by the use of a second barrel and piston, contrived to rise and fall alternately with the other, and by the introduction of valves, which in this third air-pump of Mr. Boyle supplied the place of the plug and stop-cock which he had before used, as well as by the subsequent improvements of Hauksbee, the pressure of the atmosphere on the descending piston always nearly balanced that of the ascending one; so that the work which was then up and down was easily moved by a gentle force with one hand; and the exhaustion was also made in much less time. See Hauksbee's *Physico-Mechanical Experiments*, p. 1, &c. Mr. Vream, a pneumatic operator, employed by Defaguliers, made an improvement in Hauksbee's air-pump, by reducing the alternate motion of the hand and winch to a circular one. In his method the winch is turned quite round, and yet the pistons are alternately raised and depressed; by which the trouble of shifting the hand backwards and forwards, as well as the loss of time, and the shaking of the pump, are prevented. See Defaguliers's *Course of Exp. Philos.* vol. ii. p. 378. For a brief account of the progressive improvements of the air pump, see Cotes's *Hydrostatical and Pneumatical Lectures*, lect. xii. p. 156, &c.

The structure of the air-pump, thus improved, is represented in *Plate v. Pneumatics*, fig. 33. It consists of two brass barrels or cylinders, *aa*, *aa*, which communicate with each other by the cistern, *dd*, and with the receiver, *oooo*, which is ground level at the bottom, and set over a hole in the plate, by means of the bent pipe, *bb*. In these barrels the pistons, which are fastened so tight that no air can get between them and the barrels, are worked by a toothed wheel, turned by the handle, *bb*; and thus the racks, *cc*, with their pistons, are worked alternately up and down. The gage tube, *ll*, is immersed in a basin of quicksilver, *m*, at the bottom, and communicates with the receiver at the top; from which it may be occasionally disengaged by turning a cock; and *n* is another cock, by turning of which the air is again let into the exhausted receiver, passing into it with a hissing noise. The action of the toothed wheel and pistons is represented in fig. 34.

As the handle is turned backwards, it raises the piston *de*, in the barrel B K, by means of the wheel E, and rack D *d*: and as no air can get between the piston and barrel, all the air above *d* is lifted up towards B, and a vacuum is made in the barrel from *e* to *b*; upon which part of the air in the receiver by its spring rushes through the hole in the brass plate of the pump along the pipe G G, communicating with both barrels by the hollow trunk I H K, and pushing up the valve *b*, enters into the vacant part *be*, of the barrel B K. Then, as the handle F, is turned forward, the piston *de*, will be depressed in the barrel; and the air which had got into the barrel, finding no way of escape through the closed valve *b*, will ascend through a hole in the piston, and make its way into the external air through a valve at *d*; and it will be prevented by that valve from returning into the barrel, when the piston is again raised. At the next elevation of the piston, a vacuum is again made in the same manner as before, between *b* and *e*; upon which

more of the air that was left in the receiver will get out by its spring, and flow into the barrel, B K, through the valve *b*. The other piston and barrel act in the same manner; and as the handle, F, is turned backwards and forwards, it alternately raises and depresses the pistons in their barrels; one being raised whilst the other is depressed. By thus repeating the operation again and again, the air in the receiver is at length rarefied to such a degree, that its density does not exceed the thin air remaining in the barrel when the piston is raised: which done, the effect of the air-pump is at an end; the valve cannot now be opened, or if it could, no air would pass it; there being a just equilibrium between the air on each side.

To judge of the degree of exhaustion, there is added the gage-tube, *ll*, open at both ends, and about 34 inches long (fig. 33.), affixed to a wooden ruler, which is divided into inches and parts of an inch, from the bottom where it is even with the quicksilver in the basin, *m*, and continued to the top, a little below the plate of the air-pump, to 30 or 31 inches. Hence the air in the tube rarefying as fast as that in the receiver, in proportion as the exhaustion advances, the mercury will be raised by the pressure of the column of external air, prevailing over that of the column of air included; till the column of air, and mercury together, become a balance to that of the external air. When the mercury is thus risen to the same height as it stands in the barometer, which is indicated by the scale of inches added to the gage, the instrument is a just Torricellian tube; and the vacuum may be concluded to be as perfect as that in the upper end of the barometer. When the cock, *n*, is turned, so as to make a communication with the external air; this rushes in, and the mercury in the gage immediately subsides into the basin. See GAGE.

In estimating the gradual ascent of the quicksilver in the gage, it is evident that, as we continue to pump, the mercury continues to ascend; and that it approaches always more and more to the standard altitude, or about 29½ inches, more or less according to the variety of seasons. And it is easy to prove, that the defect of the height of the quicksilver in the gage from the standard altitude is always proportionable to the quantity of air which remains in the receiver; that the altitude itself of the quicksilver in the gage is proportionable to the quantity of air which has been exhausted from the receiver; and that the ascent of the quicksilver, upon every turn of the pump, is proportionable to the quantity evacuated by each turn. Let it be considered, that the whole pressure of the atmosphere upon the cistern of the gage is equal to, and may be balanced by, a column of quicksilver of the standard altitude; consequently, when the quicksilver in the gage has not yet arrived to the standard altitude, the defect must be supplied by some other equal force, and that force is the elastic power of the air remaining in the receiver; which communicating with the upper part of the gage, hinders the quicksilver from ascending, as it would otherwise do, to the standard altitude. The elasticity of the air in the receiver is then equivalent to the weight of the deficient quicksilver; but the weight of this is proportionable to the space it should possess, or to the defect of the height of the quicksilver in the gage from the standard height; therefore the elasticity of the remaining air is also proportionable to the same defect. But the density of any portion of air is proportionable to its elasticity, and the quantity in this case is proportionable to the density; and therefore the quantity of air remaining in the receiver is proportionable to the defect of the quicksilver in the gage from its standard altitude.

Hence

Hence it follows, that the quantity of air which was at first in the receiver before you began to pump, is proportionable to the whole standard altitude; and consequently the difference of this air, which was at first in the receiver, and that which remains after any certain number of turns, that is, the quantity of air exhausted, is proportionable to the difference of the standard altitude and the before-mentioned defect, that is, to the altitude of the quicksilver in the gage after that number of turns. Hence again it appears, that the quantity of air exhausted at every turn of the pump is proportionable to the ascent of the quicksilver upon each turn. See Cotes's *Hydrost. and Pneum. Lectures*, lect. 13. See GAGE.

There are several inconveniencies attending air-pumps of the common form, though much improved from what they used to be formerly, and many attempts have been made to remedy them. It is a well-known fact, that pumps merely serve to rarefy the air to a considerable degree, and that none of them can produce a complete exhaustion; as the mercury in the gage is not raised by any of them to the height which it occupies in the Torricellian tube, when well purged of air. Few pumps will bring it within $\frac{1}{10}$ th of an inch. Hawksbee's, fitted up according to his own instructions, will seldom bring it within $\frac{1}{2}$ th; pumps with cocks of the best construction, and in the most favourable circumstances, will bring it within $\frac{1}{3}$ th; but none with valves fitted up with wet leather, or to any part of which water or any volatile fluids have access, will bring it nearer than $\frac{1}{5}$ th. Before we proceed to give an abridged account of the improvements that have been made in air-pumps, we observe, that the air-pumps most commonly used are made either with brass stop-cocks, or with valves of oil-skin or of leather, for preventing the return of the air into the receiver, out of which it had been exhausted. Pumps with stop-cocks, when well made and newly put together, are generally found to rarefy the air to a greater degree than those which are made with valves; but after having been used for some time, they become less accurate than those with valves. But the valves are also imperfect; as the external air, pressing upon that in the piston, prevents its rising, when the elastic force of the air in the receiver, under exhaustion, is much diminished. Attempts have been made, particularly by the abbé Nollet and Mr. Gravefande, to perfect the construction of cocks. In Gravefande's double-barrelled pump, the cocks at the bottom of the pistons are turned by an apparatus that is moved by the handle of the pump: the piston has no valve, and the rod is connected with it by a stirrup, as in a common pump. This rod has a cylindric part, which passes through the stirrup, and moves stiffly in it through the space of about half an inch, between a shoulder above and a nut below. The stirrup supports a round plate, which has a short square tube, that fits tight into the hole of a piece of cork, and which has also a square shank, that goes into the square tube. Between the plate and the cork is put a piece of thin leather, soaked in oil, and another is placed between the cork and the plate which forms the sole of the stirrup. When the winch is turned to raise the piston from the bottom of the barrel, the friction of the piston against the barrel keeps it in its place, and the rod is drawn up through the stirrup. The wheel has thus liberty to turn about an inch; and this is sufficient to turn the cock, so as to cut off the communication with the external air, and to open that with the receiver. When this is done, the continued motion serves to raise up the piston to the top of the barrel. When the winch is turned in the opposite direction, the piston remains fixed till the cock is

turned, so as to shut the communication with the receiver; and open that with the external air. The cock has one perforation diametrically through it, and another in a perpendicular direction to this; and after reaching the centre, it passes along the axis of the cock, and communicates with the open air. By this communication, when it is opened, the air rushes in, and balances the pressure on the upper side of the piston in this barrel, so that the pressure on the other must be counteracted by the person who works the pump. In order to obviate this inconvenience, Gravefande put a valve on the orifice of the cock, by tying over it a slip of wet bladder or oiled leather; and by means of this the piston is pressed down, as long as the air in the barrel is rarer than the outward air, just as if the valve was in the piston itself. Gravefande, and also Muschenbroek, extol the operation of this pump, as exceeding that of pumps with valves. But it is evident that no precise estimate of its performance can be obtained, whilst the pistons, valves, and leathers of the pump are prepared by steeping them in oil, and afterwards in a mixture of water and spirits of wine. With this preparation the gage could not be brought within $\frac{1}{2}$ th of an inch of the barometer. Besides, a considerable space is left between the piston and cock, from which the air is never expelled; and if this be made very small, the pump must be worked very slowly; otherwise the air will not have time to diffuse itself from the receiver into the barrel, especially when the expelling force or the elasticity of the air, towards the close of the operation, is very small. The rarefaction will likewise be retarded by the valve, which will not open till the air below the piston is considerably denser than the external air. The cocks in pumps of this kind are subject to become loose by use, and to admit air: an inconvenience which might, indeed, be prevented by placing the barrels in a dish filled with oil. For a figure and description of Gravefande's pump, see Gravefande's *Mathem. Elem. of Natural Philosophy*, by Desaguliers, vol. ii. p. 14. &c. These pumps, if they were ever used in England, have been long superseded by the cheaper and more simple contrivance of valves, formed by tying a strip of bladder over a small hole, through which the air is allowed to pass in one direction only.

In the year 1750, the ingenious Mr. Smeaton directed his attention to the improvement of valve pumps. In considering the structure of these pumps, he observed, that the principal causes of their imperfection are, partly, the difficulty of opening the valves at the bottom of the barrels, and, partly, the piston's not fitting exactly, when put down to the bottom, which leaves a lodgement of air that is of bad effect. The first of these imperfections is owing to the smallness of the common valves, which are made of a piece of thin bladder stretched over a hole generally much less than $\frac{1}{10}$ th of an inch in diameter, and to the adhesion of the bladder to the plate upon which it is spread, by reason of the oil or water with which it is moistened: as the rarefaction of the air in the receiver is continued by the operation of the pump, its spring becomes so weak, that it is not able to overcome the cohesion of the bladder to the plate, the weight of the bladder, and the resistance occasioned by its being stretched. The larger the hole is, over which the bladder is laid, a proportionably greater force is exerted upon it by the included air in order to lift it up; and yet the aperture of the hole cannot be made very large, because the pressure of the incumbent air would either burst the valve, or so far force it down into the cavity as to prevent its lying flat and close upon the plate. In order to avoid these inconveniences, instead of one hole, Mr. Smeaton makes use of seven, all of equal

size and shape, one being in the centre, and the other six round it, so that the valve is supported at proper distances by a kind of grating, formed by the solid parts between these holes, and resembling a honeycomb; and that the points of contact between the bladder and grating may be as few as possible, the holes are hexagonal, and the partitions are filed almost to an edge. The breadth of these hexagons is $\frac{7}{10}$ ths of an inch, and consequently the surface nine times larger than common; and as the circumference is three times greater than that of the common valve, and the cohesion to be overcome is, in the first moment of the air's exerting its force, proportional to the circumference of the hole, the valve over any of these holes will be raised with three times more ease. Besides, the raising of the valve over the centre-hole is aided on all sides by those that are placed round it; and as they all contribute as much to raise the bladder over the centre hole, as the air immediately acting under it, the valve will be raised with double the ease already supposed, or with a sixth part of the force commonly necessary. After the bladder begins to rise, it will expose a greater surface to the air underneath, which will cause it to move more easily.

The other defect in the common construction would still hinder the rarefaction from being carried on beyond a certain degree. For as the piston does not fit so closely to the bottom of the barrel, as totally to exclude the air, this air, as the piston rises, will expand itself; and pressing upon the valves in proportion to its density, hinder the air within the receiver from coming out. Hence, if the vacancy were equal to the 150th part of the capacity of the whole barrel, no air could pass out of the receiver, when expanded 150 times, though the piston were constantly drawn to the top; because the air in the receiver would be in *equilibrium* with that in the barrel, when in its most expanded state. In order to obviate this inconvenience, Mr. Smeaton shut up the top of the barrel with a plate, having in the middle a collar of leathers, through which the cylindrical rod works that carries the piston. The external air is thus prevented from pressing upon the piston; but for the discharge of the air that passes from below through the valve of the piston, there is a valve applied to the plate at the top, which opens upwards. By this construction, when the piston is put down to the bottom of the cylinder, the air under it will evacuate itself so much the more, as the valve of the piston opens more easily, when pressed by the rarefied air above it, than when pressed by the whole weight of the atmosphere; and as the piston may be made to fit as nearly to the top of the cylinder as it can to the bottom, the air may be rarefied as much above the piston, as it could before have been in the receiver. Hence it follows, that the air may now be rarefied in the receiver in duplicate proportion of what it could be upon the common principle. By this construction, the pump, consisting of a single barrel, may be worked with more ease than the common pump with two barrels, because the pressure of the outward air is taken off by the upper plate; and when a considerable degree of rarefaction is desired, it will produce it more speedily.

Mr. Smeaton has also contrived a new gage, which measures the expansion with certainty, to much less than the 1000th part of the whole. It consists of a bulb of glass, in shape resembling a pear, and sufficient to hold about half a pound of quicksilver. It is open at one end, and the other is a tube hermetically sealed at top. A scale divided into parts of about $\frac{1}{16}$ th of an inch each, and answering to a 1000th part of the whole capacity, is annexed to it. This gage, during the exhaustion of the receiver, is suspended in it by a slip-wire. When the pump is worked as much as is thought necessary, the gage is pushed down, till the open

end is immersed in a cistern of quicksilver placed underneath. The air being then let in, the quicksilver will be driven into the gage, till the air remaining in it becomes of the same density with the external; and as the air always takes the highest place, the tube being uppermost, the expansion will be determined by the number of divisions occupied by the air at the top. See GAGE.

This ingenious artist has succeeded so well in his construction of the air-pump, as to be able to rarefy air about 1000 times; whereas the best of the common air-pumps, esteemed good in their kind, and in complete order, never rarefied it above 140 times. Mr. Smeaton's air-pump acts also as a condensing engine, by the very simple apparatus of turning a cock; see CONDENSER. This air-pump is thus easily made an universal engine, for shewing any effect arising from an alteration in the density or spring of the air; and with a little addition may be made to shew the experiments of the *AIR-FOUNTAIN*, *AIR-gun*, &c. Phil. Trans. vol. xlviii. p. 415—423.

A perspective view of the principal parts of this pump is exhibited in *Plate vi. Pneumatics, fig. 45.* A is the barrel, B the cistern, in which is included the cock, with several joints, which are covered with water to keep them air-tight; and a little cock to let the water out of the cistern is marked 6. C c c is the triangular handle of the key of the cock, which, by the marks on its arms, shews how it must be turned, that the pump may produce the effect desired. D H is the pipe of communication between the cock and the receiver. E is the pipe that communicates between the cock and the valve, on the upper plate of the barrel. F is the upper plate of the pump which contains the collar of leathers *d*, and V is the valve, which is covered by the piece *f*. G I is the syphon-gage, which is screwed on and off, and adapted to common purposes. It consists of a glass-tube hermetically sealed at *e*, and furnished with quicksilver in each leg, which, before the pump begins to work, lies level in the line *a b*; the space *b c* being filled with air of the common density. When the pump exhausts, the air in *b c* expands, and the quicksilver in the opposite leg rises, till it becomes a counterbalance to it. Its rise is shewn upon the scale I *e*, by which the expansion of the air in the receiver may be nearly estimated. When the pump condenses, the quicksilver rises in the other leg, and the degree may be nearly judged of by the contraction of the air in *b c*; marks being placed at $\frac{1}{2}$ and $\frac{1}{3}$ of the length of *b c* from *e*, which shew when the receiver contains double or treble its common quantity. K L is a screw-frame to hold down the receiver in condensing experiments, which takes off at pleasure, and is sufficient to hold down a receiver, the diameter of whose base is seven inches, when charged with a treble atmosphere; in which case it acts with a force of about 1200 pounds against the screw-frame. M is a screw that fastens a bolt, which slides up and down in that leg, by means of which the machine is made to stand fast on uneven ground. The structure, connection, and relative uses of the several parts of this pump will be further perceived in the following account of Smeaton's air-pump, constructed and improved by Mr. Nairne.

A perspective view of it appears in *Plate vi. Pneumatics, fig. 46.* A, A, are the two barrels of a simple double-barrelled air-pump; the tube *g g* conveys the air from the receiver placed in the pump-plate T, and the cock Q serves to cut off the communication between the receiver and the barrels A, A, when the exhaustion is completed. In the front of the pedestal Z is a screw, serving to admit air into the barrels, that the valves may not be pressed after the cock Q is turned; the button *i* readmits air into the receiver;

receiver; the syphon-gage *y* is made in the usual manner; but the cisterns *x, x*, prevent the gages from being dirtied by the oil, on the readmission of the air. The large barrel *C* has a solid plunger, worked by the rod *R*, which passes through the collar of leathers *u*; for the construction of which, as well as the internal structure of the barrel *C*, see *fig. 47*.

This is a vertical section of the barrel, &c.; the top or cup *U* screws on to the screw *u*, and the cavity *b* is made conical; the holes *e, e*, are made just large enough to let the piston rod pass freely; the cavity *b* is filled with circular greased leathers, through the center of which a hole is made, that barely admits the piston rod to pass; these leathers are crowded into *b*, and three or four thicknesses of them are left above the surface, *f*; and consequently, when the cup *U* is screwed down, these leathers are forced into the smaller part of the conical hollow *b*; and therefore they bind as much or as little as is requisite on the piston rod. The head *a* is screwed with eight screws on the upper flaunch or part of the barrel *C*; the bottom *B* screws on the lower flaunch or lower end of *C*; the plug *D* is accurately ground into a conical hole in the bottom *B* and has the lever *L* standing at right angles. As the whole nicety of the exhaustion of this air-pump depends upon this part, it should be very particularly described. The lever *L* is represented as standing to the left hand; and the hole *z* with its valve *1* is seen in connection with the pipe *P*, and consequently with the receiver; see the horizontal section *L D P*. But if the lever *L* is brought towards the word "CLOSED," the hole *z* with its valve *1* has moved onwards towards *D*; no hole is opposite to the hole of *P*, and consequently all communication between the receiver and the inside of the barrel *C* is cut off; but upon moving the lever *L* more towards the right hand, the hole *3* having "NO VALVE" will be in connection with *P*, and consequently there will be a direct or uninterrupted passage between the receiver and the inside of the barrel *C*. Upon attentively inspecting the section, it will be perceived by the directions in which the valves open and close, and the position of the passages which are drilled through the thickness of the barrel, that the ascent or descent of the solid plunger *N* equally exhausts the pipe *P*, and consequently the receiver. It must be remarked, that the valves exhibited in the section are drawn like lids of boxes, with joints for the purpose of shewing in what direction they open; but in reality the valves are made of oiled silk; and as on the nice construction of these the good action of the pump much depends, the best mode of making them will be illustrated in the section, *fig. A A*, which shews the plug *D*, on which the valve is to be fixed. In the first place, a groove must be turned, of a convenient size, so as to leave a cylindrical knob *F*, whose diameter may be four or five eighths, or more, of an inch; the hole which the oiled silk valve is intended to cover, is made through the axis or center of this knob, as is shewn by the dotted lines *H*; the ring *G* is to fit nicely into the groove, and to be flush with the general surface of the brass; the surface of the knob *F* must be turned away about double the thickness of the oiled silk for the purpose of preserving the oiled silk from injury by the piston's striking it; a slip of oiled silk about the width of four times the diameter of the hole, which it is to cover, must be laid over the hole in the center of the knob *F*, and the ring *G* carefully put in its place and there fixed by two or three screws. *Fig. B B* shews the construction of the reservoir *x x*, (*fig. 46*), for the purpose of keeping the gages clean. The end of the gage *G*, for instance, passes through the bottom of the reservoir *x*, and reaches nearly to the top; and a piece of metal, flat

or like an inverted tea-saucer, is fixed to the top of *x*, *fig. B B*. The oil which comes from the pump through *m* is thrown on the back of the saucer, and running to its edges drops into the bottom part of the reservoir, and thus prevents any filth from getting into the tube *G*, *fig. 46*.

Having described the particular parts of this pump, we shall next explain the mode of working it, so as to obtain the greatest degree of exhaustion. A receiver well ground and made dry, with oil put upon its edge, is to be placed on the pump plate *T*, (*fig. 46*), over the aperture of the pipe *P*; and the lever *L* is to be moved so as to stand under the word "VALVE." By working the piston of the cylinder *C* up and down, from the top to the bottom, the receiver becomes partly exhausted, and the mercury will rise from the cistern *M* up into the tube of the barometer gage *G*; the exhaustion must be continued till it will rise no higher; and turning the lever *L* under the word "CLOSED," the piston must be moved two or three times up and down; let it then be left at the bottom of the barrel *C*; move the lever *L* under the words "NO VALVE," and gently raise the piston to the top of the barrel. As there is now a direct communication between the receiver and the barrel *C*, without the intervention of a valve, the air will expand itself freely into the barrel, and the mercury of the gage will rise; keeping the piston at the top of the barrel, turn the lever again under the word "CLOSED," and repeat the operation as before; unscrew the receptacle for dirty oil *O*, and screw in its place the complete small exhausting syringe *S*; work this a few times, and repeat the operation with the barrel and the lever *L* as before, till the mercury will rise no higher in the gage.

By the process now described, the exhaustion has been made so perfect, that when an open cistern barometer, suspended in the room, has been on the rise, the mercury in the gage *G* has risen within $\frac{1}{1000}$ th of an inch as high.

The double-barrelled air-pump *A A* being placed on the same stand, and having a communication with the pump plate *T*, as well as the improved pump *C*, is intended for exhausting large receivers very expeditiously; as both pumps may be worked at the same time; and more especially for preventing the improved pump from being used for trifling experiments, or those where water is made use of. In the pump plate *T* are two holes, situated near each other, one communicating with the double-barrelled, and the other with the improved pump, and serving the purpose of cutting off the communication of either with the receiver at pleasure. Indeed, when the double-barrelled pump is only used, the hole of the pipe *P*, leading to the barrel *C*, should always be carefully stopped to prevent moisture of any kind from getting into it.

Since the time of Mr. Smeaton the air-pump has received very material improvements; for which we are indebted to the Rev. Mr. Prince, of Salem, in North-America; and to Mr. Cuthbertson, late of Amsterdam, and since settled in London.

Mr. Smeaton's success in facilitating the opening of the valves, at the bottom of the barrel and in the piston, led Mr. Prince to conceive, that if these valves were entirely removed, and the remaining air in the barrel could be more perfectly expelled, the rarefaction might be carried still farther. Upon this plan he constructed his air-pump. He removed the lower valve, and opened the bottom of the barrel into a cistern on which it was placed, and which had a free communication with the receiver; for the valve on the upper plate, at the top of the barrel, constructed like Mr. Smeaton's, made it unnecessary that there should be any at the bottom, in order to rarefy the air in the receiver. The cistern was made deep enough to admit of the piston's descending into it below the bottom of the barrel. If the piston be solid, that is, without a valve, when it enters the

barrel and rises to the top-plate, which is made air-tight with a collar of leathers, like Smeaton's, it forces out all the air above it; and as the air cannot return into the barrel on account of the valve in the top-plate, when the piston descends, there will be a vacuum between it and the plate; every thing being supposed perfect. But in working the pump, the piston is not allowed to descend entirely into the cistern so far as to leave the bottom of the barrel open; but it descends below a hole in the side of the barrel near the bottom, which opens a free communication between the barrel, cistern and receiver. Through this hole the air rushes from the cistern into the exhausted barrel, when the piston has dropped below it; and by its next ascent this air is forced out as the other was before. If the capacity of the receiver, cistern, pipes, &c. below the bottom of the barrel, taken together, be equal to the capacity of the barrel, half the remaining air will be expelled by every stroke. But as the working of this pump with a solid piston would be laborious, on account of the resistance it would meet with in its descent from the air beneath, though it would be lessened by every stroke as the air became more rarefied, Mr. Prince pierced three holes in the piston at equal distances from each other, and by a circular piece of bladder, tied over the top of the piston, formed a kind of valves over the holes, which opened with sufficient ease to prevent any labour in working the pump, by allowing the air to pass through the piston in its descent. The escape of the air does not, however, depend upon a passage through the piston into the barrel; for when the air, weakened by rarefaction, cannot open this valve, it will still get into the barrel when the communication is opened by the hole at the bottom. This piston will therefore descend as easily as any other, nor will the valves impede the rarefaction. By this construction the valves, made to open with more ease by Mr. Smeaton, are rendered unnecessary for rarefying the air; and that at the bottom of the barrel is entirely removed; the valve on the top-plate being the only one necessary in rarefying the air.

Having set aside the valves, which partly prevented the air from entering the barrel above the piston, Mr. Prince's next attempt was to expel the air more perfectly out of the barrel than Mr. Smeaton had done, by making a better vacuum between the piston and the top plate, so that more of the air might be allowed to expand itself into the barrel from the receiver. Mr. Prince also contrived to connect the valves on the top plate with the receiver occasionally by means of a pipe and cock, by the turning of which the machine might be made to exhaust or condense at pleasure. In order to remove the pressure of the atmosphere from the valve on the top plate, so that this valve might open as easily as the piston valve, he connected with the duct on the bottom piece, which conveys the air from the valves to the cock, a small pump of the same construction as the large one; having the barrel opening into the cistern, the piston rod, which is solid, moving through a collar of leathers, and a valve near the top, through which the air is forced into the atmosphere. This pump with one barrel is called the valve-pump; its chief use being to rarefy the air above the valves, or to remove the weight of the atmosphere from them. When this valve pump is used, the passage through the cock is shut up; and, therefore, instead of placing three ducts at equal distances round the cock in the manner of Mr. Smeaton's, Mr. Prince divided the whole into five equal parts, leaving the distance of one-fifth part between the ducts leading from the cistern and the valves to the cock, and two-fifths between each of these and the one leading from the cock to the receiver. By this adjustment, when the communication is open between the receiver and the

valves for condensation, the other hole through the cock opens the cisterns to the atmosphere; but when the communication is made between the cisterns and the receiver for exhaustion, a solid part of the key comes against the duct leading to the valve, and shuts it up, and the air which is forced out of the barrel passes through the atmosphere into the valve-pump; for the valve of the small pump may be kept open while the great one is worked.

Upon this construction, the pump with two barrels may be made like the common pump, which cannot be conveniently done where the lower valve is retained. In this pump the pistons do not move the whole length of the barrels; an horizontal section being made in them a little more than half way from the bottom, where the top-plates are inserted. The pump is thus made more convenient and simple, as the head of it is brought down upon the top of the barrels in the same manner as in the common air-pump. The barrels also stand upon the same plane with the receiver plate, and this plane is raised high enough to admit the common gage of 32 or 33 inches to stand under it without inconvenience in working the pump: as the winch moves through a less portion of an arch at each stroke than it would do if the pistons moved through the whole length of the barrels.

A gage for measuring the degree of condensation having a free communication with the valves, cock, &c. is placed between the barrels in this pump; and the gage is so constructed that it will also serve to measure the rarefaction above the valves when the air is worked off by the valve-pump. It consists of a pedestal, the die of which is made of glass, which forms a cistern for the mercury, a hollow brass pillar, and glass tube hermetically sealed at one end, which moves up and down in the pillar through a collar of leathers. When the pump is used as a condenser, the degree of condensation is shown by a scale marked on one edge of the pillar; when it is used as an exhauster, the degree of rarefaction of the air above the valves is shown by a scale on the other edge of the pillar. This gage will also shew, when the valves have done playing, either with the weight of the atmosphere on them or taken off, in the manner which the author has described. The degree of condensation may be also measured by the number of strokes of the winch. For the purposes of great condensation, Mr. Prince has fitted a condenser of a smaller bore than the barrel of the great pump to the cistern of the valve-pump, to be screwed on occasionally. Or, without this condenser, the valve-pump may be adapted to the purpose by being made a little larger, and by having a plate made to screw into the bottom of the cylinder, with a valve on it opening into the cistern; a hole must be made to be opened on the same occasion near the top of the cylinder, to let air in below the piston when this is drawn up above it.

The common gage, which is generally placed under the receiver-plate, is placed in the front of this pump, that it may be seen by the person who works it, and that the plate may be left free for other uses. The plate is so fixed to the pipe leading to the cock, that it may be taken off at pleasure, and used as a transferer; and it may also serve for other purposes.

The head of this pump is made whole, except a small piece on the back, where the wheel is let in; and the wheel is freed from the piston-rods by pushing it into the back part of the head, and it is kept in its place by a button screwed into the socket of the axis behind. By this apparatus the piston-rods are dislodged from the wheel, and let down into the cisterns, when the pump is not used; and in these cisterns they may also have the advantage of being covered with oil. The principal joints of this pump are sunk into sockets, that the

the leathers which close them may be covered with oil to prevent leaking. The lower part of the pump is fitted with drawers to contain the necessary apparatus.

A perspective view of a double-barrelled pump, made by Mr. Jones, according to the construction of Mr. Prince, may be seen in *Plate vii. Pneumatics, fig. 48.* A, A, are two brass barrels in which the pistons move; the barrels communicate with the receiver placed on the pump by means of the pipe B C, and canal D E; the rods of the pistons are seen at F, G; each of these is connected with a rack or piece having teeth on one side. At I there is a wheel, whose teeth are laid hold of by those of the rack; so that by turning the handle H the pistons are alternately raised or depressed, and the air is exhausted out of the receiver K L, the tube B C, and the canal D E, which communicate with one another. At the top of each barrel is a plate, on which is a box *m n*, containing a collar of leathers; through this the cylindrical part of the piston rod moves, air-tight; *o o* is the place of the valve on the top plate, into which a pipe is folded that conveys the air from the valves to the duct, passing under the valve-pump P, which is designed for preventing the pressure of the atmosphere from acting on the valve of the top plate. Q is the piston rod of this pump, and R the handle by which it is worked. Y is a cock to cut off occasionally the communication between the receiver and the working parts of the pump. At S is a screw, which closes the orifice of the canal D E, by unscrewing which the air may be admitted when required. Z is an oil-vessel for receiving the oil driven over by the action of the pump; and there should be always a small quantity of oil in the cups of the boxes *m, n*, that hold the collar of leathers through which the piston rods move; *a b c* is the barometer-gage; *d e* the box or cistern containing the mercury; and there is a divided box-scale affixed to the tube, for ascertaining the rise or fall of the mercury; a small ivory tube encompasses the lower end of the glass tube, and floats upon the quicksilver in the cistern; the upper end of this is always to be brought to coincide with the lower division of the box scale, by means of the screw under the cistern; and when it thus coincides, the divisions on the scale give the true distance from the surface of the mercury in the basin. The key *f* serves for tightening or loosening the screws of the pump. When either piston is down, in the operation of this pump, there is a free communication from the receiver through the tubes and the canal to the part of the barrel above the piston; when the piston rises, it forces out the air above it through the valve in the top plate; and as this valve prevents the air from returning into the barrel, when the piston descends, a vacuum is formed between it and the under surface of the top plate; as soon, therefore, as the piston has descended below the holes communicating, by the tubes and pipe, with the receiver, the air rushes into the exhausted barrel; on the next ascent of the piston, this air is forced out as before. To prevent the piston from meeting any resistance in its descent, there is a valve in it through which the air passes as the piston descends; but the air does not necessarily depend upon a passage through the piston in order to get into the barrel. By these means the piston descends as easily as in any other construction, while the valve in it does not impede the rarefaction. The valve pump P is, as we have observed, used for taking off the pressure of the atmosphere from the valve on the top plate of the pump, and for forming a more perfect vacuum between this plate and the piston, that nothing may prevent this instrument from exhausting as far as its expansive power will admit. The barometer gage *a b c*, serving to measure the exhaustion of the receiver, consists of a tube, divided by an annexed scale

of inches and fractional parts of an inch, whose higher orifice communicates with the receiver, and the lower is immersed in a cistern of mercury. Before any exhaustion has taken place the mercury in the tube and cistern is upon the same level; and after any number of turns of the handle of the pump, the air in the tube and receiver is equally rarefied, and the mercury will ascend in the tube till the weight of the column above the surface of that in the cistern, and elasticity of the air in the receiver, taken together, be equivalent to the weight of the atmosphere; and if the altitude of the column is equal to the standard altitude, the vacuum in the receiver, and that above the mercury in the barometer, are the same. For an account of the *liphing gage*, occasionally substituted for the barometer gage, and the *pear gage*; see *GAGE*.

In a contrivance, suggested by an ingenious workman of the late Mr. Adams, and annexed to the pumps constructed by Mr. Jones, one of the lower flexible collars, or leather valves in the two barrels, is attached to a brass ring, which is allowed an interval of motion of $\frac{1}{4}$ th of an inch; a long wire is fixed to a bar over the diameter of the ring, which wire passes along the body of the piston and rod through a collar of leathers in the piston. By the friction of these leathers upon the rod, as they move up and down, the lower valve is occasionally raised and depressed; and thus a communication is opened with the barrel and receiver, and of course the exhaustion is carried to as great a degree as the nature of the air itself appears to admit. By a comparison of the height of the mercury in a good barometer tube, Mr. Jones did not observe the $\frac{1}{4}$ th of an inch difference between this and that of the barometer gage to the pump; and consequently the rarefaction was about 1200 times; and hence he concludes that it was equal in power to that of Mr. Cuthbertson or any pump whatever.

We shall now describe more minutely the parts of which Mr. Prince's improved air-pump consists. *Fig. 49. Plate vii.* represents a perpendicular section of one of the barrels, the two cisterns, condensing gage, &c.; where A B is the barrel, C D is the cistern on which it stands, *a a a a* the leathered joint, sunk into a socket, and buried in oil; E F is the piston, with the cylindrical rod passing through a collar of leathers, G G, in the box H I. K shews the place of the valve on the top plate K, covered by the cross piece M M, into which is folded the pipe O O, that conveys the air from the valves to the duct going under the valve pump, as may be seen in *fig. 51.* *o* is part of the said duct; *p* is the joint sunk into a socket in the cross piece P P, which connects the cisterns, and has a duct through it leading to them. Into this duct open the ducts *q* and *r*, the first leading to the gage in front of the pump, and the other to the cock and receiver. The other barrel is left out of the figure, except Q, which is the top of it brought down out of its place for the purpose of shewing the top plate that shuts up the barrel, separated from the box, which contains the collar of leathers. S is one of the holes in the plate over which the valve lies, and which is covered by R in the cross piece. V V is the piston shewing the valve open on the top, which is to prevent labour when the pump condenses. W X is the cistern, in which is more distinctly seen the shoulder for the leather, which closes the point between this and the barrel, and also the socket in which the oil lies over the leather. Y Z is the condensing gage, with the orifice of the tube raised above the surface of the quicksilver; *e e* is the collar of leathers, through which the glass tube moves; and *i* is a small pipe coming up through the quicksilver to form a communication between the valves and the gage. In *fig. 50.* is seen the upper surface of the top

plate which closes the barrel, being soldered into it, shewing the place of the valves over the three small holes. *Fig. 51*, is a perpendicular section of the bottom piece, pipes, valve-pump, cock, &c. at right angles with the other section *fig. 49*. The button *a* is screwed here into the top is head of the gage. *C D* is the valve-pump and cistern, the piece of the valve under the cup; *L F* the cock, shewing the duct through it leading to the atmosphere; *G H* the pipe leading from it to the stem of the receiver plate, in which is the cock *I*, to shut up the duct when the plate is used as a transferrer. *K K* is the plate; *L* a piece to shut up the hole, into which tubes, &c. are occasionally screwed to perform experiments without removing the plate. The dotted line at *O* shews the place of the screw which presses the plate against the pipe; *P Q* the pipe and common gage standing in front of the pump. *Fig. 52*, is a horizontal section of the cock, and pieces containing the ducts leading from it to the receiver, the cisterns and the valves on the top of the barrels; *A B* the duct, connecting the cisterns together; *C D* the duct leading from the cisterns to the cock; *G H* the duct leading from the cock through the pipe *A B* (*fig. 51*.) to the valves; *D E* the duct through the cock, which occasionally connects the two last mentioned ducts with the duct *E F*, leading from the cock to the receiver; *I* the duct in the cock leading to the atmosphere, which, when connected with the duct at *D*, lets the air into the cisterns and barrels for condensation; the other duct through the cock at the same time connecting *H* and *E*. This duct also, when connected with *E*, restores the equilibrium in the receiver. *K L* is part of the duct leading from the cisterns to the gage. The dotted circles shew the places of the pipe and valve-pump on the piece, and *r* the place where the air enters the valve-pump from the duct *G H*, and is thrown into the atmosphere when the pump exhaults. *Fig. 53*, shews the under surface of the boxes which contain the collars of leathers with the cross piece which connects them together, having a duct through it, as represented by the dotted line, through which the air passes from the valves into the pipe. This figure is chiefly designed to shew the places in which the valves play, as at *L*. American Transactions, vol. i. Boston, 1785. Nicholson's Journal, vol. i. p. 121-128. Adams's Lectures on Nat. and Exp. Philos. by Jones, vol. i. p. 51-54, p. 153.

The air-pump of Mr. Cuthbertson is so excellent in its structure, and so powerful in its effect, that it claims particular notice and description. A perspective view of it appears in *Plate viii. Pneumatics, fig. 56*. Its two principal gages are screwed into their places; but these need not be used together, except in cases where the utmost exactness is required. In common experiments, either of them may be taken away, and a stop-screw put into its place. When the pear-gage is used, a small round plate, large enough for the receiver to stand upon, must first be screwed into a hole at *A*; but when this gage is not used, this hole must be closed with a stop-screw. When all these gages are used, and the receiver is exhausted, the stop-screw *B*, at the bottom of the pump, must be unscrewed, to admit the air into the receiver; but when the gages are not all used, the stop-screw at *A*, or either of the other two which are in the place of the gages, may be unscrewed for this purpose. In *fig. 57*, *C D* represents one of the barrels of the pump, *F* the collar of leathers, *G* a hollow cylindrical vessel to contain oil; *R* is also an oil-vessel, which receives the oil that is driven with the air through the hole *aa*, when the piston is drawn upwards; and when this is full, the oil is carried over with the air along the tube *T*, into the oil vessel *G*; *ac* is a wire which is driven upwards from the hole *aa*, by

the passage of the air: and as soon as this has escaped, falls down again by its own weight, shuts up the hole, and prevents any air from returning by that way into the barrel; at *dd* are fixed two pieces of brass, to keep the wire *cc* in such a direction as may preserve the hole air-tight. *H* is a cylindrical wire, which carries the piston *I*, and is made hollow to receive a long wire, *q q*, that opens and closes the hole *L*, which forms the communication with the receiver standing on the plate; *m* is part of a pipe, one end of which is screwed into the wire *q q*, that opens and shuts the hole *L*; and upon the other end, *O*, is screwed a nut, which, stopping in the smaller part of the hole, prevents the wire from being lifted too high. This wire and screw are more clearly seen in *fig. 58*, and *fig. 62*: they slide through a collar of leathers, *rr*, *fig. 58*, and *fig. 61*, in the middle piece of the piston. *Figures 60* and *61*, are the two main parts which compose the piston; and when the pieces in *figures 59* and *62* are added to it, the whole is represented by *fig. 58*. *Fig. 61*, is a piece of brass, turned in a conical form, with a shoulder or ledge at the bottom; a long female-screw is cut into it, about two-thirds of its length; and the remaining part of the hole, in which there is no screw, is about the same diameter as the screw part, except a thin plate at the end, which is of a breadth exactly equal to the thickness of *q q*. That part of the inside of the conical piece of brass, in which no thread is cut, is filled with oiled leathers with holes in them, through which *q q* can slide air-tight; there is also a male-screw with a hole in it, which is fitted to *q q*, and serves to press down the leathers *rr*. In *fig. 60*, *aaaa* is the outside of the piston, the inside of which is turned exactly to fit the outside of *fig. 61*; *bb* are round leathers, about 60 in number; *cc* is a circular plate of brass, of the size of the leathers; and *dd* is a screw, which serves to press them down as tight as is necessary. The male screw, at the end of *fig. 59*, is made to fit the female screw in *fig. 61*. If *fig. 62*, be pushed into *fig. 61*, this into *fig. 60*, and *fig. 59* screwed into the end of *fig. 61*, these will compose the whole piston, as represented by *fig. 58*. *H*, in *fig. 57*, represents the same part as *H* in *fig. 58*, and is that to which the rack is fixed. If this, therefore, be drawn upwards, it will make *fig. 61* shut close into *fig. 60*, and drive out the air above it; and when it is pushed downwards, it will open as far as the shoulders *aa*, (*fig. 60*.) will allow, and suffer the air to pass through. *AA* (*fig. 63*.) is the receiver plate; *BB* is a long square piece of glass, screwed to the undermost side of the plate, through which a hole is drilled, corresponding with that in the centre of the receiver plate, and with the three female screws *bb*.

In order to conceive how the rarefaction of the air is effected, suppose the piston to be at the bottom of the barrel, and a receiver to stand upon the plate, the inside of the barrel, from the top of the piston to *a*, is full of air, and the piston shut: when drawn upwards, by the hollow cylindrical wire *H*, it will drive the air before it, through the hole *aa*, into the oil-vessel *R*, and out into the atmosphere by the tube *T*. The piston will then be at the top of the barrel at *a*, and the wire *q q* will stand nearly as it is represented in the figure, just raised from the tube *L*, and prevented rising higher by means of the nut *o*. While the piston is moved upwards, the air will expand in the receiver, and be driven along the bent tube *m*, into the inside of the barrel. Thus the barrel will be filled with air, which, as the piston rises, will be rarefied in proportion as the capacity of the receiver, pipes, and barrel, is to the capacity of the barrel alone. When the piston is moved downwards again by *H*, it will force the conical part, *fig. 61*, out of the hollow part, *fig. 60*, as far as the shoulders *aa*; *fig. 58*, will

will rest upon *aa*, *fig. 60*, which will then be so far open as to permit the air to pass freely through it, while at the same time the end of *qq* is forced against the top of the hole, and closes it in order to prevent any air from returning into the receiver. Thus the piston, while moved downwards, suffers the air to pass out between the sides of *fig. 60*. and *fig. 61*, and when it is at the bottom of the barrel, will have the column of the air above it; and, consequently, when drawn upward, it will shut and drive out this air, and by opening the hole *L*, give a free passage to more air from the receiver. This process being continued, the air will be exhausted out of the receiver as far as its expansive power will permit: for in this machine there are no valves, as in the common air-pumps, to be forced open by the air in the receiver, which, when its elasticity is diminished, it becomes unable to affect; nor is there any thing to prevent the air from expanding to the greatest degree.

In using this machine for exhaustion, no directions are necessary besides those which relate to common pumps, nor is any peculiar care required to keep it in order, except that the oil-vessel, *G*, be always kept about half full of oil. When it has stood for a considerable time without being used, it will be proper to draw a table-spoonful or two of oil through it, by pouring it into the hole in the middle of the receiver plate, when the piston is at the bottom of the barrel; then, by moving the winch backward and forward to raise and depress the piston, the oil will be drawn through all the parts of the machine; and the superfluous part will be forced out through the tube *T*, into the oil-vessel *G*. Near the top of the cylindrical wire *H*, is a square hole, which is intended to let in some of the oil from the vessel *G*, that the oiled leathers, through which the wire *qq* slides, may always be duly supplied with it.

When the pump is required to condense, either at the time when it exhausts, or separately, the piece which contains the bent tube *T*, must be taken away, and *fig. 64*. put into its place, and fastened by the same screws. In the plate, *fig. 64*, is drawn as it is made for a double-barrelled pump; but for a single barrel, one piece is used, represented by *baa*, the double piece being cut off at the dotted line *aa*. In this piece is a female screw, for receiving the end of a long brass tube; to which a bladder, if sufficient for the experiment, must be tied; or else a glass, properly confined for this purpose, must be screwed to it. Then the air, which is exhausted out of a receiver standing on the plate, will be forced into the bladder or glass connected with the brass tube. But if the pump be double-barrelled, the apparatus, as represented by *fig. 64*, must be used, and the long brass tube screwed into the female screw at *C*.

The two gages are represented in *fig. 65*. and *fig. 66*; the one is the syphon-gage, and the other the barometer or long gage. When these are used, *fig. 65*. must be screwed into the female screw, *cb*, or into that at the other end *c*, *fig. 63*.; and *fig. 66* into the female screw *ab*, *fig. 63*.

If it be used as a single air-pump, either to exhaust or condense, the screw *K*, which fastens the rack to the cylindrical wire *H*, must be taken out; then turning the winch till this wire is depressed as low as possible, the machine will be rendered fit to exhaust as a single air-pump; and if it be required to condense, the directions already given with regard to the bent tube *T*, and *fig. 68*, must be observed.

Mr. Cuthbertson has, by a variety of experiments with this air-pump, shewn its great powers of exhaustion. With the double syphon gage, and also with the long gage, compared with an attached barometer, in which the mercury had been repeatedly boiled, the difference between the heights

of the mercurial column proved to be no more than $\frac{1}{30}$ th of an inch, the barometer standing at 30 inches, which gives an exhaustion of 1200 times. On some occasions, when the air was in a very dry state, he observed the difference to be as low as $\frac{1}{100}$ th of an inch, which indicates more than double the rarefaction. See Description of an improved Air-pump, by John Cuthbertson, 8vo. London: for an abstract, Nicholson's Journal, vol. i. p. 128—130.

We shall close our account of the two pumps of Prince and Cuthbertson with the following judicious remarks of Mr. Nicholson (in his Journal, vol. i. p. 131.) on their respective merits and imperfections. "There is no provision to open the upper fixed valve of Prince's greater barrel, except the difference between the pressures of the elastic fluid on each side of the strip of bladder; and this may reasonably be inferred to limit the power of his small pump. In Cuthbertson's pump, the same valve is exposed to the action of the atmosphere, together with that of a column of oil in the oil-vessel. The mischief in either instrument is probably trifling; but in both, the valve might have been opened mechanically. If this were done, the small pump of Prince might perhaps be unnecessary in most states of the atmosphere. With regard to the lower valves, Cuthbertson, by an admirable display of talents as a workman, has insured their action. Prince, on the other hand, has, by the process of reasoning, so far improved the instrument, that no valves are wanted. In this respect, he has the advantage of simplicity and cheapness, with equal effect. The mechanical combination of Cuthbertson's pump reduces the operation to one simple act of the handle: but Prince's engine requires some manipulation with regard to the play of the small pump; though this might have been remedied by a more skilful disposition of the first mover."

"The most perfect scheme for an air-pump, taking advantage of the labours of these judicious operators, seems to be that in which two pistons of the construction of Prince should work in one barrel; one piston being fixed at the lower end of the rod, and the other at the middle. The lower piston must come clear out of the barrel when down, and work air-tight through a diaphragm at an equal distance from the effective ends of the barrel. In the diaphragm must be a metallic valve, of the form of Cuthbertson's lower-valve, but with a short tail beneath, that it may be mechanically opened when the piston comes up. Above the diaphragm must work the other piston, similar to the first; but as it cannot quit the barrel when down, a small portion of the barrel must be enlarged, just above the diaphragm, so that the leathers may be clear in that position. Lastly, the top of the barrel must be closed and fitted with a valve and oil-vessel, according to the excellent contrivance of Cuthbertson."

"If we suppose the workmanship of such a pump to leave the space between the diaphragm and lower piston, when up, equal to one-thousandth part of the space passed through by the stroke of that piston, the rarefaction produced by this part of the engine will in theory bear the same proportion to that of the external air; and the same supposition applied to the upper piston, would increase the effect one thousand times more: whence the rarefaction would be one million times. How far the practical effect might fall short of this from the imperfections of workmanship, or the nature of the air, which in high rarefactions, may not diffuse itself equally through the containing spaces, or from other yet unobserved circumstances, cannot be deduced from mere reasoning without experiment."

It is observed in the Encyclopædia Britannica, (vol. xv. p. 107.) that a construction of the air-pump, similar to that

of Mr. Cuthbertson, was invented, and, in fact, executed, before the end of 1779, by Dr. Daniel Rutherford, afterwards professor of botany in the university of Edinburgh. He made a drawing of a pump, having a conical metal valve in the bottom, furnished with a long slender wire, sliding in the inside of the piston rod with a gentle friction, sufficient for lifting the valve, and secured against all chance of failure by a spring at the top, which took hold of a notch in the inside of the piston-rod, about a quarter of an inch from the lower end, so as certainly to lift the valve during the last quarter of an inch of the piston's motion. He had executed a valve on this principle; but his thoughts were diverted from the further prosecution of the business.

In Phil. Transf. (vol. lxxiii. p. 435,) we have a description by Mr. Cavallo, of an air-pump contrived and executed by Messrs. Haas and Hurter, instrument-makers in London, in the construction of which these artists have revived Guericke's method of opening the barrel-valve during the last strokes of the pump, by an external force; of this pump Mr. Cavallo says, that when it had been long used, it had, in the course of some experiments, rarefied 600 times.

The drawing and description of a new air-pump, acting by means of a quantity of oil in the barrel, and invented by James Sadler, Esq. have been published by Mr. Nicholson, in his Journal, vol. i. p. 441, &c. He says, that it possesses the desirable requisites of simplicity, cheapness, and power; though at the same time he very properly suggests, that the oil, in process of time, may become changed by the circulation, and less fit for the purpose, and probably carry with it bubbles of air. He does not mention its practical effects.

A new air-pump, similar in its principle to those of Mr. Smeaton and Mr. Cuthbertson, has lately been constructed by the Rev. Mr. Little, of the county of Mayo in Ireland. The principal parts of this machine are one barrel and piston, one stop-cock, one valve, and two pipes of communication. It is of a portable size, and so contrived as to be confined in a very small space. The barrel is placed horizontally, and the rack by which the piston is moved underneath the barrel, so that the machine may be packed in a box two feet long, 18 inches wide, and seven in depth. It is adapted to the purposes of a condensing as well as of an exhausting engine. As to the effects of this pump, the author informs us, that in several trials of exhaustion, in the months of July, August, and September, 1795, the air being generally very dry, the rarefaction produced, as shewn by the pear-gage, was, five times, between 3000 and 4000: the mercury in the barometer gage standing at the same times always above $\frac{1}{100}$ th part of an inch higher than it stood in a standard barometer of a wider bore, which was filled with mercury made very hot and poured into a hot tube, and the mercury in the reduced barometer-gage sunk below the level of the surrounding mercury. In the other nine trials, the rarefaction, as shewn by the pear-gage, was from 9000 to 26000; when the barometer-gage stood at $\frac{1}{100}$ th of an inch higher than that in the standard barometer, and sunk in the reduced barometer still lower than before beneath the stagnant mercury. For a particular description and drawing of this instrument, and a minute detail of its practical effects; see Transactions of the Royal Irish Academy, vol. vi. p. 319—391.

The portable or table air-pump differs principally in size and the structure of the gage from the common air-pump described at the beginning of this article. It has two brass barrels, which are firmly retained in a perpendicular situation to the square wooden table on which they rest by a transverse beam, which is pressed upon them by screws at

the top of two pillars. From the hole in the center of the pump-plate, there is a perforation or canal in a brass piece, to the fore part of the frame of the pump; and from this canal there is a perforation right-angular to the former, passing to the center of the basis of each barrel. At each of these centers a valve is placed opening upwards to admit the air into the barrels. To each barrel a piston is so fitted that the air cannot pass between it and the sides of the barrel. Each piston has a valve opening upwards, that the air in the lower part of the barrel may escape through them into the common air. They are also connected with a rack, and are raised or depressed by a handle, the lower part of which is fixed to the axis of a cog-wheel, whose teeth lay hold of the rack. One piston is raised and the other is depressed, by the same turn of the handle. The operation of exhausting is the same as in the common pump. Two barrels are advantageous, because they perform the work more speedily, and also because the weight of the atmosphere, pressing upon the rising piston, is counterbalanced by the same weight pressing upon the other piston descending.

Behind the large receiver upon the pump-plate, there is a small plate for sustaining a small receiver. From the hole at the center of this plate there is a canal communicating with that which passes from the large receiver to the barrels. Under the receiver is a small bottle containing mercury, a small tube filled with mercury and freed from air, and inverted with the open end in the mercury; this is called the short barometer-gage. As the air is taken out of the receiver on this small plate, it is taken at the same time from the larger one; and the descent of the mercury in the tube will point out the degree of rarefaction in the receiver. The mercury, however, does not begin to descend in this tube till near three-fourths of the air have been exhausted; and the air is said to be as many times rarer than the atmosphere, as the column of mercury sustained in this tube is less than the height at which the mercury stands, at that time, in a common barometer. The syphon-gage, which is sometimes used, is a glass tube, bent in the form of a syphon, hermetically sealed at one end and open at the other. The longest leg is four inches, each of which is divided on an adjoining scale, into 20 equal parts. After considerable exhaustion the gage begins to act; and whilst the mercury falls in one leg, it rises in the other; and the quantity of air remaining will be determined by the difference of the height, at which it stands in both tubes. This gage is placed in the same situation with the short barometer gage. See GAGE.

The small single-barrelled pump has two plates, one for receivers, and the other for a short barometer-gage. Its principle is the same with that of the air-pump just described; excepting that it has only one barrel, and that its piston is merely worked by the hand. In general the single-barrelled pump is made only with one receiver-plate and a mahogany basis, to save expences, and with its small apparatus, to be packed in a portable mahogany case.

AIR-PUMP, laws of rarefaction in the receiver of it.—1. For the proportion of air remaining at any time in the receiver, (supposing no vapour from moisture, &c.) we have the following general theorem.—“In a vessel exhausted by the air-pump, the primitive or natural air contained therein, is to the air remaining, as the aggregate of the capacity of the vessel and of the pump, (*i. e.* the cylinder left vacant in an elevation of the piston, with the pipe and other parts between the cylinder and the receiver) raised to a power whose exponent is equal to the number of strokes of the piston, to the capacity of the vessel alone raised to the same power.” M. Varignon gives an algebraical demonstration

stration of this theorem, in the *Memoires de l'Acad. Roy.* an. 1693, p. 233, seq. Id. an. 1705, p. 397, seq.; but it may be also demonstrated pneumatically, thus:—Calling the air remaining after the first stroke, the *first residual*; that after the second, the *second residual*, &c. and remembering that the air in the receiver is of the same density as that in the cylinder, when the piston is raised; it is evident, that the quantity of air in the receiver, is to the quantity of air in the cylinder, pipe, &c. as the capacity of the receiver to that of the cylinder, and consequently, the aggregate of the air in the receiver and the cylinder, *i.e.* the whole primitive air, is to the air in the vessel alone, *i.e.* to the first residual air, as the aggregate of the capacity of the receiver and the cylinder, to the capacity of the receiver alone. After the same manner it may be proved, that the quantity of the first residual air, is to the second residual, as the aggregate of the capacity of the receiver and cylinder to the capacity of the vessel alone. And the same proportion does the second residual bear to the third, and so of the rest.

This may be illustrated by an example. Suppose the capacity of the receiver to be twice as great as the capacity of the cylinder or barrel, then will the capacity of the barrel be to that of the barrel and receiver together as one to three; and the quantity of air exhausted at each turn of the pump is to the quantity of air which was in the receiver immediately before that turn, in the same proportion. So that by the first stroke of the pump, a third part of the air in the receiver is taken away; by the second stroke a third part of the remaining air is taken away; by the third stroke a third part of the next remainder is exhausted; and so on continually; the quantity of air evacuated at each stroke decreasing in the same proportion with the quantity of air remaining in the receiver immediately before that stroke; for it is very evident that the third part, or any other determinate part of any quantity must be diminished in the same proportion with the whole quantity itself. And as the quantity of air in the receiver is by each stroke of the pump diminished in the proportion of the capacity of the receiver to the capacity of the barrel and receiver taken together; each remainder will therefore be always less than the preceding remainder in the same given ratio; or, in other words, these remainders will be in a geometrical progression continually decreasing. To recur to the preceding example; the quantity exhausted at the first turn was a third part of the air in the receiver, and therefore the remaining air will be two-thirds of the same; and for the like reason, the remainder after the second turn will be two-thirds of the foregoing remainder; and so on continually; the decrease being always made, in the same proportion of two to three; consequently the decreasing quantities themselves are in a geometrical progression. And as the quantities exhausted at every turn decrease in the same proportion with these remainders; therefore the quantities exhausted at every turn are also in a geometrical progression. Thus it appears, that the evacuations and the remainders do both decrease in the same geometrical progression. If the remainders decrease in a geometrical progression, it is plain that, by continuing the agitations of the pump, you may render them as small as you please; that is, you may approach as near as you please to a perfect vacuum; but you can never entirely take away the remainder.

From the above reasoning it appears, that the product of the primitive air into the first, second, third, fourth, &c. residuals, is to the product of the first residual into the second, third, fourth, fifth, &c. as the product of the capacity of the receiver and cylinder together, multiplied as

often into itself as the number of strokes of the piston contains units, is to the factum arising from the capacity of the receiver alone, multiplied so often by itself; that is, as the power of the aggregate of the capacity of the receiver and cylinder together, whose exponent is the number of strokes of the piston, to the capacity of the vessel alone, raised to the same power. Consequently, the primitive air is to the last residual, in the ratio of those powers.

2. The number of strokes of the piston, together with the capacity of the receiver and cylinder with the wire, &c. being given; to find the ratio of the primitive air to the air remaining.

Subtract the logarithm of the capacity of the receiver, from that of the sum of the capacity of the receiver and the cylinder; then, the remainder being multiplied by the number of strokes of the piston, the product will be a logarithm, whose natural number shews how often the primitive air contains the remainder required.

Thus, if the capacity of the receiver be 460, that of the cylinder 580, and the number of strokes of the piston 6; the primitive air will be found to the remaining air as 1335 to 1, or 1335 to 10.

For, suppose the capacity of the vessel = v , that of the cylinder and vessel together = a , the number of strokes of the piston = n , and the remaining air = 1. Since the primitive is to the remaining air as a^n to v^n , the primitive air will also be to the remaining air, as $a^n \div v^n$ to 1. Consequently, if the remaining air be 1, the logarithm of the primitive air is $\log. a - \log. v \times n$.

3. The capacity of the receiver and the barrel being given; to find the number of strokes of the piston required to rarefy the air to a given degree.

Subtract the logarithm of the remaining air from the logarithm of the primitive air; and the logarithm of the capacity of the receiver, from that of the aggregate of the capacity of the receiver and cylinder; then, dividing the former difference by the latter, the quotient is the number of strokes required.

Let the primitive air be p , the remaining air r , and the other quantities as before: and we shall have $p : r :: a^n : v^n$; and the $\log. p - \log. r = n \times \log. a - \log. v$; and $n = \log. p - \log. r \div \log. a - \log. v$.

Thus, if the capacity of the cylinder be supposed 580, that of the receiver 460, and the primitive air to the remaining air, as 1335 to 10: the number of strokes required will be found to be 6.

4. The proportion of the primitive air to the remaining air, together with the capacity of the receiver and the number of strokes of the piston, being given; to find the capacity of the barrel.

Let the first-mentioned proportion be that of p to r ; the capacity of the receiver, v , that of the barrel, x , and the number of strokes of the piston, n ; then $p : r :: v + x^n : v^n$; and $\log. p - \log. r = n \times \log. v + x - n \times \log. v$: consequently, $\log. v + \frac{\log. p - \log. r}{n} = \log. v + x$. Hence,

find the logarithm of the capacity of the receiver and barrel, and from this the capacity itself, and subtracting that of the receiver, the capacity of the barrel will be known.

For $p : r :: 1335 : 10$, $v = 460$, and $n = 6$: consequently, $\log. v + x = 2.6627578 + \left(\frac{3.1256530 - 1.0000000}{6} \right) =$

$.3542755 = 3.0170333$, the log. of 1040. Consequently, $x = 1040 - 460 = 580$. See Wolf. Elem. Math. tom. ii. p. 289, &c. Cotes's Hyd. and Pneum. Lectures, lect. 13.

To the air-pump belongs a large apparatus of other vessels, accommodated to various kinds of experiments.

Besides the effects, and the phenomena of the air-pump, recounted under the articles *VACUUM*, *AIR*, &c. we may add some others; which, related at large, make the substance of Mr. Boyle's *Physico-Mech. Exper.*—As, that the flame of a candle *in vacuo* usually goes out in a minute, though it sometimes lasts two, but the wick thereof continues ignited after; and even emits a smoke, which ascends upwards.—That a kindled charcoal is totally extinguished in about five minutes, though in open air it remain alive half an hour; that it goes out by degrees, beginning from the top and the outsides.—That red-hot iron is not affected by the absence of the air; and yet that sulphur or gun-powder will not be lighted thereby, but only fused.—That a match, after lying seemingly extinct *in vacuo* a long time, revives again upon the re-admission of the air.—That a flint and steel strike sparks of fire as copiously *in vacuo* as out of it; and that the sparks move in all directions, upwards, downwards, &c. here as in the air.—That magnets and magnetic needles, are the same *in vacuo* as in air.—That smoke in an exhausted receiver, the luminary being extinct, gradually settles to the bottom in a darkish body, leaving the upper part clear and transparent; and that inclining the vessel sometimes on one side, and sometimes another, the smoke keeps its surface horizontal, after the nature of other fluids.—That the syphon does not run *in vacuo*.—That water freezes *in vacuo*.—That heat may be produced by attrition in the exhausted receiver.—That camphor will not take fire *in vacuo*; and that gun-powder, though some grains of a heap be kindled by a burning-glass *in vacuo*, will not give fire to the contiguous grains.—That glow-worms lose their light in proportion as the air is exhausted, and at length become totally obscure; but upon the re-admission of air, presently recover it all.—That electricity appears like the *Aurora borealis*.—That vipers and frogs swell much *in vacuo*, but will live an hour and half, or two hours; and though seemingly quite dead in that time, come to life again after being some hours in the air.—That snails survive ten hours; and efts or slow-worms, two or three days; leeches five or six.—That fishes will rise up to the top of water, placed under an exhausted receiver, because the air-bladder is expanded, and they are thus made specifically lighter than water; but if the bladder breaks, they sink down to the bottom and rise no more.—That animals who live in water will not die by exhausting the air out of the receiver, unless they are kept for a considerable time *in vacuo*.—That oysters will remain alive *in vacuo* 24 hours without harm.—That the heart of an eel taken out of the body, continues to beat *in vacuo*, more nimbly than in air; and this for a good part of an hour.—That warm blood, milk, gall, &c. undergo a considerable intumescence and ebullition *in vacuo*.—That a mouse, or other animal, may be brought, by degrees, to survive longer in rarefied air, than naturally it does.—That air may retain its usual pressure, after it is become unfit for respiration.—And that silk-worms' eggs will hatch *in vacuo*.

Besides the above-mentioned phenomena, many others are recited by different writers on this subject, and they may be found in the *Philosophical Transaction* of various Academies and Societies, and in the works of Torricelli, Pascal, Mersenne, Guericke, Schottus, Boyle, Hooke, Hauksbee, Duhamel, Mariotte, Hales, Mulchenbroek, Gravefande, Defaguliers, Franklin, Cotes, Helsham, Martin, Fergufon, Adams, &c. &c. We shall subjoin for the exercise and amusement of our readers some farther experiments, arranged under distinct heads. For experiments that require peculiar

accuracy, the receiver should not be placed upon leather, either oiled or soaked in water; but the plate of the pump should be made very dry, and the inside of the receiver should be dried and rubbed with a warm cloth. The receiver may then be set upon the plate, and hog's lard, either alone or mixed with oil, be smeared round its outward edge. After performing any experiments, the pump should be cleared of any vapour that has been generated, by exhausting a large receiver to as great a degree as possible; and the vapour that remained in the barrel and pipes will be diffused through the receiver; and if this be large, one exhaustion will be sufficient for clearing the pump. With small receivers the operation should be repeated two or three times. In some of the best pumps, the plate and edges of the receiver are ground so accurately as not to require any leathers; but as the plate is liable to be scratched by setting the receivers upon it, hog's lard or tallow spread upon their edges will be useful. This will prevent the edges from damaging the plate, and will not admit any vapour. When leathers are used for connecting the receiver with a pump plate and for making the junction air-tight, they are previously soaked in water, oil, or a mixture of melted bees' wax and hog's lard. When experiments are performed that require the use of mercury, a small pipe should be screwed into the hole of the pump plate, in order to prevent any of it, that may be accidentally spilt, from passing into the air-pipe and barrels; which would loosen the solder and corrode the brads.

I. Experiments for shewing the weight and pressure of the air.

1. Exhaust of its air a copper ball, such as C (*Plate v. Pneumatics*, fig. 26.) the neck of which is furnished with a stop-cock and a screw by means of which it may be fixed to the plate of an air-pump; suspend it, when exhausted, on the end B of one arm of a balance, A B, and lay upon it the small weight *p*, which must be counterpoised by a weight P in the opposite scale of the balance. Turn the cock of the ball, and the air will rush in and render it so much heavier, that the weight *p* must be removed in order to restore the equilibrium. If the ball holds a gallon, it will thus be found that a gallon of air weighs about the sixth part of an ounce. See *WEIGHT of the AIR*.

2. Place the small receiver O (*fig. 35.*) over the hole of the pump plate, and upon exhausting the air, the receiver will be fixed down to the plate by the pressure on its outside; and this pressure will be equal to as many times 15 pounds as there are square inches in that part of the plate, which the receiver covers. By turning the cock of the pump and readmitting the air, the receiver will become loose. In order to prove that the receiver O is held down by the pressure of the air, suspend it on the hook of the wire P P passing through the collar of leathers at the top of the receiver M, by which it is covered, and thus let it down on the plate of the pump; and when the air is exhausted from both receivers, the large receiver M will be fixed to the plate by the pressure of the external air; but the small one O will be loose and may be easily removed; on letting in the air, the lesser O will be fixed down upon the plate and the other will be released.

3. Place a small brads or glass vessel A B (*fig. 27.*) which is open at both ends over the hole of the pump plate, and cover the top of it with the hand; which, when the air is exhausted, will be pressed down by the weight of the external air, so that it cannot be released without difficulty till the air is readmitted.

4. Tie a piece of wet bladder, as *b* (*fig. 28.*) over the open top of the glass A; when it is dry, set the open end A

A over the hole of the pump plate, and as you exhaust the air, the bladder will be pressed down and resume within the glass a concave figure, and at length it will break with a loud report. If a piece of flat glass be laid upon the top of this receiver, and joined to it by a rim of wet leather, the pressure of the outward air will break the glass, when the internal air is exhausted.

5. Insert the neck *cd* of the hollow glass ball *ab* (fig. 29.) in the water of the phial *aa*; place it on the plate of the pump, and cover it and the hole of the plate with the receiver *A*; exhaust this receiver, and the air will escape by its spring from the ball *ab*, through the neck *cd*, rise in bubbles through the water, and pass off into the external air. When it has done bubbling, turn the cock of the pump, and the air that is admitted will by its pressure on the surface of the water force it up in a jet into the ball *ab*, and almost fill it; the small quantity of remaining air, which occupied the whole ball, and which is now reduced to a small space of condensation, preventing the water from filling the whole cavity of the ball. This experiment may be varied by screwing the end *A* of the brass pipe *A B F* (fig. 30.) into the hole of the pump plate, and placing, by means of wet leather, upon the plate *cd* a tall receiver *G H* close at the top, exhausting the receiver of its air and stopping the pipe by the cock *e*; when this is done remove the apparatus from the pump, set its end *A* in a basin of water, and open the pipe by turning the cock *e*; and the pressure of the air on the water will force it up through the pipe, so that it will ascend in a jet to the top of the receiver. See FOUNTAIN.

6. Set the jar *D* (fig. 31.) containing quicksilver, near the hole of the pump plate, and cover both with the tall open receiver *A B*. Into the plate *C*, placed upon the upper end of this receiver, introduce the open glass tube *g f*, immersed at its lower extremity in the quicksilver of the jar *D*, and screwed by a brass top annexed to it at *b* to the syringe *H*, which is itself screwed to the plate *C*. By the ring *I* draw up the piston of the syringe, and thus exhaust the tube of its air; and the quicksilver in the basin pressed by the undiluted air of the receiver *A B* will ascend in the tube. That this ascent is owing to the pressure of the air, and not to what some have called suction, may be evinced by exhausting the receiver of its air, which will cause the quicksilver to descend into the jar, and by readmitting the air, which will raise it again in the tube, although the piston of the syringe be not moved. If the tube be about 32 or 33 inches high, the quicksilver will rise nearly as high in the tube as it stands at that time in the barometer. If the syringe has a small hole at *m*, and the piston be drawn up above that hole, the air will pass through it into the syringe and tube, and the quicksilver will immediately fall down into the jar.

7. Place the jar *A* (fig. 32.) with quicksilver in it on the pump plate, cover it with the receiver *B*, and push the open end of the glass tube *de* through the collar of leathers in the brass neck *C*, almost down to the quicksilver in the jar. Exhaust the receiver *B* of its air, and the tube *de*, which is close at the top *f*, will at the same time be exhausted. When the receiver has been well exhausted, push the open end of the tube into the quicksilver of the jar; and though the tube be exhausted of its air, the quicksilver will not rise in it, because there is no pressure on the surface of that in the jar. But upon admitting the air into the receiver, the quicksilver will immediately rise and stand as high as it did in consequence of the action of the syringe in the preceding experiment.

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These two last experiments not only exhibit the weight and pressure of the air, but they also shew that these are increased or diminished in proportion to the increase or decrease of the air's depth. See BAROMETER and TORRICELLIAN Experiment.

8. Join the two brass hemispheres *A* and *B* together (fig. 35.) by the interposition of a wet leather, with a hole in the middle of it; then screw the end *D* into the plate of the pump, and turn the cock *E* of the pipe, *C D*, communicating with the hemispheres; and having exhausted the air, turn the cock so as to stop the pipe. Having removed it from the pump, screw at the end *D*, the piece *F b*; and two strong men pulling at the handles *g* and *h* will find it difficult to separate the hemispheres; for if the diameter be four inches, they will cohere together with a force equal to 188 pounds, the area being equal to the square of the diameter multiplied by 7854, and the pressure on every square inch being 15 pounds; *i. e.* $16 \times 7854 \times 15 = 188,496$ pounds. If they be suspended by either of the rings on the hook *P* of the receiver *M* (fig. 35.), and the receiver be exhausted of its air, they will separate of themselves.

9. Set the square phial *A* (fig. 37.) upon the pump plate, and cover it with the wire cage *B*; then placing it under a close receiver, exhaust the receiver and the phial which has a small hole under a valve at *b* of their air; and the air upon its readmission into the receiver, being prevented from passing into the phial by the valve *b*, will break it into a number of pieces by its pressure. Quickfilver may be also forced into wood, and made to pass through it by the pressure of the air.

II. Experiments for shewing the elasticity or spring of the air.

1. Place a bladder, containing a small quantity of air and well tied up, under a receiver; and when the receiver is exhausted, the air will expand and fill the bladder so that it will appear as if it were blown with common air. Upon letting in the air, the bladder pressed by it will be reduced to its original flaccid state. This bladder put into a box under a weight of 20 or 30 pounds, and covered with a receiver, will, upon the exhaustion of the receiver, raise the weight by means of the spring of the internal air.

2. Take the glass ball (fig. 29.) which was filled with water, a small bubble of air at the top of it excepted, and having placed it with its neck downward into the empty jar *aa*, and covered it with a close receiver, exhaust the receiver of its air, and the air-bubble will expand itself, and by its elastic force protrude the water out of the ball into the jar. Or, screw the pipe *A B* (fig. 30.) into the pump plate, and place the tall receiver *G H* upon the plate *cd*; exhaust the receiver, and then remove the apparatus and screw it into the copper vessel *C C* (fig. 38.) half filled with water. Then turning the cock *e* (fig. 30.) and the air confined in this vessel will by its spring force the water through the pipe *A B*, and cause it to form a jet into the exhausted receiver, equal to that which was produced by the pressure of the air in a former experiment; other circumstances being alike.

3. Let the balls annexed to the heads of the hollow glass images (fig. 39.) contain water sufficient to render them specifically heavier than water. Place them under a receiver and exhaust it; and the air in the balls will dilate, force part of the water out, and render the images lighter than water, so that they will ascend. On re-admitting the air, they will descend. Small apertures made in the feet of these images will vary the experiment, and answer the same purpose.

3 Q

3. Animals

3. Animals that die in an exhausted receiver are evidently compressed at first as with a great weight, then convulsed, and at last expire in apparent agony. Instead of repeating experiments of this kind, the effect of exhaustion is ascertained by what is usually, though improperly, called the lungs-plait. This consists of a bladder tied round a small tube which passes into a bottle, and sealed so tight, that the air cannot escape any way but through the tube. When this machine is put under a receiver and the air begins to be exhausted, the spring of that, which is contained in the bottle, and which cannot escape, compresses the bladder; and when air is again let in, the bladder expands; and these alternate motions of compression and dilatation have been supposed analogous to those of the lungs. See *fig. 40.*

4. Pour quicksilver into the bottle A (*fig. 41.*) and screw the brass collar *c*, of the tube B C, into the brass neck *b* of the bottle, and let the lower end of the tube be immersed into the quicksilver, so that the air above the quicksilver may be confined there. Cover this tube, which is open at the top, with the receiver G and large tube E F, fixed by brass collars to the receiver and close at the top. Exhaust the receiver and its tube; and the air will be thus exhausted out of the inner tube B C through its open top C; and then the air confined in the bottle A will, by its spring, force the quicksilver in the inner tube as it was raised in a former experiment by the pressure of the atmosphere; and thus it appears that the elasticity of the air is equivalent to its weight.

5. Screw the end C of the pipe C D (*fig. 42.*) into the hole of the pump plate, and open the communication between the three pipes E, F, and D C, and the hollow trunk A B, by turning the three cocks *d*, G and H. Cover the plates *g* and *h* with wet leathers, having holes in their middle, so as to communicate with the pipes; place the close receiver I upon the plate *g*; shut the pipe F, by turning the cock H; and exhaust the air out of the receiver I. Shut out the air by turning the cock *d*; remove the machine from the pump; screw it to the wooden stand L; and put the receiver K upon the plate *h*, on which it will be loose whilst it is full of air; but upon turning the cock H, and opening the communication between the pipes F and E, through the trunk A B, the air in K will, by its spring, pass from K to I, till it becomes of equal density in both receivers; and then they will be held down with equal force upon their respective plates by the pressure of the atmosphere, and the force with which K was held down will be divided between K and I. Thus it appears, that a force equal to half the elastic force of common air will act within the receivers against the whole pressure of the common air on their outsides. This instrument is called a double transference, and it serves to transfer the air from one vessel into another.

6. Fasten a cork in the square phial A (*fig. 37.*) with wax or cement; put it upon the pump plate, cover it with the wire cage B, and place a close receiver over the cage. Upon exhausting the receiver of its air, that which was enclosed within the phial will dilate itself, and having no counter pressure on the outside, will break the phial outwards by the force of its spring.

7. Place a shrivelled apple under a receiver, and as it is exhausted, the spring of the air within the apple will plump it out and cause the wrinkles to disappear; but upon readmitting the air, it will return to its shrivelled state.

8. Put a fresh egg, from the small end of which a little of the shell and film is removed, under the receiver; and when the air is pumped out, the small bubble of air contained between the shell and film at the larger end, will dilate

itself, and protrude the contents of the egg into the receiver. If the egg be placed in a jar of water under the receiver, its surface will be covered with bubbles of air in the progress of exhaustion.

9. Warm beer put under a receiver, exhausted of its air, will discharge bubbles, which will rise to the surface, and at length give it the appearance of boiling.

10. A piece of dry wainscot or other wood, being put into warm water and covered with a receiver, will discharge air, as the receiver is exhausted, and exhibit bubbles of air, especially about its ends, because the pores lie lengthwise. A cubic inch of dry wainscot has so much air in it, that it will continue bubbling for half an hour together.

If a piece of wood be made to pass through a plate covering the top of a receiver, with one part exposed to the air and the other immersed in a jar of water under the receiver, and the thumb be put on the top of the wood whilst the pump is working, the air contained in the pores of the wood will rush in bubbles through the water; but if the thumb be taken off, a stream of air will flow in through the wood; and thus by alternately taking off the thumb and placing it on the wood, the influx of the air will be alternately admitted and interrupted. See AIR and ELASTICITY of the Air.

III. Experiments for shewing the resistance of the air.

1. The machine (*fig. 43.*) consists of two mills, *a* and *b*, of equal weight, and moving independently and freely on their axes. Each mill has four thin vanes or sails, fixed in the axis; those of the mill *a* having their planes perpendicular to the axis, and those of the mill *b* having their planes parallel to it. When the mill *a* turns round in common air, it will suffer little resistance, because its sails cut the air with their thin edges; but the mill *b* is much resisted, because the broad sides of its sails move against the air, when it turns round. Each axle has a pin near the middle of the frame, which passes through the axle and projects a little on each side of it; upon these pins the slider *d* may be made to bear, and thus hinder the mills from going, when the strong spring *c* is set on bend against the opposite ends of the pins. Having set the machine upon the pump plate, draw up the slider *d* to the pins on one side, and set the spring *c* at bend upon the opposite ends of the pins; then push down the slider *d*, and the spring acting with equal strength on each mill will set them at work with equal forces and velocities; but the mill *a* will run much longer than *b*, because it meets with much less resistance. Draw up the slider again, and set the spring upon the pins as before; then cover the machine with the receiver M (*fig. 35.*) upon the pump plate; and having exhausted it, push down the wire P P, through the collar of leathers in the neck *q*, upon the slider, which disengaging it from the pins will allow the mills to turn round by the impulse of the spring; and as there is no air in the receiver that yields any sensible resistance, they will move for a longer time than in the open air, and when one stops, the other will stop also. Hence it appears, that the air resists moving bodies, and that equal bodies meet with different degrees of resistance, according as they present greater or less surfaces to the air, in the planes of their motions.

2. Put the guinea *a* and feather *b* (*fig. 44.*) upon the brass flap *c*; turn up the flap, and shut it into the notch *d*. Then putting a wet leather over the top of the tall receiver A B, which is open at both ends, cover it with the plate C, so that the tongs *e d* may hang within the receiver. Then having exhausted the receiver, draw up the wire *f*, and the tongs *e d* will be opened by a piece at its end, and the flap *c* falling

c falling down, the guinea and feather will be observed to descend with equal velocities, and by looking steadily to the bottom of the receiver, to fall to the pump plate at the same instant. When air is in the receiver, the guinea will fall in an instant, and the feather will descend gently and by an indirect motion. This apparatus is sometimes so constructed as to let three guineas with their feathers fall separately at three different times, without taking it off or exhausting the air afresh. See *RESISTANCE of the Air*.

IV. Miscellaneous Experiments.

1. Screw the syringe H (*fig. 31.*) to a piece of lead, weighing at least one pound; pull up the piston, which will cause a vacuum in the syringe, and the air by its pressure will drive back the lead upon it; raising it and counting acting its natural weight. But if the syringe and annexed weight be placed in an exhausted receiver, they will fall upon the piston by their natural gravity, and upon readmitting the air, they will be drove upward again, so that the piston will be at the bottom of the syringe.

2. To a balance A B, *Plate vii. Pneumatics, fig. 54.* suspend a weight of lead, and let it be in equilibrio with a piece of cork. Place this apparatus under a receiver and exhaust the air, and the cork will preponderate; but let the air be admitted, and the equilibrium will be restored. As the air is a fluid, all bodies lose as much of their weight in it as is equal to the weight of an equal bulk of the fluid; and as the cork is largest, it loses more of its absolute weight than the lead, and of course must be heavier in order to compensate this greater loss; but when the air is removed, all bodies gravitate according to their quantities of matter, and therefore the cork, which balanced the lead in air, will appear to be heavier *in vacuo*. A more elegant apparatus for this experiment, consisting of a light glass ball A, and a brass weight B, is exhibited in *fig. 55*.

3. Set a clean receiver upon the plate of a pump, and when you begin to exhaust it, hold a candle to the side of the receiver opposite to your eye, and several colours, resembling a halo, will appear about the candle, which are occasioned by the vapours that arise from the wet leathers and their refraction of the light.

4. Place a lighted candle under a tall receiver, and if it holds about a gallon, the candle will continue to burn about a minute; and its light will gradually decay and at length be extinguished. The smoke of the candle will ascend and form a kind of cloud at the top of the receiver; but upon exhausting it, the smoke will fall down to the bottom; thus shewing, that smoke does not ascend because it is positively light, but because it is lighter than air.

5. Let the pipe represented in *Plate viii. Pneumatics, fig. 68*, be annexed to the top of an open receiver, and the air be exhausted; then place one end of the pipe in the middle of a charcoal fire, and open the cock; and the noxious air of the charcoal will pass through the pipe into the receiver; remove the pipe from it, and let down a small lighted wax taper into the receiver, and it will be immediately extinguished. A mouse or bird let down into the receiver will be killed by the air which it contains. If a candle be let down gently, it will purify the air as it descends.

6. By connecting the wire that passes through the collar of leathers of a receiver with the trigger of a pistol lock, placed under it, exhausting the air, and then drawing the trigger, the flint will strike the steel and produce sparks of fire, which will not be visible as in the open air. Or, if two iron bullets be made red-hot, and one of them be under an exhausted receiver, it will not appear luminous, like the other which remains in the open air.

7. Set a bell upon a cushion under a receiver on the pump plate; and shake the pump so as to make the clapper strike against the bell, and the sound will be distinctly heard; but exhaust the receiver, and if the clapper be made to strike with great force against the bell, it will make no audible sound; hence it is inferred, that air is necessary for the propagation of sound.

AIR-SHAFTS, among *Miners*, denote holes or shafts let down from the open air to meet the adits, and furnish fresh air. The damp, want, and impurity of air, which occur, when adits are wrought 30 or 40 fathoms long, make it necessary to let down air-shafts, in order to give the air liberty to play through the whole work, and thus discharge bad vapours, and furnish good air for respiration: the expense of which shafts, in regard of their vast depths, hardness of the rock, drawing of water, &c. sometimes equals, nay exceeds, the ordinary charge of the whole ADIT.

Sir Robert Murray describes a method, used in the coal-mines at Liege, of working mines without air-shafts. *Phil. Transf. N° 5*.

When the miners at Mendip have sunk a groove, they will not be at the charge of an air-shaft, till they come at ore; and for the supply of air have boxes of elm exactly closed, of about six inches in the clear, by which they carry it down about twenty fathoms. They cut a trench at a little distance from the top of the groove, covering it with turf and rods disposed to receive the pipe, which they contrive to come in side-ways to their groove, four feet from the top; which carries down the air to a great depth. When they come at ore, and need an air-shaft, they sink it four or five fathoms distant, according to the convenience of the breadth, and of the same fashion with the groove, to draw as well ore as air. *Phil. Transf. N° 39*. See MINING.

AIR-THREADS of spiders. See THREADS.

AIR-TRUNK, a simple contrivance by Dr. Hales, for preventing the stagnation of putrid effluvia, and purifying the air in jails and close rooms; which consists of a square trunk open at both ends, one of which is fixed in the ceiling and the other is extended to a considerable height above the roof. The noxious effluvia, ascending to the top of the room, escape by this trunk. Some of these have been nine and others six inches in the clear; but whatever be their diameter, their length should be proportionable, in order to promote the ascent of the vapour. As the pressure of fluids, and consequently of the air, corresponds to their perpendicular altitude, the longer these trunks are, so much the greater will be the difference between columns of air pressing at the bottom and at the top; and of course so much the greater will be their effect. See VENTILATOR.

AIR-VESEL, in *Hydraulics*, is a name given to those metalline cylinders, which are placed between the two forcing-pumps in the improved FIRE-engines. The water is injected by the action of the pistons through two pipes, with valves, into this vessel; the air previously contained in it will be compressed by the water, in proportion to the quantity admitted, and by its spring force the water into a pipe, which will discharge a constant and equal stream; whereas in the common squirting engine, the stream is discontinued between the several strokes. Other water-engines are furnished with vessels of this kind.

AIR-VESSELS, in *Botany*, are certain canals, or ducts, whereby a kind of absorption and respiration is effected in vegetable bodies.

Air-vessels have been distinguished from SAP-VESSELS; the former being supposed to correspond to the trachea, and

larges of animals; the latter to their lacteals and blood-vessels.

Dr. Grew, in an enquiry into the motion and cause of the air in vegetables, shews, that it enters them various ways, not only by the trunk, leaves, and other parts above ground, but at the root. For the reception, as well as expulsion of air, the pores are so very large in the trunks of some plants, as in the better sort of thick walking canes, that they are visible to a good eye without a glass; but with a glass, the cane seems as if it were thick full of large pin-holes resembling the pores of the skin in the ends of the fingers, and ball of the hand. In the leaves of the pine, through a glass, they make an elegant show, standing almost exactly in rank and file throughout the length of the leaves.

But though the air enters in partly at the trunk and also at other parts, especially in some plants, yet its chief admission is at the root: much as in animals, some part of the air may continually pass into the body and blood by the pores of the skin; but the chief draught is at the mouth. If the chief entrance of the air were at the trunk, before it could be mixed with the sap in the root, it must descend; and so move not only contrary to its own nature, but in a contrary course to the sap: whereas by its reception at the root, and its transition from thence, it has a more natural and easy motion of ascent. See *CIRCULATION of sap*.

The same fact is farther deduced, from the fineness and smallness of the diametral apertures in the trunk, in comparison of those in the root; which nature has plainly designed for the separation of the air from the sap, after they are both together received into them. Grew, *Anat. of Root*, chap. iii. p. 127.

Air-vessels are found in the leaves of all plants, and are even discoverable in many without the help of glasses; for upon breaking the stalk or chief fibres of a leaf, the likeness of a fine wholly substance, or rather of curious small cob-webs, may be seen to hang at both the broken ends. This is taken notice of only in some few plants, as in *scabious*, where it is more visible: but may also be seen more or less in most others, if the leaves be very tenderly broken. This wool is really a skein of air-vessels, or rather of the fibres of the air-vessels, loosed from their spiral position, and so drawn out in length. *Id. ibid.* chap. iv. p. 155.

That air is inspired by vegetables, has been fully proved by Dr. Hales, in his *Statical Essays*, (vol. i. p. 155, &c.) and he has in many instances shewn, that air freely enters the vessels of trees, and that it is in great abundance wrought into their substance. But as to particular air-vessels in plants, he seems to speak doubtfully. He says, by way of question, may not the use of those spiral wreaths, that are coiled round the insides of these vessels, which are supposed to be air-vessels, and which are manifestly to be seen in several trees, and also in the leaves of the vine and *scabious*, may not these be designed by nature to promote the quicker ascent of air, by being in some measure conformed to its elastic contortions? For such spiral wreaths seem to be altogether useless, for promoting the ascent of any liquor, as the sap, which ascends most freely through innumerable other capillary vessels, having no such spiral coils in them: not that we are to suppose the air in its elastic state actually to touch, and thereby to be determined in the course of these spirals, as any liquor would be. But as the rays of light, when they are reflected from a solid body, are found to be reflected, without actually touching the reflecting body in the point of reflection; so it is not unreasonable to

suppose, that elastic air may, like light, be diverted from one course, and so be determined to another, by the solid bodies it approaches, without touching them, but rebounding like light from those solid bodies near the point of contact.

Dr. Hales has observed, that these spirals are coiled in a course opposite to the course of the fun, that is, from west to east. *Vide static. Ess.* vol. ii. p. 265, 266.

Dr. Darwin, in his *Phytologia*, observes, that the vessels which Malpighi, Grew, and many others, have denominated bronchia, and erroneously thought to be air-vessels, and to serve the purpose of respiratory organs, are absorbent vessels, destined to imbibe the nutriment of plants, and that they are the genuine lungs of vegetables. These absorbent vessels, he says, which resemble the lacteals of animal bodies, are found in the roots of plants for imbibing nourishment from the moist earth, on the external surfaces of the bark and leaves, for absorbing the humidity of the atmosphere, and also in the internal surfaces of the cells and cavities of the vegetable system, where they absorb the secreted fluids, after they have performed the offices to which they are adapted. The existence of the first sort of absorbents, is evinced by the growth of plants, whilst moisture is applied to their roots, and by their withering when it is withdrawn. Those of the second sort are manifested by plucking off a leaf and laying it in water, which is found not to wither so soon as if it were left exposed to the dry air. The third class of vessels of this kind will be perceived to perform its office by moistening the alburnum or sap-wood, and the inner surface of the bark of a branch severed from a tree, which are thus preserved, whilst the same parts left unmoistened in the dry air are observed to wither. Besides, if vegetables be inserted in glass-tubes or narrow vessels, filled with water, the surface of the water will be seen to subside much sooner than by evaporation alone in similar circumstances. Dr. Darwin also contrived to evince these absorbent vessels to the eye, by clipping twigs of a fig-tree in a decoction of madder and of logwood, which after some time, upon cutting off about an inch of the stalk near the bottom, exhibited a circle of red points, believed by him to be the coloured ends of the absorbents, that existed in the newly formed alburnum. This ingenious writer expresses his astonishment that any person should have conceived these vessels, that are found in the alburnum, and which consist of a spiral line, to be air-vessels or tubes. He farther observes, that the absorbent vessels of trees, in passing down their trunks, consist of long hollow cylinders, of a spiral form, and of such large diameters in some vegetables, *e. g.* in cane, as to be visible, when dry and empty, to the naked eye. Through these air will pass rapidly upward and downward; and hence Dr. Hales has been led to coincide with Grew and others in opinion, that they are air-vessels or lungs, designed for respiration, and receiving atmospherical air in their natural state. But to their use as air-vessels he objects, because they have no communication with the horizontal air-vessels of plants, and they exist in the roots as well as in the trunks of plants, where, not being exposed to the atmosphere, they cannot serve the purpose of respiration. Air, however, in its combined state, or dissolved in water, may be absorbed by these vessels; and may appear when the pressure of the atmosphere is removed in the exhausted receiver, or when it is expanded by heat, as is the case in the froth observed at one end of a green stick, when the other is burning in the fire. Dr. Darwin apprehends, that the structure of those large vegetable absorbents, which have been erroneously called air-vessels, consists of a spiral line,

line, and not of a vessel interrupted with valves; and in this respect it differs from that of animal lymphatics.

According to this writer, the proper air-vessels are horizontal vessels of large diameter, which pass through the bark of trees to the albumen. Malpighi has given a figure of these vessels, and DuRoi mentions fine horizontal perforations through the bark of trees, which he believes to be perspiratory or excretory organs; and besides these, he takes notice of others, that are larger, standing prominent in the birch-tree, and piercing the exterior bark; which probably contain air during the living state of the tree. Dr. Darwin supposes, that the horizontal vessels first mentioned contain air, enclosed in a thin moist membrane, which may serve the purpose of oxygenating the fluid in the extremities of some fine arteries of the embryo buds, in a manner similar to that by which the air at the broad end of the egg is thought to oxygenate the fluids in the termination of the placental vessels of the embryo chick.

AIR-GRASS, *Aira* of Hippocrates and Theophrastus, *hair-grass*, in *Botany*, a genus of the *triandria digynia* class and order, and of the natural order of *gramina* or grasses. Its characters are, that the calyx is a two-flowered, two-valved glume; the valves ovate-lanceolate, acute and equal; the corolla bivalve, the valves like the former; nectary two-leaved, leaflets acute, gibbous at the base; the stamina have capillary filaments, of the length of the flower, with oblong anthers, forked at each end; the pistillum is an ovate germ, the styles setaceous spreading, with pubescent stigmas; no pericarpium; the seed subovate, crowned with the corolla. It differs from *MELICA*, in having no rudiment of a third between each pair of floscules, the number of which varies. Martyn enumerates 14, and Gmelin, in his edition of Linnæus, 25 species; some of which are naked or awnless, and others awned.

Of the former, Martyn specifies, 1. *A. arundinacea*, or reedy hair-grass, with oblong panicle, on one side imbricate, and flat leaves, found in the Levant and in Cochinchina. 2. *A. minuta*, with loose panicle, almost level-topped, and very branching; an annual grass found in Spain. 3. *A. aquatica*, water hair-grass, with panicle spreading, flowers smooth, longer than the calyx, and leaves flat. This grass generally grows in the margins of pools and watery places, running in the water to a considerable distance, and is known by the purple or bluish colour of the panicles, and sweet taste of the flowers: perennial, flowering in May and June. This, says the author of the Farmer's Dictionary, is the grass which contributes chiefly to the sweetness of Cottenham cheese, and the fineness of Cambridge butter. There is a variety of this which grows in dry soils, with the calyces five-flowered, and the flowers very remote from each other. It occurs in sandy lands near Exmouth, about Northfleet in Kent, in Lancashire, and Yorkshire. In Dr. Withering's arrangement it is the *poa distans*; and Dr. Stokes suspects the *poa retrofracta* of Mr. Curtis to be the same with this. Gmelin adds to the class of the naked *aira*; 4. *A. capensis*, with a ramose culm, racemous flowers, and hairy corolla. 5. *A. kornigii*, with dense panicle, smooth calyces, and ascending culm; the *poa biflora* of some authors. 6. *A. bengalensis*, with erect panicle, three-flowered pedicels, and petals woolly within; the *arundo bengalensis* of other writers. 7. *A. miliacea*, with very numerous panicles, with floscules in three's, obtuse and distinct, and smooth striated leaves. 8. *A. agilopsoides*, with flowers turned to one side, with one valve of the corolla ovated and acuminate, and the other columnar and obtuse. Dr. Smith (Flor. Brit. vol. i. p. 83.) adds, *A. cristata*, with panicle spicated, calyces longer than the peduncle,

petals acuminate and unequal. It grows in high barren pastures and walls; perennial; flowering in July and August.

The awned *aira* enumerated by Martyn are as follow: 9. *A. festuosa*, with leaves flat, panicle spiked, flowers awned on the middle; awn reflex and long; found on the mountains of Switzerland, Savoy, Denmark, and Lapland; perennial. 10. *A. capillata* or early hair-grass, with leaves flat, panicle spreading, petals villous, and awned at the base; awn short and stout; growing in moist meadows and woods, perennial, flowering in June and July, sometimes trailing on the ground to the length of several feet, and the panicle exhibiting a beautiful purple silky appearance. Dr. Withering mentions a variety of this with panicle viviparous, flowering in October, and found on Highland mountains. This is apt to grow in tufts, and occasion irregularities in the surface of meadows. Cows, goats, and swine eat it; but horses are not fond of it. It is the roughest and coarsest grass that grows in pastures or meadows; and cattle will not touch it, unless compelled by hunger. It is called by the vulgar haddock, rough-caps, and bull's faces. To get rid of it, the land should first be drained, and the tufts of this noxious weed pared off and burnt; and the ashes they yield will be a good manure. 11. *A. flexuosa*, or waved mountain hair-grass, with leaves setaceous, culms almost naked, panicle spreading trichotomous, peduncles flexuose, and awns geniculated; perennial; flowering in July, and growing in heaths, woods, and barren pastures; eaten by horses, kine, and sheep. Dr. Withering suggests, that this is a variety of the *A. montana*, or rather the same in a more mature state. This is a principal grass on Barmston Down, Mendip, &c. and is equally fine and nutritious with sheep's fescue. It is of difficult cultivation. Dr. Smith (Fl. Br. vol. i. p. 85.) mentions two varieties; one with a panicle, less spreading, and peduncles scarcely flexuose. This is the *A. montana* of Hudson, Withering, Relhan, and Leers, but not of Linnæus. The *A. fetacea* of Hudson does not differ from this; but the *A. montana* of Linnæus is a very different grass, and has not yet been found in Britain. The other has a culm more leafy, a white panicle, scarcely flexuose, and grows in shady places. 12. *A. montana*, with leaves setaceous, panicle narrowed, flowers hairy at the base and awned, awn twisted and very long; supposed to be a variety of the former; perennial, in July and August; a native of high heaths and sandy pastures; eaten with avidity by sheep. A variety, called *fetacea*, with awns twice the length of the florets, is mentioned by Hudson. 13. *A. alpina*, with leaves subulate, panicle dense, flowers hairy at the base and awned, awn short; growing on the mountains of Germany, Savoy, and Lapland. 14. *A. villosa*, with leaves subulate, panicle long and narrow, flowers subsessile, saggy, awned; awn straight and short; found by Thunberg at the Cape of Good Hope. 15. *A. canescens*, grey hair-grass, with leaves setaceous, culm leafy, the upper one involving the panicle at bottom, like a spathe; awns clavated at the apex, shorter than the calyx; a native of sandy shores, on the coasts of Norfolk and Suffolk, the walls of Basil, and the sandy fields of Germany and Piedmont; perennial, flowering in July; the *arundo canescens* of Wiggers. 16. *A. precox*, early hair-grass, with leaves setaceous, sheaths angled, flowers panicle-spiked, floscules sessile, naked at the base and awned on the back; found on dry commons, in ditches, on banks of streams, and in wet meadows; perennial, flowering in May and June, ripening its seeds in June; and called by Wiggers, *arena pusilla*. It has a sweet taste; cows are very fond of it; and it is eaten by horses and sheep. 17. *A. caryophylla*, silver hair-grass, with leaves setaceous, panicle divaricated, trichotomous, floscules

florescences sessile, dorsal awn geniculated; a native of sandy pastures, and heaths of England, France, Switzerland, Piedmont, Germany, and Denmark; annual, flowering in July. 18. *A. antarctica*, south-sea hair-grass, with leaves flat, panicle compound, spreading, calyces three-flowered, florets awned in the middle, awn elongated straightish; a native of New Zealand. 19. *A. involucreta*, with panicle spreading, involucre with bristles at the base; florets awnless; a native of Spain, on barren hills near Madrid; annual, and flowering in June and July. To these Gmelin adds, 20. *A. paludosa*, with flat leaves, patent panicle, florets hairy at the base, and the awn short and bent inwards. 21. *A. festucoides*, with filiform leaves, erect panicle, leaves coloured, and awned beyond the middle. 22. *A. juncea*, with leaves subulate, panicle patent, very obtuse, awn from the base of the length of the calyx. 23. *A. sinensis*, with setaceous leaves, erect panicle, and villous florets. 24. *A. media*, with setaceous leaves, narrow panicle, florets hairy at the base, awn subterminal, shorter. 25. *A. purpurea*, with leaves subulate-setaceous, panicle scattered, one valve of the corolla entire, plumose, and culm erect. For the propagation and culture of Airs; See GRASS. Gmelin's Linnaeus. Martyn's Miller. Withering's Botanical Arrang. vol. ii. p. 135, &c.

AIRA. See MELICA, POA, CYNOSURUS, and HOLCUS.

AIRA Capensis. See EBHARTA.

AIRA Indica. See PANICUM.

AIRA Persica. See CYNOSURUS.

AIRANI, in *Church History*, a sect of Arius, in the fourth century, who denied the consubstantiality of the Holy Ghost with the Father and the Son.

They are otherwise called *Airanista*, and are said to have taken their name from one Airas, who distinguished himself at the head of this party, in the reigns of Valentinian and Gratian.

AIRANO, in *Geography*, a town of Italy in the Milanese, 10 leagues south-east of Como.

AIRAULT, PETER, in Latin *Erodius*, in *Biography*, lieutenant-criminal in the presidial of Angiers, was born there in the year 1536, and executed the office in a manner that obtained for him the title of the "Rock of the Accused." He died in 1601, and left several treatises. His eldest son was educated by the Jesuits, and retained in their society, notwithstanding all the remonstrances and efforts of his father. Biog. Diet.

AIRAY, HENRY, an English divine, was born in Westmoreland, educated under the care of Bernard Gilpin, and sent to St. Edmund's Hall, Oxford, in 1579, at the age of nineteen years. He was afterwards removed to Queen's college, where he was successively servitor, fellow, and master. In 1598, he was chosen provost, and in 1606, vice-chancellor of the university. He was a constant and zealous preacher, and a zealous calvinist. He was much esteemed for his learning, gravity, and piety, and for his industry in discharging the duties of his office; and died in 1616. The following treatises, written by him, were published after his death, viz. "Lectures on the Epistle to the Philippians, 4to. 1618." "A Treatise against Bowing at the Name of Jesus." And, "A just and necessary Apology respecting a Suit at Law." Biog. Brit.

AIRE, in *Geography*, a town of France, in the department of Landes, formerly Gascony, and in the district of St. Sever, situate on the Adour, 155 leagues from Paris, and 5 leagues south-east of Mont-de-Marsan. It is a very ancient town, and the see of the suffragan bishop of Auch, containing 241 parishes. Its ancient name was *Vicus-Julii*, having been taken by the Romans, under the command of Julius

Cæsar. The Visigoths afterwards took possession of it; and Alaric, one of their kings, adorned it and fortified it with a castle. It has often since changed masters, and suffered much during the religious wars in France. N. lat. 43° 31'. E. long. 5° 26'.

AIRE, a town of France, in the department of Pas-de-Calais, formerly Artois; situate on the Lys, fortified by a castle, and communicating with St. Omer by a canal; and also with the fort St. Francois. It was taken by the allies in 1710, and restored to France by the peace of Utrecht. It is 9 leagues from St. Omer, 9 from Dunkirk, and 51 north of Paris. N. lat. 50° 30'. E. long. 2° 17'.

AIRE, a river of England, issuing into the Humber, and navigable to Leeds in Yorkshire.

AIRING, in the general sense of taking, or going into the fresh air, is too well known to need any explanation. See AEROPHOBIA.

The word is particularly used for exercising horses in the open air, which is of the greatest advantage to these animals. Many of the diseases to which horses are liable, are brought on by neglecting to exercise them.

AIRING a horse, should be distinguished from that species of exercise used in training horses for racing, as this is conducted at regular periods, and has in view not only the general health, but particularly the acquirement of wind and speed. Airing a horse, in a general way, may be done at any part of the day, but when the heat of the sun is too intense, as by this means he perspires too much, and is rendered irritable from the stings and bites of insects. It is better to give a horse a moderate airing twice a day, than a longer one at one time. It should be avoided immediately after a full meal; at those times the chest has not room to expand, therefore the wind is endangered; the food is likewise hurried, by the pressure of the abdominal muscles, too soon through the stomach to be digested, and too soon through the intestines, to be properly absorbed by the lacteals. In an airing the horse should first be walked, then trotted, and lastly moderately galloped; it is usually practised in a snaffle bridle, the propriety of which depends on the horse's mouth, and the hand of the rider; if the groom is not perfectly acquainted with the art of riding with a fine hand, which few of them are, a large bitted snaffle should be used. An airing should be continued long enough to give a horse an appetite, but not so long as to weaken his stomach. When horses are very fat it should be continued longer, that the absorbents may be stimulated to take up more of the adeps of the body. In foul, gross, greasy horses, the airings should be gentle, but continued for some time; in farcy this should be particularly observed. And in all diseases where there appears a defect in the absorbents, the exercise should be gentle, continued long, and frequently repeated. The numerous cautions made use of to air such particular horses, at particular times, have their foundation in whims and caprice: reason and science point out, that any time between the meals, when the sun is not in its full lustre, is proper for airing them. See EXERCISE.

AIROLA, in *Geography*, a town of the canton of Uri, in Switzerland, six leagues north of Altorf.

AIRON, a river of France which runs into the Loire near Decize.

AIRS, in *Horsefanship*, denote the artificial or practised motions of a managed horse.

Such are the demi-volt, curvet, capriole, croupade, balotade, step, and leap; also, advancing, yerking, and bounding. Some authors take airs in a more extensive sense; and divide them into low and high.

The low airs include the natural paces, as walking, trotting,

ting, galloping, and terra-a-terra. To which may be added, prancing, sidling, stopping, and turning.

The high, or raised airs, are all such motions as rise higher than the terra-a-terra; as the demi-volt, curvet, &c.

AIRVAULT, in *Geography*, a town of France, in the department of the two Seines, in the district of Thouars, four leagues north-north-east of Partenay.

AIRY triplicity, among *Astronomers*, the signs of Gemini, Libra, and Aquarius. See **TRIPPLICITY**.

AISA, in *Geography*, a town of Spain, in the kingdom of Arragon, two leagues and an half north of Jaca.

AISCH, a river of Germany, in Franconia, which rises near Ilseheim, and discharges itself into the Regnitz, between Bamberg and Forchheim.

AISE, a river of France, which runs into the Orne, three leagues above Caen.

AISEAU, a town of Germany, in the circle of Westphalia, three miles east-south-east of Chastelet.

AJSEDABAD, a town of Persia, in the province of Irak Agemi, 22 leagues north-north-east of Amadan.

AISEREY, a town of France, in the department of the Cote d'Or, in the district of St. Jean de Losne, three leagues south-south-east of Dijon.

AISEY-LE-DUC, a town of France, in the department of the Cote d'Or, in the district of Chatillon, 2½ leagues south of Chatillon.

AISIAMENTA, in *Law*. See **EASEMENT**.

AISNE, in *Geography*, a river of France, which rises in Champagne, runs by Soissons, and falls into the Oise above Compiègne. It gives name to a department which is one of the six formed of the *ci-devant* Soissonnois, le Beauvoisis, and le Vexin Francois; and it is one of the five into which the ancient Isle de France is divided. It is bounded on the north by the department of the North; on the east, by that of the Ardennes, and part of that of Marne; on the south, by part of Marne, and the department of Seine and Marne; and on the west, by the departments of the Oise and Somme. The extent is about 1,467,881 square acres, or 749,183 hectares; its population about 408,172 individuals; and it is divided into five communal districts. Its chief town is Laon.

AISTULPH, or **ASTULPHUS**, in *Biography and History*, king of the Lombards, was chosen to succeed his brother Rachis, who resigned the crown, A. D. 751; and by his gallantry in the field and wisdom in council advanced the kingdom to a pitch of grandeur, which occasioned its total ruin. Having ratified a peace with pope Stephen, and extended the term of it for 40 years, he seized the opportunity, which was afforded him by a war with the Saracens and Bulgarians, that engaged the attention of the eastern emperor Constantine Copronymus, to invade the exarchate of Ravenna, which he subdued, with all its dependencies, and added to the kingdom of the Lombards. Thus terminated the exarchate, which was reduced by the Lombards to a dukedom. Aistulphus proceeded to invade the Roman dukedom, and marching towards Rome, threatened to plunder the city and massacre the inhabitants, unless they acknowledged his sovereignty and paid him a yearly tribute. Pope Stephen was alarmed, and applied to the emperor for succour; but deriving no effectual assistance from the emperor, he recurred to Pepin, king of France, who marched an army into Italy, and after routing Aistulphus and his army invested Pavia, where he had taken refuge. The Lombard king was glad to purchase peace by restoring all the places he had taken, and even the exarchate, which was surrendered by Pepin to the see of Rome. But as soon as Pepin had departed, the Lombard king, in violation of his

engagements, and regardless of his hostages, approached Rome with his army and closely besieged it. Stephen renewed his application to his protector, and by the suppliant style of the letters which he addressed to him engaged him again to have recourse to arms. Aistulphus threw himself a second time into Pavia, whither he was pursued by Pepin, who closely invested the city. The siege was pressed with vigour, and Aistulphus reduced to such distress, that he was under a necessity of suing again for peace, which he obtained upon a promise to perform immediately the treaty that had been made the year before, and as an additional security to deliver up to the pope the city of Commachio, which was a place of great importance. Upon this Pepin renewed his donation to the pope; yielding to St. Peter and his successors the exarchate, Æmilia now Romagna, and Pentapolis now Marca d'Ancona, with all their cities, to be held by him for ever. See **EXARCHATE**. Aistulphus, lamenting the humbled state to which he was reduced, began again to prepare for recovering by force what he had been obliged to resign; but in the midst of his hostile preparations, he was killed whilst he was hunting, A. D. 756, and left no male issue. The code of laws which he published in the 5th year of his reign is still extant. *Anc. Un. Hist.* vol. xvii. p. 482, &c. Aistulphus and his queen are made the subject of a curious tale, of the free kind, to be found in *La Fontaine* and other *Novellists*. *Gen. Biog.*

AITHALIA, in *Geography*. See **ÆTHALIA** and **ELBA**.

AITOCZU, a considerable river of Lesser Asia, which rises in Mount Taurus, and falls into the south part of the Euxine sea.

AITON, **WILLIAM**, in *Biography*, an eminent botanist and gardener, was born in 1731 at a small village near Hamilton, in Lanarkshire, in Scotland. Having been trained betimes in the science and practice of horticulture, he came into England in 1754, and was engaged as an assistant by Mr. Philip Miller, well known as the author of the *Gardener's Dictionary*, who was then superintendent of the physic-garden at Chelsea. In this situation he soon attracted notice, and in 1759 he was recommended to the Princess Dowager of Wales, as a fit person to manage the botanical garden at Kew. In this office to which he was then appointed he continued during life; and here he laid the foundation both of his fame and fortune. As the garden at Kew was destined to be the repository of all the curious plants, that could be collected from the various quarters of the globe, Mr. Aiton had the most favourable opportunity for indulging his taste, and employing his care and skill in their cultivation; and in so doing he acquired distinguished reputation amongst the lovers of this science, and the particular esteem of his royal patrons. Under his superintendence Kew gardens became the principal scene of botanical culture in the kingdom. In 1783 Mr. Aiton was promoted to the more lucrative office of managing the pleasure and kitchen gardens at Kew, which he was allowed to retain in connection with the botanical department which he had before occupied. In 1789 he published his "*Hortus Kewensis*, or Catalogue of the Plants cultivated in the Royal Botanic garden at Kew," in three vols. 8vo. with 13 plates; a work, which had been the labour of many years, and which justly entitles him to respectful commemoration among the promoters of science. The number of species, contained in this Catalogue, is between 5 and 6000. A new and curious article in it relates to the first introduction of particular exotics into the English gardens. The system of arrangement is that of Linnæus, with such improvements as the advanced state of botanical science required. To Sir Joseph Banks, Dr. Solander, and Mr. Dryander, Mr. Aiton respectfully

spectfully acknowledges his obligations for assistance in completing the celebrated work. The "*Hortus Kewensis*" was much valued by the best judges, and a large impression of it found a rapid sale. Notwithstanding the temperance and severity of Mr. Aiton, he laboured under the incurable malady of a ferocious liver, which occasioned his death in 1793, in his 62d year. His eldest son, devoted to the same pursuit, and distinguished by his talents, was appointed, by the king's own nomination, to all his father's employments. The private character of Mr. Aiton was highly estimable for mildness, benevolence, piety, and every domestic and social virtue. He was interred in the church-yard of Kew, amidst a most respectable concourse of friends. Gen. B. 7.

AITONA, in *Geography*, a small town of Spain in Catalonia, the capital of a marquisate.

AITONIA, in *Botany*, so called from Mr. W. Aiton, His Majesty's late gardener at Kew, a genus of the *monadelphia columnata* class and order, and of the natural order of *columniferae*. Its characters are, that the calyx is a one-leaved, erect, four-parted, short perianthium, divided into four ovate, sharp segments; the corolla has four erect, equal, broadly-ovate, concave, very obtuse petals; the stamina have filaments, joined as far as the middle, divided above into eight, awl-shaped, furrowed, standing out of the corolla, and having ovate, furrowed anthers; the pistillum has a germ superior, oval, smooth, subangular, style one, filiform, of the same length with the stamina, stigma obtuse, undivided; the pericarpium is an ovate dry, membranaceous, four-cornered, one-celled, brittle berry, the corners are produced and sharp; the seeds many, fixed to a column, globular and smooth. It varies with five-cleft, ten-stamened flowers. There is one species, *viz.* *A. capensis*, found at the Cape by Thunberg, and introduced here in 1774 by Mr. F. Masson. It has a shrubby stalk, six feet high, and a fruit resembling that of the winter-cherry. With us it is of slow growth and seldom exceeds three feet in height. At a sufficient age it produced flowers and fruit through the greatest part of the year. It is raised only from seeds, and must be kept in the green-house or cape-stove. Martyn.

AITTERBACH, in *Geography*, a river of Austria, which runs into the Traun, near Wels.

AITZEMA, LEO, in *Biography*, an eminent historian and diplomatist, was born at Doocum, in Friesland, in the year 1600. He was counsellor of the Hans Towns, and their resident at the Hague for 40 years; where he died in 1669, with the reputation of an excellent linguist, an able politician, and amiable manners. His "*History of the United Provinces*," written in Dutch, contains a large collection of treaties of peace, memoirs of ambassadors, letters, capitulations and other public acts, which is very valuable. The history is more faithful than elegant, and as far as it concerns religion, it is written with impartiality. The work was published in 15 volumes 4to. and was succeeded by another edition of seven volumes in folio. The period which the history comprehends begins with the year 1621 and terminates with 1668, and it has been continued to 1692. Gen. Dict.

AJUBATIPITA BRASILIENSIS, in *Botany*, the name of a shrub that bears a black fruit like an almond, which yields much oil.

AJUGA, *Bugula* of Jussieu, Tournefort and Miller, *bugh*, a genus of the *didynamia gymnospermia* class and order, and of the natural order of *verticillatae* or *labiate*. Its characters are, that the calyx is a one-leaved, short perianthium, cut half-way into five clefts, with the segments nearly equal;

the corolla is monopetalous and ringent; tube cylindric and bent in, the upper lip, very small, erect, bifid, obtuse, lower large, spreading, trifid, obtuse, middle division very large and obcordate, side ones small; the stamina have subulate, erect filaments, longer than the upper lip, anthers twin; the pistillum has a four-parted germ, style filiform, and with respect to situation and length as in the stamina, stigmas two, slender, the lowest shorter; no pericarpium, the calyx, which is converging, fosters the seeds, which are somewhat oblong. There are six species, *viz.* 1. *A. orientalis*, eastern bugle, with flowers inverted; first brought into Europe from the Levant by Tournefort, since observed by Thunberg in Japan, and by Loureiro in Cochinchina; cultivated in 1732. Of this there are two or three varieties, differing only in the colours of their flowers. 2. *A. pyramidalis*, pyramidal bugle, of which the spike is a quadrangular villous pyramid, the leaves approximating, the root-leaves very large, the bractæ nearly entire; biennial, flowering in April, or with us later; a native of Italy, France, Germany, Switzerland, Sweden, Denmark, Wales, and Scotland. 3. *A. alpina*, alpine or mountain bugle, with stem simple, leaves smooth, unequally dentated, subuniform, the remoter verticilli bearing many flowers; growing naturally on the Alps, and in mountainous places in Carnarvonshire, Durham, and on the summit of a mountain near Castleton, Derbyshire; admitted into gardens for variety, and propagated by its trailing stalks; requiring a moist shady situation; perennial, and flowering in July. This is the *A. pyramidalis* of Hudson, and the *A. genevensis* of Withering. 4. *A. genevensis*, Geneva bugle, with leaves downy, streaked with lines, lowermost narrower, calyces shaggy, bractæ or floral leaves generally three-lobed; growing wild about Geneva, and in many of the southern countries of Europe; cultivated in 1759, by Miller. 5. *A. reptans*, common bugle, smooth, with solitary stem, and creeping by runners; perennial, flowering in May; growing in moist meadows, pastures, and woods in most parts of England; becoming somewhat hairy in high and dry situations, with a rounder stem and shorter creepers. Prof. Martyn mentions two varieties, one with a white and the other with a pale purple flower, which grow in several parts of Westmoreland; but they differ only in the colour of their flowers from the blue sort. The common bugle, called by official writers, *consolida media*, or middle confound, is recommended as a vulnerary herb, both internally and externally. For this purpose, infusions of the leaves, or the expressed juice, have been administered; and also as mild astringents and corroborants in fluxes and other disorders. Decoctions of them have been commended by Riverius and others in phthifis and internal ulcerations. Malouin recommends a gargarism of the root in the angina. The roots appear to be considerably astringent, both by their taste and by their striking a black colour with solution of chalybeate vitriol. Lewis Mat. Med. Murray Mat. Med. vol. ii. p. 154. 6. *A. decumbens*, Japanese bugle, decumbent and villous; leaves obovate and toothed; with flowers in whorls, small and blue; classed by Loureiro as a variety of *A. reptans*.

To this genus Dr. Smith adds (*Flor. Brit.* vol. ii. p. 605.) the *TEUCRIUM chamæpitys* of Linnæus, the ground pine of English writers. Accordingly the *A. chamæpitys* is described as having a spreading ramose stem, trifid linear entire leaves, and solitary axillary flowers. It grows in sandy fallow fields in Cambridgeshire and Kent; is annual, and flowers in April and May. The leaves of ground pine are moderately bitter, and of a resinous smell, approaching in this respect, as well as in their external form, to those of the

the pine-tree. Their virtues are extracted both by water and spirit, but most perfectly by the latter. The aqueous tincture is yellowish, and the spirituous green. The watery extract is bitter and astringent; the spirituous is slightly sweetish and warm. The oil, collected by distilling large quantities of the herb, approaches in quality to that of turpentine. The leaves are recommended as aperients, and corroborants of the nervous system; and are said to be particularly serviceable in female obstructions, paralytic disorders, and when continued for a long time, in rheumatic, ischiadic, and gouty pains. It was denominated by some of the ancient botanists *yua arthritica*, from its use in arthritic pains. It has been recommended by foreign writers in flow fevers, asthma, and apoplectic seizures; and also in infarctions of the viscera and jaundice; and externally for cleansing and consolidating ulcers, as well as for an antidote to the cancer. But its medical reputation has, in later times, considerably declined. Lewis's Mat. Med. Murray Mat. Med. vol. ii. p. 152.

The first species of *Ajura* may be propagated by seeds, sown when they are ripe in a pot filled with earth, and placed in a shady situation till Autumn, and then removed under a frame. In the Spring, they should be transplanted into separate pots. In the hard frost of Winter they should be covered. This species may be also more slowly increased by off-sets, of which it affords but a few. The sixth sort may be propagated in the same manner. As for the rest, they are hardy and easily multiplied by the side shoots: they delight in a moist shady situation, and are apt to spread too much. Martyn.

AJURU Parrot, *Psittacus Æstivus*, in *Ornithology*, the *Ajuru-Curau* of Marcgrave, the *Aourou-Couraou* of Buffon, the middle-sized parrot of Willughby, and the common Amazons parrot of Latham, is of a green colour, slightly spotted with yellow; with a blue front, blood-red shoulders, and flesh-coloured orbits. It is 12 inches long, and its body about the size of a pigeon: the back has a number of tawny yellow feathers, scattered through its green plumage. The face is yellow, with a blue forehead and white crown; the tail-quills are green with paler tips: the first, second, and third on each side are red on their inner webs near the base; the outer web of the first being blue: the shoulders are either tawny or blood-red; the primary wing-quills are black, with bluish tips, the outer webs being green, and the inner black; the first four or five of the secondaries have their outer webs red near the base; the bill is black at the tip. This species of parrot inhabits Amazonia, Guiana and Brasil; and it has several varieties, to the four first of which the above description is applicable: *e. g.* 1. The *A.* of Jamaica, with the head and breast yellow, the front and chin bluish, the edges of the wings and ventlet red. This is the *psittacus viridis melanorinchos* of Aldrovand, the black-billed green parrot of Willughby, and the Jamaica parrot of Brown and Latham. 2. The main *A.* parrot, with the lesser wing coverts red; the crown yellow, the cheeks and chin paler; the forehead blue; the under half of the five middle wing-quills, and the inner webs at the base of four tail-quills on each side, red. This variety inhabits Guiana and Amazonia. 3. Brazilian *A.* parrot, with cap blue, variegated with black; a yellow spot on the crown, and one on each side below the eyes, and a blue chin. This is the *ps.* Brasil. *cyanocephalos* of Brisson, the *Ajuru-curuca* of Marcgrave, Ray and Willughby, and the blue-topped parrot of Latham. The primary wing quills, according to Mr. Latham, are variegated with yellow, red and violet blue. It inhabits Brasil. 4. Varied *A.* parrot, with the crown, cheeks and chin yellow,

and the front blue. The crown is varied with blue, the frage and upper part of the back with yellow, and the bill is ash-coloured. This is the *Ajuru-Curau secundus* of Marcgrave and Ray, and the West-India green parrot of Edwards and Latham. 5. Amazonian *A.* parrot, pale green, with a pale yellow front and tawny temples. This is the *ps.* amazonicus of Gmelin, and the Brazilian yellow fronted parrot of Latham. It inhabits Brasil and Amazonia. This variety is almost twice the size of those above-mentioned. 6. Great *A.* parrot, green, with a blue forehead; the crown, cheeks and chin, and middle of the belly yellow. It is nearly as large as the former, and inhabits Brasil. 7. Yellow-necked *A.* parrot, green, with yellow head and neck, and red shoulders; of the size of the former, and like it, the wing-quills are marked with a red spot, and the lateral tail-quills are red at the base. 8. Counterfeit *A.* parrot, green, variegated with yellow, having a blue forehead and red shoulders. It inhabits Brasil. Gmelin's Linn. tom. i. p. 340. Kerr's Linn. p. 598. Buffon's Birds, vol. vi. p. 187.

AJURU-CATINGA, the Guiana red billed parrot, a variety of the *PSITTACUS rufirostris*, the *psittaca aquarum Lupiarum insule* of Brisson, the Guiana green parrot of Bancroft, and of Latham; has the bill, legs, feet and claws of a whitish red colour, and the orbits ash-coloured. It inhabits South America; and is about the size of a thrush, and the irides have two coloured circles, of which the outer is reddish, and the inner ash-coloured.

AJURU-PARA, a Brazilian species of parrot of a small size, all over of a beautiful green, and with white legs, a white beak, and white skinny circles round its eyes. Marcgrave.

AUS LOQUENS, or *LOCUTIVUS*, *i. e.* a speaking voice, in *Mythology*, the name of a Roman deity, to whom a temple was erected at Rome, on the following occasion.—M. Cæditius, a plebeian, informed the tribunes, that, as he was passing through the New Street in the night, he heard a supernatural voice near the temple of Vesta, which warned the Romans of the approach of the Gauls; but the warning was disregarded on account of the meanness of the person who reported it, in consequence of which, the Romans suffered very much from their invasion. Camillus, however, delivered them, and advised them to expiate the offence by erecting a temple in the New Street to this imaginary deity. Cicero, de Divin. lib. i. § 45. Oper. tom. iii. p. 45. Ed. Olivet. Plutarch in Cam. Oper. tom. i. p. 144. Ed. Xyland. Livy lib. v. c. 50. Oper. tom. ii. p. 220. Ed. Drakenb.

AJUTAGE, or *ADJUTAGE*, formed of the verb, *ajouter*, to adapt, in *Hydraulics*, part of the apparatus of an artificial fountain, or *jet d'eau*; being a sort of tube, fitted to the mouth or aperture of the vessel, through which the water is to be played, and by it determined into any figure and direction.

It is chiefly the diversity in the *ajutages*, that makes the different kinds of fountains.—And hence, by having several *ajutages* to be supplied occasionally, one fountain comes to have the effect of many.

Marriotte inquires into the best kind of *ajutages*, or *spouts*, for *jets d'eau*, affirming, from experiment, that an even polished round hole, in the end of the pipe, gives a higher jet than either a cylindrical, or a conical *ajutage*: of which, however, the latter is the better. Vide Trait. du Movem. des Eaux, part. iv. Phil. Trans. N° 181.

The quantity of water discharged by *ajutages* of equal area, but of different figures, is the same. But for those of like figures, and different sizes, the quantity discharged is

directly proportional to the area of the ajutage, or to the square of its diameter, or of any side or other linear dimension: thus, an ajutage of a double diameter or side will discharge four times the quantity of water, of a triple diameter, nine times the quantity &c.; supposing that they are at an equal depth below the surface or head of water. But if the ajutages be at different depths, the celerity with which the water flows, and consequently the quantity issuing in any given time, is directly proportional to the square root of the altitude of the head, or the depth of the hole, so that at four times the depth, the celerity, and of course quantity, are double; at nine times, triple, &c. It has been found by experiment, that the jet is higher or lower according to the size of the ajutage; that a circular hole of about an inch and a quarter in diameter jets highest; and that it is worse as it recedes from that size. Experience also shews, that the pipe leading to the ajutage should be much larger than the ajutage itself; and if the pipe be long, it should be wider according to its distance from the ajutage. *Encyclopédie Physique*, tom. i. p. 152. Hutton's Diet.

For the various sorts of ajutages, their structure, application, &c. see FOUNTAIN. See also FLUID and JET D'EAU.

AIX, in *Geography*, a city of France, the capital of the department of the Bouches du Rhone, formerly Provence, and one of the most pleasant and best-built cities in the kingdom. It is situated north of the river Arc, between hills planted with olives and vines. It is said to have been founded by C. Sextius Calvinus, a Roman consul, who established a Roman colony in it A. U. C. 630, about 124 years before Christ, and called it *Aquæ Sextiæ* from his own name, and the warm baths which he found there. It is rather populous than large; its houses are well built, and its streets are straight and well paved; and within the city there is a spacious walk called Orbitelle, which consists of three rows of trees interspersed with fountains, and surrounded by many handsome and spacious buildings. The preacher's square, as it is called, is seated on the side of a hill, about 160 yards long, encompassed with trees and lofty houses built with stone. Of the public buildings some of the principal are the town-hall, the hall of audience, the hotel of the city, the cathedral church, which is a fine gothic structure, the church of the fathers of the oratory, the chapel of the blue penitents, and the convent of the preachers, in whose church is a silver statue of the Virgin Mary, almost as big as life. There are also other churches and buildings, which contain many paintings and other rarities. Adjoining to the baths, which were re-discovered in 1704, there are many edifices that have been raised at a great expence for the accommodation of those who use the waters. These waters were formerly supposed to possess peculiar virtues in cases of debility; as several altars consecrated to Priapus, and bearing inscriptions expressive of gratitude for his assistance, have been dug up in their vicinity. Aix was an archbishopric with five suffragans, and 84 parishes; and it was the place of resort of the nobility of Provence and of literary men. The neighbourhood affords excellent wines; but its chief article of trade is oil. Some stuffs are also manufactured here. It is distant five leagues north from Marseilles, and 163 south-east of Paris. N. lat. $43^{\circ} 31' 35''$. E. long. $5^{\circ} 26' 15''$.

AIX, a town of France, in the department of the Upper Vienne, in the district of Limoges; two leagues west-south-west of Limoges.

AIX, *Aquæ Gratiæ*, or *Subaulicæ*, *Allobrogum*, a small town of Savoy, situate near the lake of Bourget, between

Chambery, Annecy and Rumilly, with the title of a Marquisate. The hot baths, which were originally constructed by the emperor Gratian, are free of access without expence, and are much frequented. In this place are seen the ruins of a Roman triumphal arch. N. lat. $45^{\circ} 40'$. E. long. $5^{\circ} 48'$.

AIX, a small island on the west coast of France, between the isle of Oleron and the Continent; about 12 miles north-west of Rochfort, and as far south-south-west of Rochelle. Its fort was destroyed by the English in 1757, and again in 1761, but afterwards rebuilt. N. lat. $46^{\circ} 5'$. E. long. $1^{\circ} 8'$.

AIX en Othe, a town of France, in the department of the Aube, in the district of Ervy; five leagues west of Troyes.

AIX d'Anguillon, a town of France, in the department of the Cher, in the district of Bourges; three leagues north-east of Bourges.

AIX-LA-CHAPELLE, a free Imperial city of Germany, in the circle of Westphalia and duchy of Juliers, and the capital of the department of Roer. This is a very ancient city; and appears from the testimonies of Cæsar and Tacitus, to have been occupied and fortified by Roman colonies in their wars with the Germans. It was called in Latin *Aquis-Granum*, or the waters of Granus, *Aquæ*, and *Urbs Aquisfis*, in German, the city of Aachen or Achen, and also *Aach*; and derived its name from its warm baths, which have been long held in high estimation. By the French it is denominated Aix-la-Chapelle, by way of distinction from other places called Aix, on account of a chapel of the Holy Virgin built by Charlemagne, who repaired and beautified the city, which had been destroyed by the Huns in the reign of Attila in 451, and who made it the place of his usual residence. The king of the Romans or emperor, was generally crowned in this city, as the place appointed by the golden bull for this purpose; and on this account called the Royal city; and it is the depositary of the sword of Charlemagne, the belt, a book of the gospels, and other jewels of the empire, that are used in the ceremony of coronation. Charles V. was crowned here in 1520, and Ferdinand his brother was crowned king of the Romans in this place in 1531. Charlemagne died and was buried in this city, to which he had always manifested a peculiar attachment, and on which he conferred many signal privileges. On the Rhenish bench, in the college of the cities of the empire, and among the Imperial cities which have a seat and voice at the Diets of the circle of Westphalia, Aix-la-Chapelle possesses the second place; and it lays claim to the first on the Rhenish bench. The town is situated in a valley, and though surrounded with mountains and woods is not unwholesome. It consists in reality of two cities, enclosed one within the other. The inner city, which is the most ancient, is flanked with ten towers, and is about three quarters of a league in circumference; the outer, founded about the year 1172, has eight gates, and the circuit of it is about two leagues. There are several rivulets which run through the city, and 20 public fountains, besides several private ones. The principal buildings, which are constructed of stone from quarries in the vicinity of the town, are the stadthoufe and the cathedral. The stadthoufe is adorned with the statues of all the emperors since Charlemagne; and in the front of it there is a fountain, on the top of which is placed the statue of this emperor, made of brass gilt, holding in his right hand a sceptre, and in his left a globe. The upper story of this building consists of one room, 162 feet long and 60 broad, in which the newly elected emperor formerly entertained all the electors of the empire. The government of this city is entrusted with the great and little senate;

senate; the former composed of 129 persons, who judge in criminal cases, and the latter of 41 members, who have jurisdiction over the police and commerce of the city, and the management of the public revenues. The duke of Brabant is protector of the city; and the duke of Juliers is burgomaster or perpetual mayor of the burghers. The title of its magistracy is that of burgomaster, sheriff, and council of the holy Roman Imperial free city of Aix-la-Chapelle. The prevailing religion is the Roman Catholic; and the Protestant inhabitants, both Lutherans and Calvinists, not allowed the free exercise of their religion within the city, celebrate their worship at Vaels, about an hour's journey from the city in the duchy of Limburg. The manufactures of the city are those of cloth, copper and brass. Councils have been held in this city in the eighth and ninth centuries, and treaties of peace have been concluded here; particularly those between France and Spain in 1668, and between France and England, and other belligerent powers in 1748. Busching. vol. iv. p. 369. Mod. Un. Hist. vol. xxxii. p. 223.

It was taken by the French in 1792, lost after a severe battle in 1793, and retaken in 1794. It is 21 miles from Spa, 30 west from Cologne, and 36 north-east from Liege. N. lat. 51° 55'. E. long. 5° 54'.

Aix-la-Chapelle, says Mr. G. Forster, in his Travels 1792, which once contained above 100,000 inhabitants, has not now a third part of this number, and has lost all its ancient wealth and prosperity; owing partly to the rise of rival towns, but principally to religious intolerance and a bad government. The streets now swarm with beggars, and the morals of the people are licentious and corrupt. Those whose skill and industry might have enriched the city are driven from it by the partial and oppressive conduct of the guilds, and have established their manufactories in other places, where they enjoy greater liberty. Those, he adds, of Burscheid, Vaels, Eupen, Monjoia, and of other places in the duchy of Limburg, are in a very flourishing state; the wool is imported from Spain, and the cloth is exported chiefly to the Levant. Vaels, which 30 years ago, was an inconsiderable village, is now become a respectable town; the protestants, weary of the oppression and bigotry which they had experienced at Aix-la-Chapelle, were easily induced to settle in a place where they were allowed the advantages of religious freedom; and it has now five different churches, in which Roman Catholics, Lutherans, Calvinists, Baptists, and Jews, worship the Deity according to their several sentiments, and live peaceably with each other.

AIX-LA-CHAPELLE, or AKEN Waters. *Therma Aquisgranenses*.

The thermal sulphureous waters of Aix-la-Chapelle have long held a most distinguished place among the mineral springs of Europe, and have not a little contributed to the celebrity and opulence of this ancient city.

These mineral waters rose to very high reputation in the time of Charlemagne, who made Aix his Imperial residence; and he appears to have much delighted in the use of its baths, which he rebuilt and improved.

The hot sulphureous water rises in great abundance from several copious springs in different parts of the town; and is more than amply sufficient to supply the numerous baths and reservoirs in which it is collected. The principal spring is enclosed in a square stone cistern, the upper part of which is vaulted and contracted in its dimensions; and over the top a large stone is fitted in, and closely cemented, to prevent the escape of the sulphureous vapours, on which depends so much of the efficacy of the water. A remarkable circumstance takes place in this cistern, which is, the actual sublimation of a quantity of pure sulphur, which

is carried up from the water along with the sulphureous gas, and is deposited beneath the upper stone, to which it adheres in the form of a fine powder. This is taken out from time to time, and sold under the name of *Aix sulphur*.

The baths of this city are numerous, and very commodious for the purpose of warm and vapour bathing. The natural heat of the water is sufficient for both these purposes; and for the latter, openings are made in the brick channels that convey the water to the baths, through which the vapour ascends. These vapour baths are so constructed that the whole, or any part of the body may be exposed to its action; and likewise many of the baths are furnished with pumps, from which the hot water may be dashed on any part of the patient. This operation is known by the technical name of the *douche*.

Aken water possesses very striking sensible properties, particularly to the feeling and the smell. The water rises with great rapidity through the springs; and at the same time sends forth very copious air-bubbles, which break on the surface with a slight explosion. It is at first perfectly clear and colourless, and emits a large volume of steam, mixed with sulphurated hydrogen gas of great volatility and pungency. The odour of this vapour, (which resembles that of Harrowgate water, is so powerful as to be perceived by strangers at a considerable distance from the spring head. The inhabitants, from long custom, scarcely regard it.

The temperature of Aix water is various, according to the distance from the spring at which the observation is made. The highest is about 143° of Fahrenheit; and at the pump, where it is drawn for drinking, it is about 112. The heat is therefore so great, that the water requires to stand for 15 or 18 hours before it can be used as a bath.

This water, though perfectly clear when first drawn from the spring, becomes turbid and somewhat milky as it cools, and deposits a calcareous sediment, at the same time it loses its sulphureous smell. To the touch, the water is soft and somewhat saponaceous, owing doubtless to the small quantity of soda which it contains. It will even, in some degree, lather by agitation; and is used for fulling and cleansing wool and linen, to which also, the heat much contributes.

The chemical analysis of this water is curious and interesting. The most striking feature is its gaseous contents, which are a small quantity of carbonic acid, but especially much sulphurated hydrogen gas; not merely in the state in which it is found, in the cold sulphureous waters of Great Britain, but highly supersaturated with sulphur, which is sublimed in a solid form, as we have just mentioned. The whole of the sulphur contained in the water is volatilized by evaporation, for no traces of this inflammable substance are to be detected in the residuum of any quantity of the water boiled down to dryness.

The solid contents of this water are few. The most important of these is a quantity of uncombined soda, sufficient to give the water the properties of a very dilute alkaline solution; and which probably assists in the union of so large a portion of sulphurated hydrogen, and causes it to adhere to the water with somewhat more force than it would do if no alkali were present. Hence it is, that even after the water has stood for many hours in the baths to cool, it still retains enough of the sulphureous vapour to give it all the requisite medical virtues. The other solid contents are, a small quantity of common salt and carbonated lime, which last is deposited as the water cools, and the carbonic acid escapes.

No traces of metal of any kind are discoverable in this water.

The fixed contents of Aix water are variously estimated as to quantity. From Bergman's analysis, we may reckon the following to approximate pretty accurately to the truth. A wine pint (English weight and measure) contains

Of carbonated lime, four grains and three quarters.

Of common salt, five grains.

Of carbonated soda, twelve grains.

The proportion of the gaseous contents has not been ascertained with accuracy.

The following experiments will explain the appearances which take place with the common reagents.

3. A pint of fixed and filtered, added to the hot fixed water, produces a blackish precipitate, composed of the sulphurated metallic matter with the minute; for, when the same solutions are added to the cooled water, the precipitate is white.

A piece of polished lead, suspended in the vapour of the water, is soon blackened, and in a few days corroded throughout.

Syrup of violets changes to a green, even after the carbonate of lime has precipitated by cooling, indicating thereby the presence of an alkali in excess.

The effects of this water, as a medicine, are very striking and well established. Its immediate operation, when drank in a moderate quantity, is to raise the spirits, and in some persons to produce a degree of vertigo. This is the greater, *caeteris paribus*, the hotter the water is. It afterwards proves diuretic, increases perspiration, and keeps the skin in a soft, moist state, highly favourable to the removal of many disorders.

The waters are resorted to for a great variety of complaints, particularly in the complicated disorders of the digestive and biliary organs, which follow a long habit of free living. They are also highly serviceable in diseases of the kidneys and bladder.

Aken waters, like all the most celebrated thermal springs, were long in high repute as baths, before physicians ventured to prescribe them internally. The vast profusion of water which is thrown up, the high temperature which it possesses, its strong impregnation with sulphur in a very active form, and its alkaline ingredient, give it most valuable properties for external uses. It is employed to stimulate cold paralytic limbs; and to soften the rigidity of the joints and ligaments left by gout and rheumatism. It is also of great service in cutaneous complaints, to the cure of which, the sulphur and the alkali probably highly contribute. A long continued course of this, (as of every other) sulphureous water, causes the whole body to acquire a smell of sulphur, and tarnishes silver kept in the pockets.

These waters have been imitated artificially by passing sulphurated hydrogen gas through a hot and very weak alkaline water, but the imitation is attended with much difficulty.

See Blondel's Descript. Therm. Aquifgranensium—Lucas on Mineral Waters—and Saunders's Treatise on Mineral Waters, 1800.

AIXO, or AIXOS, flats or shallows within the second fort, at the entrance into Carthage harbour, on the Spanish main, South America, which stretch out nearly south-south-east, towards the main land within the islands that lie before the harbour.

AIZENAY, a town of France, in the department of Vendée, in the district of La Roche sur Yonne; ten leagues south of Nantes.

AIZOON, *Aizoon*, *semper-vivum*, or *ever-living*, in *Botany*, a genus of the *icofandria pentagynia* class and order, of the natural order of *junculenta*, and of the *ficoidea* of Jussieu.

In Gmelin's *Linnaeus*, it is a genus of the *polyandria pentagynia* class and order. Its characters are, that the calyx is a one-leaved perianthium, divided into five lanceolate, permanent segments; no corolla: the stamina have very many capillary filaments, inserted by bunches into the sinuses of the calyx, the anthers simple; the pistillum has a germ five-angled, superior, the styles five and simple, the stigmas simple: the pericarpium is a five-celled, five-valved, swelling and retuse capsule; the seeds are several, roundish or kidney-shaped. There are ten species, *viz.* 1. *A. canariense*, purslane-leaved *A.* with leaves wedge-ovate, flowers sessile; the *ficoidea* of Nissolius, and *kali* of Plukenet: a native of the Canary islands; annual; cultivated in 1731. 2. *A. hispanicum*, Spanish *A.* with leaves lanceolate; flowers sessile; the *ficoidea* of Dillenius; an annual plant, growing naturally in Spain and Africa; a variety of this was brought from the Cape, and cultivated in 1728. 3. *A. lanceolatum*, panicled *A.* with leaves lanceolate, flowers panicled; biennial; growing naturally at the Cape of Good Hope; cultivated in 1759. 4. *A. farmentosum*, with leaves linear-filiform, panicle dichotomous, flowers solitary, peduncled; brought from the Cape by Sparrman. 5. *A. paniculatum*, shaggy, leaves lanceolate, flowers sessile, branches erect. 6. *A. perfoliatum*, downy, leaves inversely-ovate, conjoined, crystalline-dotted-flowers, peduncled. 7. *A. glinoides*, hairy *A.* shaggy, herbaceous, procumbent, leaves ovate, flowers sessile, distinct. 8. *A. fecundum*, shag-hoary, herbaceous, procumbent, leaves ovate, flowers sessile, imbricate, one-ranked. 9. *A. fruticosum*, shrubby *A.* shrubby, erect, smooth, leaves lanceolate, flowers sessile. 10. *A. rigidum*, stiff *A.* shrubby, procumbent, downy, leaves ovate, flowers sessile, remote. The six last species were brought from the Cape by Thunberg. The three first species may be raised on moderate hot-beds, in the spring; and the other species must be managed like other Cape plants.

AIZOON. See SEDUM.

AIZU, in *Geography*, a town of Japan, and capital of a small country of the same name.

AKABA, a gulf or arm of the Red-Sea, formed by a tongue of land, which is part of Arabia, that separates this gulf from that of Suez; about 30 leagues long and 3 wide.

AKABAR, or CALAAT EL AKABA, a town of Arabia, on the gulf to which it gives name; 57 leagues south Jerusalem, and 53 leagues east Suez.

AKACHAN, a river of Siberia, which joins the Judoma. N. lat. 60° 8'. E. long. 139° 22'.

AKALCALAKI, a town of Georgia, in Asiatic Turkey, about 70 miles south-west of Teflis, and 88 miles north-west of Erivan.

AKALZIK, or ACALZIKÉ, a town of Asiatic Turkey, in the province of Satabago, a country of Georgia. See ACALZIKÉ.

AKAM, or ACAM, a country of Africa, on the coast of Guinea, near the source of the Volta.

AKANIMIMA, a town or village of Africa, on the Ivory coast, near Cape Apollonia. It stands on rising ground, and commands an extensive sea and land prospect.

AKANNI. See ACHEM.

AKANSA, a town of North America, in South Carolina, situate on the river Mississippi, near a river of the same name. N. lat. 36°. W. long. 89° 46'.

AKAOT, a town of Hindostan, in the district of Berar. N. lat. 21° 13'. E. long. 77° 38'.

AKARA, in *Botany*, a species of *CALOPHYLLUM*.

AKAS, in *Geography*, a small town of Pennsylvania, between the river Carafna and a branch of that river, not far from Zatur.

AKASAKI,

AKASAKI, a town of Japan, in the province of Mikava.

AKASI, a town of Japan, in the province of Tarima.

AKASSEB-ASSELAM, a town of Egypt, marking the boundary of Asia and Africa.

AKAST, a town of Arabia, 25 leagues east of Jerusalem.

AKBAR, or AKBAR, SULTAN, in *Biography and History*, the sixth of the descendants of Timur Bek or Tamerlane, who reigned in Hindostan under the appellation of Moguls, was born in 1542, and succeeded his father Humaim in 1556. He was proclaimed emperor at Calanor, in the province of Lahore, and assumed the title of *Jahangir*, *q. d.* the aggrandizer of religion. Having overthrown the Patans and taken possession of Dehli, he was inaugurated in this city, and assumed the government which had been at first administered by his tutor, Beyram Khan. He then made himself master of the strong fortrefs of Chitor, after a severe engagement with a rebel chief, and quelled other insurrections; and having obtained an interval of tranquillity, he made a pilgrimage, barefoot, to Azmir, at the distance of 200 miles, for the purpose of visiting the tomb of Haji Mondi, and of obtaining children by the intercession of this saint. During his abode at Fettiapur on his return, he was informed of a rebellion at Guzerat, which hastened his march to this province; and having subdued the rebels, reduced the castle of Surat, and secured the province by fortifying Ahmedabad, he returned to Hindostan. In this year he finished the castle of Agra at an expence of two millions 500 thousand rupees, laid out $1\frac{1}{2}$ million on the walls and palace of Fettiapur, and began to erect the sumptuous sepulchres of his family at Schander, five miles from Agra. At this time he directed his views to the conquest of Bengal, and having, after a long siege, taken possession of Patan, he became master of the whole country. His next acquisitions were Kabul, Kandahar, Kashmir and Sindi. Having united these countries to his empire, he employed a powerful army in the invasion of Dekan, which, notwithstanding vigorous resistance on the part of the queen of this country, subdued several provinces and annexed them to the Mogul empire. Whilst Akbar was engaged in the prosecution of the Dekan war, his prosperity was interrupted by a concurrence of domestic misfortunes. He was deprived of two of his sons, *viz.* Sultan Morad, in 1598, and Sultan Danul, in 1604, by intemperance; and his son Selim took the advantage of his absence, for seizing his treasures and marching a numerous army towards Agra, in order to take possession of his father's throne. Akbar, as soon as he received intelligence of his son's rebellion, hastened back to Agra, and having made ineffectual overtures of accommodation, in enforcing which his Vizir ABUL FAZL lost his life, he resolved to turn his arms against Selim. But as he had lost his other sons, he once more attempted to persuade his son into submission. With this view he employed the tutor of Selim to convey letters to him, in which he reproached him for his rebellion; but at the same time declared, that, as he was his only son and heir, he was ready to receive him to favour. The father's letters and the tutor's arguments produced effect; Selim returned to Agra and submitted. Akbar at first treated him with austerity, but at length pardoned him, though he still retained suspicions of his son's fidelity. The emperor did not long survive this reconciliation. Being incensed against a Mirza, who governed one of his provinces, he resolved to remove him by poison; and for this purpose he ordered two pills of opium, in one of which there was poison. Having held these in his hand for some time, he gave one to the Mirza, and by mistake took the poisoned one himself. The consequence, notwithstanding the use of remedies as

soon as the mistake was discovered, was fatal. When Selim paid his dying father a visit, he put his own turban on the prince's head, and girded him with his father Humaim's sword; but on the 12th day after he had taken the poison, Akbar died, A. D. 1605, at the age of 63 years, and was buried in the family sepulchre near Agra.

Akbar was distinguished by his conquests, and by his success in reducing almost the whole of India to obedience. He was also one of the few sovereigns entitled to the appellation both of Great and Good, and the only one of the Mohammedan race, whose mind was so far divested of the illiberal prejudices of the fanatical religion in which he was educated, as to be capable of forming a plan worthy of a monarch who loved his people, and was solicitous to render them happy. Although he was not attached by profession to any form of religion himself, he was not a persecutor of any. In 1582 he wrote a letter to the king of Portugal, preserved by Frazer, and containing an avowal of sentiments, liberal and enlightened; in which he desires that a translation of the Christian scriptures into Arabic or Persian might be sent him, and at the same time a learned person to explain the Christian religion. One Geronimo Xavier was deputed, and with this view learned the Persian language; but the gospels, which were translated into this language, and presented to the Mogul in 1602, were so intermixed with popish legends, that they were not likely to be very intelligible or to produce any very good effect. As in every province of his extensive dominions, the Hindoos formed the great body of his subjects, Akbar endeavoured to acquire a perfect knowledge of their religion, their sciences, their laws, and their institutions; in order that he might conduct every part of his government, particularly the administration of justice, in a manner as much accommodated as possible to their own ideas. In these generous views he was seconded by Abul Fazl, a minister whose understanding was not less enlightened than that of his master. By their assiduous researches, and consultations of learned men, such information was obtained as enabled this Vizir to publish a brief compendium of Hindoo jurisprudence in the *Ayeen Akbery*, which may be considered as the first genuine communication of its principles to persons of a different religion. In what estimation the mild government of Akbar was held by the Hindoos we may learn from a beautiful letter of Jesswant Sing, Rajah of Joudpore, to Aurengzebe, his fanatical and persecuting successor. "Your royal ancestor, Akbar, whose throne is now in heaven, conducted the affairs of this empire in equity and firm security for the space of 52 years, preserving every tribe of men in ease and happiness. Whether they were followers of Jesus, or of Moses, of David, or of Mahomed; were they Brahmins, were they of the sect of Dharians, which denies the eternity of matter, or of that which ascribes the existence of the world to chance, they all equally enjoyed his countenance and favour; inasmuch that his people, in gratitude for the indiscriminate protection which he afforded them, distinguished him by the appellation of *Jagat Gosai*, guardian of mankind.—If your Majesty places any faith in those books, by distinction called divine, you will there be instructed, that God is the God of all mankind, not the God of Mahomedans alone. The Pagan and the Mussulman are equally in his presence. Distinctions of colours are of his ordination. It is He who gives existence. In your temples, to invoke his name the voice is raised in prayer; in a house of images, where the bell is shaken, still He is the object of adoration. To vilify the religion and customs of other men, is to set at naught the pleasure of the Almighty. When we deface a picture, we naturally incur the resentment of the painter; and justly has the poet said,

said, presume not to arraign or to scrutinize the various works of Power divine." For this valuable communication, we are indebted to Mr. Orme; *Fragments, notes*, p. 97. Frazer's *Hist. Nadir Shah*, p. 11—18. *Mod. Un. Hist.* vol. v. p. 365—375. Robertson's *Hist. Disquisition concerning India*, p. 424.

AKBEIK-BABA, in *Geography*, a town of Natolia, in Asiatic Turkey, 12 leagues north of Kutaja.

AKDASCH, a large and flourishing market town of Schirwan, in the territory of the Chan of Scheki; situate to the south of Nuchi, on the bank of the Kur, and consisting of about 300 houses. To this town all the neighbouring nations resort for trade and the barter of their commodities.

AKEARADI, a country of Africa, on the Gold Coast.

AKEFORD BAY, lies on the north side of the island Holmsby, to the west of the North Cape. N. lat. $71^{\circ} 10'$. E. long. $24^{\circ} 30'$.

AKEN, JOHN VAN, in *Biography*, an engraver, who, from the style of his etchings, is supposed to have lived in the 16th century. He is a different person from Achan the painter.

AKENSIDE, MARK, M. D. more known as a poet than as a physician, was born at Newcastle-upon-Tyne, in 1721, and intended by his parents for a minister among the Protestant Dissenters; and with this view he was sent to Edinburgh, in 1739, at the age of 18. Having here acquired a stronger propensity to the study of physic than to that of divinity, he removed to Leyden in 1742, and took his degree of doctor in that faculty in 1744. In that year, besides his thesis, "De ortu et incremento fetus humani," delivered on account of his degree, he published his celebrated poem "on the Pleasures of the Imagination," which was received with great applause, and advanced the author to poetical fame. It is said, that when Pope was shewn the poem in manuscript by Doddsley, to whom it had been offered for a larger sum than he was inclined to give, he advised the bookseller not to make a niggardly offer, for the author of it was no every day writer. It has been also furnished, that this poem and some others were written before he went to Edinburgh. The poem, on its publication, was severely attacked by Mr. (afterwards bishop) Warburton, not on account of its poetry, but for some remarks which the author had introduced on the nature and objects of ridicule; and vindicated by an anonymous friend, since known to be Mr. Jeremiah Dyson. The next publication was "an Epistle to Curio," which contained a warm invective against Pulteney, earl of Bath, on account of his political conduct. In 1745, our author published ten odes on different subjects, and in different styles and manners. In his subsequent publications he was more slow. His ode to the earl of Huntingdon appeared in 1748; and in 1758, he attempted to rouse the national spirit, by an ode to the country gentlemen of England. Most of his remaining poetical effusions appeared in Doddsley's collection; and of these the most considerable is, a "Hymn to the Naiads." His poems were collected and published in a quarto volume, in 1772, by Mr. Dyson.

On his return from Leyden, he settled as physician at Northampton; from thence he removed to Hampstead; where he continued about two years and an half; and finally settled in London, where his friend, Mr. Dyson, allowed him 300*l.* a year, in order to enable him to maintain his rank as a physician. His medical reputation and practice gradually increased, and he was chosen a fellow of the Royal Society, appointed physician to St. Thomas's hos-

pital, admitted by mandamus, to the degree of doctor in physic, in the university of Cambridge, elected a fellow of the Royal College of Physicians in London; and, upon the establishment of the queen's household, advanced to the rank of one of her majesty's physicians. Notwithstanding his acknowledged abilities, and the singular patronage by which he was distinguished, he never arrived at any very considerable eminence in his profession. It has been said, that he had a kind of haughtiness and ostentation in his manners, which were not calculated to ingratiate him with his brethren of the faculty, or to render him generally acceptable.

He died of a putrid fever in June 1770, in the 49th year of his age, and was buried in the parish-church of St. James's, Westminster. His books and prints, of which he was a curious collector, came, after his death, into the possession of Mr. Dyson.

His medical writings were his "*Dissertatio de Dysenteria*," written in Latin, and much admired for the elegance of the language, published in 1764, and twice translated into English; "*Observations on the origin and use of the Lymphatic vessels in animals*," printed in the *Phil. Transf.* for 1757; and vindicated against the remarks of Dr. Alex. Monro, in a small pamphlet, published in 1758; "*An account of a Blow on the Heart and its effects*," published in the *Phil. Transf.* for 1763; "*Oratio Anniversaria, ex instituto Harveii, &c.*" read in 1759, and published in 4to in 1760; "*Observations on Cancers*;" "*Of the use of Ipecacuanha in Asthma*;" "*A method of treating White Swellings of the Joints*," all published in the first volume of the *Medical Transactions*.

In Dr. Aken-side's poems, and the notes annexed to them, we may discover his extensive acquaintance with ancient literature, and his ardent attachment to the cause of civil and religious liberty. His politics were thought to incline to republicanism, but no evidence to this purpose is deducible from his poems; and his theology is supposed to have verged towards deism: and yet, in his ode to Hoadly, and to the author of the *Memoirs of the House of Brandenburg*, he has testified his regard for pure Christianity, and his dislike of attempts for setting men free from the restraints of religion. Our readers may be gratified with the following extract from the first of these odes.

"To him the teacher blest'd,
Who sent religion from the palmy field
By Jordan, like the morn to cheer—the west,
And lifted up the veil which heav'n from earth conceal'd,
To Hoadly thus his mandate he address'd:
Go, then, and rescue my dishonoured law
From hands rapacious, and from tongues impure:
Let not my peaceful name be made a lure,
Fell persecution's mortal snares to aid:
Let not my words be impious chains, to draw
The free-born soul in more than brutal awe,
To faith without assent, allegiance unrepaid."

Dr. Aken-side's rank among the English poets is assigned to him in consequence of his "*Pleasures of the Imagination*," founded on Addison's well known papers on the same subject, in the *Spectator*:—"the most beautiful didactic poem," says Mr. Cooper, in his letters concerning taste, "that ever adorned the English language;" and though abstracted in its nature, so popular, that when it first appeared, it passed through several editions, and "is still read," says an excellent judge (Dr. Aikin), "with enthusiasm by those who have acquired a relish for the lofty conceptions of pure poetry, and the strains of numerous blank verse." The merit of this poem, and of the writer,

is so justly appreciated by Mrs. Barbauld in an Essay prefixed to an ornamented edition of this poem, published in 1795, that we shall gratify our readers by subjoining a part of the summary with which it concludes. "If the genius of Akenfide is to be estimated from this poem, it will be found to be lofty and elegant, chaste, correct, and classical; not marked with strong traits of originality, not ardent nor exuberant. His enthusiasm was rather of that kind which is kindled by reading and imbibing the spirit of authors, than by contemplating at first hand the works of nature. As a versifier, Akenfide is allowed to stand amongst those who have given the most finished models of blank verse. His periods are long but harmonious; the cadences fall with grace, and the measure is supported with uniform dignity. His muse possesses the *mina erecta*, and *high commanding gait*. We shall scarcely find a low or trivial expression introduced; a careless and unfinished line permitted to stand. His stateliness, however, is somewhat allied to stiffness. His verse is sometimes feeble through too rich a redundancy of ornament, and sometimes laboured into a degree of obscurity from too anxious a desire of avoiding natural and simple expressions." Biog. Brit. Gen. Biog.

AKERKUF, in *Geography*, a mountain of Asiatic Turkey, east of the Euphrates, in the government of Bagdad. Tavernier placed it between the Euphrates and the Tigris, supposing that the ruins found here are those of the tower of Babel.

AKERMAN, or BIELGOROD, in *Geography*, a town of Bessarabia, on the coast of the Black Sea, at the mouth of the Dneister, 22 miles south-east of Bender. E. long. $31^{\circ} 14'$ N. lat. $46^{\circ} 8'$.

AKERSLOOT, WILLIAM, in *Biography*, a painter and engraver, who lived at Haarlem, and flourished in 1624.

AKERSUND, in *Geography*, a bay on the coast of Norway, ten leagues west-north-west of Frederickstadt.

AKHISAR, q. d. *white-castle*, a name given by the Turks to the ancient THYATIRA, on account of the white marble that abounds there. It is a town of Natolia, in Asiatic Turkey, 13 leagues east-south-east Pergamo; situate in a fertile plain on the river Hermus, abounding with grain and cotton, and carrying on a commerce of opium and Turkey carpets. N. lat. $38^{\circ} 50'$. E. long. $28^{\circ} 30'$.

AKI, a province of Japan, in the western part of the island of Nippon; with a town of the same name.

AKIBA, in *Biography*, a famous Jewish Rabbi, lived in the first century of the Christian æra, soon after the destruction of Jerusalem, and devoted himself to the study of the Cabbalistic philosophy. In the earlier period of his life, and till he was 40 years of age, he was a shepherd in the service of a rich citizen of Jerusalem; but his master's daughter having promised to marry him, if he became a learned man, he assiduously applied to study. So successful was his application, that he became one of the most famous teachers in the schools of Jewish learning, first at Lydda, and afterwards at Jafna; and if the Jewish accounts may be credited, he had 24,000 disciples. The Jews of Palestine esteemed him so highly, that they scrupled not to say, that God revealed to him what he had concealed from Moses. The book intitled Jetzirah, which has been ascribed to Abraham, is said to have been written by him, and, though it abounds with trifles and absurdities, it was quoted by the Jews at this period, as of divine authority. Towards the close of his life, Akiba joined the standard of the impostor Barchochebas, who appeared under the character of the Messiah, to deliver his countrymen from the power of the emperor Adrian. When this impostor was taken prisoner, and his followers put to the sword, Akiba and his son Pap-

pus were slayed alive. This happened, according to the Jewish chronologists, in the year 120; but, according to Balmage (lib. vii. c. 12.), in 138. Akiba was honoured by the Jews, after his death, as an eminent doctor of their law; and his tomb, supposed to be at Tiberias, was visited with great solemnity. He is said to have altered the Hebrew text of the Bible, with respect to the age of the patriarchs, when they began to have children, which is greater according to the Septuagint than in the Hebrew text; and he did this, it is said, to put off the period of the Messiah's advent, which, according to the tradition of the Jews, was not to take place till the completion of 6000 years. It has been argued, that the translation of Aquila, which was published in the 12th year of Adrian, agrees with the Hebrew text of this time, and that this Aquila having gone over from the profession of Christianity to that of the Jewish religion, and enlisted among the disciples of Akiba, persuaded his master to make this alteration. Pezron Antiq. c. 16. This charge, however, is feebly supported, and the difference between the two texts is a difficulty that remains still to be satisfactorily solved. Gen. Dict. Bruckel's Philos. by Enfield, vol. ii. p. 200.

AKIM, in *Geography*, a town of Africa, on the Gold Coast.

AKIURECK, a town of Asiatic Turkey, in Natolia, eight leagues east-south-east of Kaltamoni.

AKKER, a city of Syria, situate upon mount Bargylus, about nine leagues to the south-east of Tortosa; also a river that runs by it. This, says Dr. Shaw, (Trav. p. 260.) must have been formerly as noted for its strength, extent, and beauty, as it is now for the goodness of the apricots, peaches, nectarines, and other fruit, which it produces; and he suggests that it is the *Kir*, i. e. the city, mentioned in Scripture. Amos. ix. 7.

AKKIA, an island near the west coast of East Greenland. N. lat. $60^{\circ} 38'$. W. long. 46° .

AKKIAH, a town of Romania, in European Turkey, eight miles east of Burgas.

AKONID, an officer of justice in Persia, who takes cognizance of the causes of orphans and widows; of contracts, and other civil concerns. He is the head of the school of law, and gives lectures to all the subaltern officers; he has his deputies in all the courts of the kingdom, who, with the second *sadra*, make all contracts.

AKOUSCHY, in *Zoology*, the *CAVIA Acuschy*, the *olive cavy* of Pennant, has a short tail, with the upper parts of the body of an olive colour, and the under part whitish. Some have reckoned this animal a variety of the AGOUTI; but it differs from it in having a tail, which the other wants, or rather a longer tail than that of the other; in being smaller; and in having its hair of an olive, and not a red, colour; which are differences, says Buffon, sufficient to constitute two distinct species. It is about the size of a half-grown rabbit, is easily tamed, is hunted with dogs, and reckoned the finest game in South America. Its flesh is white and delicate, and much esteemed by the inhabitants of Guiana, Cayenne, and Brasil, where this animal is found. It inhabits the woods, and lives on fruits; has such a dread of water, that it will submit to be seized by the dogs rather than go into it; and it will sometimes, though rarely, cry like the restless cavy. Buffon by Smellie, vol. v. p. 61. vol. viii. p. 270.

AKQUEDAN, in *Geography*, a town of Africa, with a Dutch factory, on the Gold Coast.

AKRIDA, a town of Macedonia, in European Turkey, situate on the Drino, 124 leagues west of Constantinople, and 45 leagues south-east of Ragusa. N. lat. $41^{\circ} 46'$. E. long. $20^{\circ} 36'$.

AKSE,

AKKA, a river of Georgia in Asia, that runs into the Caspian Sea, near Astrach or Tercek.

AKSCHINSKA, a town and fortress of Russia, 16 leagues south of Demidoff.

AKSERAI, a town of Nubia, in Asiatic Turkey, 20 leagues south-east of Kandi, or Gogol. N. lat. 38° 26'. E. long. 34° 11'.

AKHYKHAR, a town of Nubia, nine leagues south of Akserai.

AKSHIR, a town of Nubia, 22 leagues west of Kandi. N. lat. 38° 26'. E. long. 31° 38'.

AKSU, a province of Little Bukharia, to the north of Kaskan, and west of the province of Turfan, about 350 miles long, and 75 in breadth. Its chief town, of the same name, lies on the north side of a small river, which runs south-east, and loses itself in the sands. N. lat. 42° 30'. E. long. 83° 26'.

AKULA, an ancient city of Asia, situate on the eastern bank of the Tigris.

AKUN, AENOK, and AKUTAN. See *Fox Islands*.

AKURA, a town of Asiatic Turkey, in the government of Tarabuc, or Tripoli of Syria; seven or eight leagues from Mount Libanus. It has a Maronite bishop.

AL, an Arabic particle, prefixed to words, to exalt, or give them a more emphatical signification.—As, in *Alkoran*, *Algebra*, &c.

AL, or ALD, in our *Ancient Writings*, signifies as much as *old*, *ancient*.—This being prefixed to the names of places, expresses their antiquity; as *Aldborough*, *Aldgate*, &c.

ALA, a Latin term, literally signifying wing, used, in *Anatomy*, for several parts of the body, which bear some resemblance to the figure of a wing.

Thus, the lobes of the liver are sometimes called *alæ*.

The soft spongy bodies in the *pubendum muliebre*, usually called the *nymphæ*, are denominated *alæ*.

The two cartilages of the nose, which form the nostrils, are called *alæ*.

And the same denomination is given to the tip of the *AURICLE*; and to the whole cartilaginous part of the ear, by way of distinction, from the tip and pendent part below, called the lobe. It is also applied to the process of the *os sphenoides*.

The term *alæ* is sometimes applied to the arm-pits, otherwise called *axillæ*. These parts abound with glands, and are great receptacles of humours; whence a rank smell sometimes exhales, called *fætor alarum*.

ALA, in *Botany*, a name given by the Latin writers of *Medicine*, in the later ages, to the *helenium*, or *ELECAMPANE*.

ALA is also used in *Botany*, for the angle which the leaves, or the stalks, or pedicles of the leaves, form with the stem, or branches of the plant from which they arise. This angle is usually acute, and always is directed upwards.

ALA is sometimes also applied to the angle formed by the branches themselves with the stem, which is also observed to be very regular and uniform.

ALA has several other different significations. It most frequently is used to express the hollow of the stalk of a plant, which either the leaf or the pedicle of the leaf, makes with it; or it is that hollow turning, or *sinus*, placed between the stalk, or branch of a plant, and its leaf, from whence a new offspring is wont to put forth. Sometimes it is taken also for a little branch, as when we say, a stock, or stem of a plant, is armed with many *alæ*; because these small branches stand out from it, in form of so many wings.

ALÆ is also used to signify those petals, or leaves of the papilionaceous flowers, placed between those others which are

called the *vexillum* and the *carina* , which make the top and bottom of the flower. Instances of flowers of this structure are seen in the flowers of peas and beans, in which the top leaf or petal is the *vexillum* , the bottom the *carina* , and the side ones the *alæ* .

ALÆ is also used for those extremely slender and membranaceous parts of some seeds, which appear as wings placed on them, as in the plumeria, the fruit of the trumpet-flower, the fruit of the maple, and the like, which are called by botanists *alated* seeds.

ALÆ is finally used also for those membranaceous expansions, which run all the way along the stems of some plants, and are therefore called *alated* stalks.

ALÆ, in the *Military Art*, the two wings or extremes of an army ranged in form of battle.

An *ala* of horse, amongst the Romans, consisted of 300 horsemen, and was divided into *turmæ* and *decuriæ*; each *turma* consisting of 30 men, and each *decuria* of ten; so that there were in every *ala* ten *turmæ*, and in every *turma* three *decuriæ*.

ALA, in *Geography*, a town of Japan, in the province of Satzuma.

ALA, or AL, a town of Arabia, 21 leagues north-east of Hagiaz.

ALA-MILIARENSIS, in *Ancient Geography*, an episcopal city of Africa, in the Mauritania Cæsariensis.

ALA-NOVA, a town of Pannonia, according to Antonine.

ALABA, a small island in the Indian ocean, near Taprobana, according to Ptolemy.

ALABA, or ALAVA, in *Geography*, a small district or province of Spain, extending along the river Ebro, from the mountains of Biscay to the frontiers of Navarre, and comprehending about seven or eight leagues in length, and six or seven leagues in breadth. The soil is fruitful in rye, barley, vines, and several sorts of fruits; and the iron mines of the country furnish materials for the manufacture of arms and other utensils, which furnish articles of commerce. The chief town is *Victoria*.

ALABA, a large kingdom of Africa, forming a part of MONEMUGI, is situate to the east of Cambate, and extends to the coast of Zanguebar. It is inhabited by a cruel people, called Gallas.

ALABAGIUM, in *Ancient Geography*, a promontory of Asia, in Carmania, upon the borders of the Ichthyophagi, according to Ptolemy.

ALABAHA, in *Geography*, a considerable river of America, in East Florida.

ALABAMA, an Indian village, delightfully situate on the banks of the Mississippi. The inhabitants are the remains of the ancient Alabama nation, which inhabited the east arm of the great Mobile river, that still bears their name, now possessed by the Creeks, or Muscogulges, by whom they were conquered.

ALABAMA is also the name of a river in America, which is formed by the junction of the Coofee or High-town river, and Tallapoofee river, at Little Tallassee, and runs in a south-west direction, until it meets Tombigbee river from the north-west at the great island which it there forms, 90 miles from the mouth of Mobile bay, in the gulf of Mexico. This beautiful river has a gentle current, pure waters, and excellent fish; and its banks abound with valuable productions in the vegetable and mineral kingdoms. Travellers have sailed down this river in boats, in the month of May, in nine days from Little Tallassee to Mobile bay, a distance of about 350 miles.

ALABANA, a town of Arabia Felix, placed by Ptolemy in long. 74° 30'. and lat. 20° 15'.

ALABANDA,

ALABANDA, a town of Caria, in Asia Minor, south of the river Mæander. It was founded by Alabandus, who on this account was worshipped by its inhabitants, called Alabardi, Alabandii, and Alabandenses. In the time of Pliny it was a free city, whence it was proverbially denominated the most fortunate city of the Carians. Strabo (vol. xii. p. 976.) represents the Alabandenses as luxurious and gluttonous, and devoted to pleasure. Some writers have given the name Alabanda to ANTIOCHIA.

ALABARCHA, in *Antiquity*, a kind of magistrate among the Jews of Alexandria, whom the emperors allowed them to elect, to have the superintendency of their policy, and to decide differences and disputes which arose among them.

ALABARDA, the name of a spear anciently used by the Helvetians and Germans.

ALABASTER, WILLIAM, in *Biography*, an English divine, was born at Hadleigh, in Suffolk, in the 16th century, educated in Trinity college, Cambridge; and accompanied the Earl of Essex, as his chaplain, in his expedition to Cadiz, in the reign of Queen Elizabeth. Fickle in his temper, unsteady in his principles, and dissatisfied with his situation, and at the same time seduced by the pomp of the Romish worship and the respect paid to its priests, he became a convert to the church of Rome. But in his new connection he was disappointed; and upon his return to England, he resumed the Protestant profession, and obtained preferments in the English church; being appointed to a living in Hertfordshire and a prebend of St. Paul's. He was well acquainted with the Hebrew language; but so much attached to the unintelligible mysteries of the Jewish cabbala, that his knowledge of the original language of the Old Testament was of little service to him in the interpretation of scripture. Of his talents as a Biblical commentator, we may form some judgment by the sermon which he preached on taking his degree of doctor in divinity at Cambridge. His text was 1 Chron. i. 1. Adam, Seth, Enos; and having just touched upon the literal sense, he enlarged on its mystical meaning; explaining Adam by misfortune and misery, and so of the rest. He wrote a *Lexicon Pentaglotton*, which was printed in folio, in 1637; and other works of a mystical kind, viz. "Apparatus in Revelationem Jesu Christi," printed at Antwerp, in 1607; "Spiraculum Tubarum seu fons Spiritualium expositionum ex equivocis Pentateuchi significationibus," and "Ecce Sponsus venit, seu Tuba pulchritudinis, hoc est, demonstratio quod non sit illicitum, nec impossibile, computare durationem Mundi et tempus secundi adventus Christi," all printed in London. He was also the author of a Latin tragedy, intitled *Roxana*, which, at its exhibition in a college at Cambridge, produced a singular accident. When the last words, *sequar, sequar*, were pronounced, the voice and manner of the actor so terrified a lady who was present, that she irrecoverably lost her senses. Alabaster died in the year 1640. Gen. Dict.

ALABASTER, *alabâtre*, Fr. *alabastrites* of Pliny, in *Mineralogy*. Some derive the word from *albus*, because of the whiteness of this stone. Others from *αλαβαστρον*, which they form from the privat. α, and *λαμβάνω*, *capio*, to take; this stone being too smooth and slippery for the hand to fasten hold of it. Under this name are confounded two minerals, wholly distinct from each other when pure, but which, in some of the varieties, are occasionally mixed together.

The *compact gypsum* of Kirwan (*Alabastrite*, *La Melle*, *albatre gypseux de Lisle*. Dichter Gypstein, *Werner*) when of a white or yellowish, or greenish colour, semi-transparent, and capable of receiving a polish, is known

among statuaries by the name of *alabaster*, which term is also retained as a secondary appellation in most books of mineralogy; and is certainly the *alabastrites* of Pliny, which is characterized by that author as a stone resembling gypsum. When its colours are disposed in bands or clouds, it is called, in the last case, *onyx alabaster*, and in the latter, *agate alabaster*. It not infrequently contains a sufficient portion of carbonated lime to produce a brisk effervescence with nitrous acid; and hence has originated the confusion of authors, who make the circumstance of effervescence an essential distinctive character between the gypseous and calcareous alabasters. Its specific gravity seldom exceeds 1.9. Its fracture is compact—splintery, sometimes verging on the fine-grained foliated. In transparency, it is considerably superior to white wax, allowing light to pass readily through it, but not transmitting the forms of objects. By slight calcination it is converted into Paris plaster.

Gypseous alabaster is very easily worked, but is not susceptible of a polish equal to marble. It is made into vases, columns, tables, and other ornamental articles of furniture; thin slabs of it have even been used in one of the churches of Florence instead of window glass. Its brittleness however, and want of lustre, have caused it to be almost wholly superseded by more durable materials. Among the ancients, the most esteemed came from Carmania, Upper Egypt, and Syria: of the variety called *onyx*, the boxes for holding perfumes were mostly fabricated; thus, in Horace, we meet with "*Nardi parvus onyx*."

The *calcareous alabaster*, or *sinter* (*albatre calcaire*), is a stone of the same family as *stalactite*, consisting chiefly of carbonat of lime, and exhibiting a considerable variety of colours; such as pure white, yellowish, greenish, reddish, and bluish grey: its fracture is striated or fibrous, the striae sometimes parallel and sometimes divergent: its hardness is somewhat inferior to that of marble, which nevertheless does not prevent it from receiving a good polish: its specific gravity from 2.4 to 2.8: its transparency is nearly equal to that of white wax: it effervesces with acids and burns to lime. Two sorts of alabaster are distinguished by statuaries, the common and oriental; under the latter of these are ranked the hardest, the finest, and the best coloured pieces; a number of sub-varieties are also produced by the colours being in veins, or dendritic, or in concentric undulating zones. Italy and Spain yield the most beautiful specimens; the inferior kinds are found in Germany and France. It is manufactured, like the gypseous alabaster, into tables, vases, statues, chimney-pieces, &c.

Many of the hot sulphureous waters rise out of the ground of a turbid wheyish colour, on account of a large quantity of gypsum and chalk, which they hold suspended, and in a state of half solution; as these grow cool and lose their carbonic acid, the earthy particles are for the most part deposited, lining the bottom and sides of the channels in which they flow with a compact alabaster. Advantage has been occasionally taken of this circumstance to obtain very beautiful impressions of bas reliefs, by exposing the moulds to a current of such water, till they have become filled with the earthy deposit. The most remarkable of these springs in Europe, is that which supplies the baths of St. Philip in Tuscany: it is situated on a mountain near Radicofani, and forms the source of the little river Paglia. The water as it issues forth is very hot, springs out with great impetuosity, has a strong sulphureous odour, and holds in solution a large quantity of calcareous matter. From its very source it flows in deep channels, covered with a thick crust of stalactite, of a dazzling white, especially when the sun shines upon it: and which is harder or softer

in proportion to the rapidity of the stream, and the obliquity of its fall. This circumstance suggested to Dr. Vigni the idea of establishing, on this mountain, a manufacture of artificial alabaster. For this purpose, he first collected a number of plaster models, of the best bas-reliefs, in Rome and other places of Italy. These models serve to form the hollow moulds, which are made of sulphur, according to the following process. The plaster model is rubbed over with boiled linseed oil, and surrounded with an edging of plaster, of the same height as the intended thickness of the subsequent bas-relief. Then sulphur, melted with just sufficient heat to make it flow, is poured on the plaster model, and fills it to the height of the edging. The sulphur mould thus made, is placed in a kind of wooden tub, roughly put together, open at top and bottom, and of less diameter below than above. This tub has on the inside a false bottom, made of slips of wood laid cross-wise, in order to detain, for a short time, the water which dashes on them. Just above this, is a row of wooden pegs, fastened to the tub, around its whole inner circumference, on which the sulphur mould is let down, and thus supported. The whole is then placed under the boiling spring, and inclosed with walls; to prevent it from being displaced by the wind. The water, which thus dashes on the moulds, deposits its earth both within and without them, giving the impression in bas-relief within, and disposing itself in an undulated surface on the outside. The hardness of the alabaster depends on the degree of obliquity at which the mould is placed, in order to receive the dashing of the water. The more vertical its position, the harder is the alabaster. However, as the hardest models are not so white as the softer, the water is in some cases caused to make a circuitous course, in order to deposit all its grosser particles before it arrives at the mould. Even the softer ones, however, are as hard as Carrara marble, and surpass it in whiteness. The time required for these productions varies, according to the thickness, from one month to four. When the sulphur mould is sufficiently filled, and the ground of the model has acquired a thickness capable of supporting the figures, the whole is removed from the water; the wooden supports are broken by gentle strokes of the hammer, and the incrustation on the outside of the mould is chipped off by repeated strokes. Then the tub is struck with a smart blow of a hammer, which separates the model from the mould; generally, however, cracking the latter. The brilliancy of the models is completed by brushing them with a stiff hair-brush, and rubbing with the palm of the hand.

The composition of this alabaster is gypsum, mixed with a small proportion of carbonated lime. Dr. de Vegni has, after many attempts, succeeded in giving a fine black, or flesh colour to the figures thus formed, by putting a vessel half full of colouring matter into the water, before it arrives at the mould. The colouring may also be varied, by protecting particular parts of the mould, while the water continues charged with colouring matter.

A spring of the same kind as that just described, and applied to similar purposes, is that of Guancavelica in Peru. The water rises from the ground into a large basin boiling hot, and of a muddy yellowish white colour. At a little distance from the basin, the water becoming cool, deposits calcareous matter in such vast abundance, as to fill large moulds with a compact stone, of which some of the houses of the town are constructed. The moulds of statuaries, in like manner, being exposed to the water, are filled with hard confusedly crystallized alabaster, and the bas-reliefs thus produced, by polishing, become semitrans-

parent and very beautiful. The images made use of by the Catholics of Lima, in their religious ceremonies, are said to be all formed in this manner.

Pliny Nat. Hist.—Hauy, *Traité de Minéralogie*.—Kirwan's *Mineralogy*.—Bomare, *Dict. d'Hist. Nat.*—*Journal de Physique*, vol. ix.

ALABASTER, in *Antiquity*, is also used for a vase, wherein odoriferous liquors were anciently put.

The reason of the denomination is, that vessels for this purpose were frequently made of alabaster-stone, which Pliny and other ancients represent as peculiarly proper for this purpose.

Several critics will have the box mentioned in the Gospels as made of alabaster, to have been of glass. And though the texts say, that the woman broke it, yet the pieces seem miraculously to have been united, since we are told, the entire box was purchased by the emperor Constantine, and preserved as a relic of great price.

Others will have it, that the name alabaster denotes the form rather than the matter of this box. In this view, they define alabaster, by a box without a handle, deriving the word from the privative α , and $\lambda\alpha\beta\omega$, *anfa*, handle.

The expression, $\sigmaυντριψατα το αλοιβατον$, used by the evangelist Mark, (xiv. 3.) and which our translators have rendered "She brake the box," has occasioned some difficulty in the interpretation of this passage; but by referring the term $\sigmaυντριψατα$ to the ointment, and not to the alabaster box; and rendering the words, with Bishop Pearce, "breaking she poured the box," i. e. breaking the parts of the ointment, and liquefying them by shaking it, she poured some of the ointment out of the box upon his head; or, with Mr. Wakefield, "After shaking the box together, she poured it out upon his head," the difficulty is obviated. To justify this translation, and interpretation of the word $\sigmaυντριψατα$, it may be observed, that Luke (ix. 39.) uses $\sigmaυντριβειν$ for *bruising*. Blackwall, *Sacred Classics*, vol. ii. p. 166. has remarked, that the shaking of liquids of this nature breaks and separates their parts, and thereby makes them more liquid and fragrant; and that the word $\sigmaυντριψατα$ is an excellent one for that purpose; and he very justly quotes, on this occasion, Plato in Phædone, $\Deltaιατριψας το φαρμακον$: Martial's *Epigrams*, iii. 55. Ed. Delphin.

— "Et fluere excusso cinnama fusa vitro."

and Lucretius iv. 700.

— "Fracta magis redolere videntur
Omnia quod contrita."

See Pearce's *Com.* vol. i. p. 276. Wakefield's *Silva critica*. Pars. ima. p. 156.

Sir Edward Knatchbull and Dr. Hammond have suggested the same interpretation of this passage.

ALABASTER is also said to have been used for an ancient liquid measure, containing ten ounces of wine, or nine of oil, and in this sense the alabaster was equal to half the sextary.

ALABASTER *Island*, in *Geography*. See ELEUTHERA.

ALABASTRA, in *Botany*, are those little herbaceous leaves which encompass the bottoms of flowers, particularly the rose. See CALYX, &c.

Some, with Jungius, explain alabastrea, by the globe or roundish bud of the rose just peeping out.

ALABASTRA, in *Ancient Geography*, a town of Phrygia, mentioned by Steph. Byz. on the authority of Herodotus, but probably mistaken for Alabanda. Ptolemy mentions a town of this name in Egypt.

ALABASTRITÆ,

ALABASTRITE, *alabasters*, in *Natural History*, the name of a genus of fossils allied to the marbles, and defined to be stones composed of large separate concretions, of great brightness, and an elegant, but shattery structure, not very hard, not giving fire with steel, effervescing with and soluble in acids, and calcining in a slight fire. See **ALABASTER**.

ALABASTRITES is often used as synonymous with alabaster. But Anselmus Boetius distinguishes between alabaster and alabastrites, in making the criterion of the former to be so soft, that it may be cut with a knife; and of the latter, that it is so hard that it cannot be so cut.

Grew speaks of a sort of alabastrites representing the transverse section of the trunk of a tree.

ALABASTRUM dendroide, a name given by authors to a species of alabaster, found in great abundance in the province of Hohentheim, and famous for the elegant delineations of trees and other figures described in it. See **ALABASTER**.

ALABASTRUM, in *Ancient Geography*, a town of the Thebaid, in Egypt, where Pliny says topazes were found.

ALABASTRUS, a river of Troas, which flowed from Mount Ida.

ALABATER, a promontory of Carmania.

ALABON, or **ALABUS**, now *Catara*, a river of Sicily between Myla and Megara, which Diodorus (lib. iv. c. 78. tom. i. p. 321.) represents as a large river, which discharged itself into the neighbouring sea. Stephanus Byz. (vol. i. p. 58.) mentions also a city of this name.

ALABORG, a town of the ancient Rufsland, situate in the present government of Olonetz.

ALABUA, in *Geography*, a small town of Arabia Petraea, where it is said Abdalla, the father of Mahomet, died, and which is a station of the pilgrims that visit Mecca.

ALABURIUM, in *Ancient Geography*, a town of Syria, mentioned by Stephan. Byz.

ALACH, in *Geography*, a præfecture belonging to the territory of Erfurt, containing 13 parishes.

ALACHUAH SAVANNAH, a level green plain in the country of the Indians of that name in East Florida, situate about 75 miles west from St. Augustine. It is about 15 miles wide and 50 miles in circumference, and encircled with high sloping hills, covered with waving forests, and fragrant orange groves, which rise from a very fertile soil. The ancient Alachuah town stood on the borders of this Savannah, but the Indians removed to Cuscowilla, about two miles distant, on account of the insalubrity of the situation. The horned cattle and horses bred in these meadows are large and fat, but they are subject to mortal diseases, such as the water rot or scald, occasioned by the warm water of the Savannah.

ALACRANES, a range of rocks and shoals on the south side of the gulf of Mexico, situate over against the peninsula of Yucatan; east from Stonebank, and west from Cape St. Antonio, within the 23d degree of north latitude, and between 89° and 91° W. long. They are said to derive their name from the great number of scorpions that are found there.

ALADA, an island in the Indian Ocean, near the coast of Siam. N. lat. 9° 27'. E. long. 97° 52'.

ALADAG, or **AMADAG**, the highest mountain of Natolia, in Asia, north of Angora, and not far from the Cape of Coromba. N. lat. 40° 10'. E. long. 52° 40'.

ALADINISTS, a sect among the Arabs, answering to free-thinkers among us.

The Aladinists multiplied greatly under the two learned kings Almanfor and Miramolius.

ALADULIA, a considerable province of Turkey in

Asia, between Amasia and the Mediterranean, towards Mount Taurus. Some have represented it as the third division of Asia Minor, and made it to comprehend Cappadocia and Lesser Armenia. It joins on the south to Trebizond, and is called by the Turks the beglerbegate of Marasch, and sometimes Dulgadir. The soil is unfit for tillage, but affords abundance of pasture, which breeds a great number of cattle, especially horses and camels, and large herds of sheep and goats. Cappadocia, besides its pasture grounds, produces wines and fruits in great plenty; and its mountains, particularly the chain called Antitaurus, have mines of silver, copper, iron and alum. Marasch and Cæsarea are well built and populous cities. Armenia the lesser, so called by way of distinction from the greater Armenia, has this country which belongs to Persia on the east, Syria on the south, the Euxine on the west, and Cappadocia on the north. The people are addicted to war and plunder.

ALÆNUS, in *Ancient Geography*, a river of Britain, according to Ptolemy, supposed to be the river Ax, and its mouth Ax-mouth. It was so called perhaps from the British *A laun iu*, the full river.

ALÆSA. See **ALFSA**.

ALAFÖENS, in *Geography*, a district of the province of Beira, in Portugal, containing 37 parishes, and erected into a duchy in 1718, by John V.

ALAGNON, a rapid river of France, in the late province of Auvergne, whose source is at Cantal, and which falls into the Allier.

ALAGOA, a town of Africa, in Upper Guinea, where the Portuguese have an establishment.

ALAGOA bay lies on the eastern coast of Africa, in the Indian Ocean. S. lat. 25° 30'. E. long. 33° 28'.

ALAGOA is also the name of a town of South America, in the country of Brasil, and government of Fernambuc.

ALAGON, a river of Spain, which rises in the mountain of Leon, and runs into the Tagus, a little above Alcantara. It is also the name of a small town of Aragon, standing on a peninsula formed by the rivers Ebro and Xalon, about four leagues from Saragossa.

ALAGTAGA, in *Zoology*, the Tartarian name of the Siberian **JERBOA**, signifies an animal which cannot walk. Buffon (Nat. Hist. by Smellie, vol. vii. p. 202.) characterises it as having legs like those of the Jerboa, but with five toes on the fore feet, and three on the hind, with a spur, that may pass for a thumb or fourth toe, much shorter than the others.

ALAIGNE, a town of France, in the department of the Aude, and district of Limoux, two leagues north-west of Limoux.

ALAIN, **CHARTIER**, in *Biography*, secretary to Charles VII. king of France, was born in 1386. He was the author of several works in prose and verse; but his considerable work was the "Chronicle of king Charles VII." It is said that Margaret, daughter to the king of Scotland, and wife of the dauphin, finding him asleep saluted him before all who were present: and when they expressed their surprise at her condescension to a person who possessed so few charms, she replied, "I did not kiss the man, but the mouth, from which proceed so many excellent sayings, so many wise discourses, and so many elegant expressions." On this incident Fontenelle has founded one of his Dialogues of the dead. Pasquier extols the character of Alain, and compares him to Seneca, on account of the infinite number of beautiful sentences, that are interspersed in his writings. Gen. Dict.

ALAIN, *John*, a Danish writer, was born in 1563, and died in 1630. He published a treatise "On the Origin of the Cimbri, and their various Establishments;" another "On Logic, natural and artificial;" and a third "On the

pronunciation of the Greek Language, with an Apology for Saxo Grammaticus."

ALAIN, *De Liffa*, a native of Liffa, in Flanders, flourished in the thirteenth century, with such reputation for his skill in theology, philosophy and poetry, that he was called the Universal Doctor. He died in 1294, and left behind him many pieces in prose and verse, which were collected into one volume in folio, at Antwerp, in 1653. His fame was so great, that it was thought a happiness to know him; and it was proverbially said, "Suffice it to have seen Alain." Dupin. *Ecl. Hist.* vol. v. p. 57. Cave. *H. L.* tom. ii. p. 287.

ALAINÉ, in *Geography*, a small river of France, in the department of Nièvre.

ALAJOR, one of the four quarters into which the island of Minorca is divided, so called from a small place near it.

ALAIS, or ALEZ, a large and populous city of France, in the department of the Gard, situate on the river Gard, at the foot of the Cévennes. Julius Cæsar in his commentaries calls it Alucia. A bishopric was founded in this place in 1691, with a view, as it is said, of converting the protestants, who were numerous; and a citadel had been built in 1689, in order to awe them. The diocese consists of 80 parishes. The country about it is well cultivated, and produces grain, olives and mulberries, but the principal wealth of the place has formerly arisen from its manufactures of serges and ratteens, and from its exportation of raw and wrought silk. It is distant 14 leagues north of Montpellier, and 140 south-east of Paris. N. lat. 44° 8'. E. long. 3° 46'.

ALAISEE, in *Heraldry*, the same with *huetty*, or *RACOURCY*.

ALAISKIAN *Mountains*, in *Geography*, a part of the *ALTAY* mountains in Russia, comprising that range which advances from the origin of the Alay to the two sides of this river, and between it and the Ouba and Irtilsh, and runs out into the great Saline plain, which is skirted by the Alay, the Irtilsh, and the Oby. See *SLUDINA*.

ALALCOMENIA, in *Ancient Geography*, a town in the island of Ithaca, where, according to Plutarch, Ulysses was born.

ALALCOMENIUM, or ALALCOMENÆ, a small town of Bœotia, south-east of Chæronæa, near the lake Copais, founded according to Pausanias (in Bœotic, lib. ix.) either by Alalcomenius, foster-father of Minerva, or by Alalcomenia, one of the daughters of Ogyges, the nurse of Minerva, near which she had a temple, and a statue of ivory, which was removed by Sylla to Rome. Hence Homer deduces the epithet Alalcomeniana, ascribed to Minerva.

ALALCOMENIUS, in *Ancient Chronology*, the Bœotian name for the Athenian month *MÆMACTERION*, which was the fourth of their year, and answered to the latter part of our September and beginning of October.

ALALIA, or ALALIS, in *Ancient Geography*, a town of Syria, placed by Ptolemy in the Palmyrene, near the Euphrates, and by M. d'Anville, north-west of Refasa.

ALAMA, a town of Asia, in Mesopotamia, situate on the river Bilicha, north-west of Nicephorium.

ALALOEI, small islands in the Arabian gulf, where, according to the Periplus of Arrian, turtles were found; the same with the Alloeu of Pliny.

ALAMAGAN, or *the island of the Conception*, in *Geography*, one of the *LADRONES*, or *Marianne* islands, about 10 miles from Guguan, and 18 miles in compass. There is a volcano on the north-west part of this island, which stands close to the sea, forming a cone in height about 500 yards, with a base of about 400 yards; and the sides are marked by streams of black lava, which, passing through a rich vegetation of cocoa-nut trees, may be traced to the shore, where they have entered the sea. This cone is encompassed

with cinders, which, at the distance of about a mile and a half, are covered with a black vegetable soil, which produces trees as large as any upon the island. At a nearer distance there is not for several acres the least sign of vegetation. In the year 1799, the volcano seemed to be preparing by its rumbling noise, and the smoke that issued from it, for a new eruption. The lower parts of the island are covered with trees of a thick foliage; some few open spots produce a thick and long grass; but the most plentiful productions of the island are the cocoa-nuts, which grow in clumps near the shores close down to the beaches, and which may be easily obtained in great abundance. Trees, resembling the pines of Port Jackson, bearing a small cone, and rising to the height of 30 or 40 feet, are very numerous. A supply of the fruit of the papau tree may be gathered about the middle of August. No quadrupeds have been observed upon this island except green-tailed lizards; land crabs are numerous and large; partridges and quails, owls, thrushes, bullfinches and pigeons are found here. The island may be seen at the distance of 12 or 14 leagues. Its shores are rocky to windward, but in the bay to leeward there are two or three beaches. On the west or left side of the island the shore bends into a kind of bay, where, as the trade wind in general blows steadily to the eastward, ships might ride securely as long as they had occasion to stay. N. lat. 18° 5'. E. long. 146° 47'. The variation of the compass in 1799 was 4½ east.

ALAMAN, a town of Switzerland, in the Canton of Berne, three leagues north-east of Nion.

ALAMANDUS, LEWIS, *Fr. Aleman*, in *Biography*, archbishop of Arles and cardinal of St. Cecilia, was one of the greatest men in the 15th century. He presided in the council of Basil, which deposed Eugenius IV. and elected the Antipope Felix V. Æneas Sylvius highly commends him, as a man admirably formed for presiding in such assemblies, firm and vigorous, illustrious by his virtue, learned, and endowed with a memory, which enabled him to recapitulate every thing that had been said by the orators and disputants. Although he was deprived of his dignities by pope Eugenius, and very injuriously treated, he is said to have performed miracles at his death, and he was beatified by Clement VII. in the year 1527. He died at the age of 60 years, in 1450. Gen. Dict.

ALAMANNI, LUIGI, or LEWIS, was born at Florence, of a family of distinction, in 1495; and by his early progress in philosophy and Greek literature, acquired great reputation. He was at first attached to the Medici family, but having entered into a conspiracy against Cardinal Julius de Medici, who became pope Clement VII., he was obliged to take refuge at Venice. He was afterwards imprisoned at Brescia, and upon his release he was under a necessity of abandoning his country, and of wandering, as an exile in France and in Genoa, till the year 1527, when he was recalled to Florence, on the expulsion of the Medici family. When the authority of that family was re-established in 1530, he was again disgraced, and retired to France, where he was chiefly occupied in poetical compositions. At length Francis I. called him to court, invested him with the order of St. Michael, appointed him to a considerable office in the household of Catharine de Medici, and employed him in various concerns at Rome and Naples. In 1544 he was sent on an embassy to the emperor Charles V.; and having been entrusted with different negotiations by Henry II. he died at Amboise in 1556, and left two sons, one of whom was made bishop of Maçon. The works of Alamanni consist of Italian poetry. The first publication of them at Lyons in 1532 and 1533, contained elegies, eclogues, satires, sonnets, hymns, psalms, &c. and a translation of the Antigone of Sophocles; which

which are much esteemed for their elegance. A didactic poem on Agriculture, in blank verse, "Della Coltivazione" first printed at Paris in 1546, added to his reputation. A piece of greater bulk, intitled, "Girone il Cortese," taken from a French romance, "Giron the Courteous," was published in 1548. His epic poem, called "l'Avarchide," on the siege of Bourges, and his comedy "La Flora," which he left behind him, did not much succeed. But his Tuscan epigrams, a species of writing, first attempted by himself, were well received, and produced many imitators. Alamanni is considered upon the whole, as a writer to whom Italian poetry lies under particular obligations.

Antonio Alamanni, whose burlesque poems were printed with those of Burchiello, was a relation of Luigi. Gen. Dict.

ALAMANNICUM, in *Antiquity*, a tribute imposed on the people by the emperor Alexius Angelus, for raising the sum of sixteen talents of gold, to be paid the *Alamanni*, on the conditions of a peace stipulated with them.

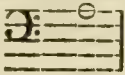
The ecclesiastics themselves were not exempted from this tax.

ALAMATOU, in *Botany*, the fruit of a tree that grows in Madagascar, resembling in its taste the black plum, but instead of the stone of the plum, it has 10 or 12 flat kernels; the leaf of the tree is like that of the plum-tree. There are two sorts of this fruit, one like the plum and the other like the fig, which is dangerous when taken to excess.

ALAMBAY, in *Geography*, one of the Sonda islands in the Pacific Ocean, 30 leagues south of Borneo.

ALAMEH, a town of Asiatic Turkey, in Natolia, 53 leagues south of Kutaja. N. lat. $35^{\circ} 35'$. E. long. $31^{\circ} 29'$.

A-LA-MI-RE, in the *Guidonian Scale of Music*, or *Gammut*, is the octave above A-RE, or A in the first space in

the base . As A is the note above G in every

part of an instrument, it is, of course, the third sound below each tenor clef; and is likewise the sound that occupies the second space, and the sixth line in the treble. The letter A itself is an abbreviation of A-RE and A-LA-MI-RE in the scale of Guido; and is the sound to which all instruments are tuned at an opera, concert, or other musical performance. A in the Italian musical language, when it precedes a substantive, has the power of *in*; as *A battuta*, in time, or measure, after recitative, or an *ad libitum*. A *capella*, sacred music, compositions in the church style. See GAMMUT and GUIDONIAN SCALE.

ALAMODALITY, *alamodalitas*, is defined by a late writer, a study or endeavour to accommodate a man's self in point of behaviour, dress, conversation, and other actions of life, to the reigning taste or custom, from a motive of complaisance, and to avoid the imputation of ill-breeding.

ALAMODALITY of writing, *alamodalitas scribendi*, is defined by the same person, a particular study or endeavour of learned men to adapt the productions of their minds, both as to the choice of subject and the manner of treating it, to the genius or taste of the times, in order to render them more acceptable to the readers.

A German writer, under the name of Geomoenus, has a dissertation on alamodality in writing.

ALAMODE, in *Commerce*, a thin, light, glossy, black silk, not quilled or crossed; chiefly used for woman's hoods, and men's mourning scarves.

The name is French, though not given in that country to this fabric, for which they have no other name than *rosetas noir lustré*.

ALAMOS, BALDONAZAR, in *Biography*, a Spanish writer, was born at Medina del Campo, in Castile. He studied the law at Salamanca, served in a subordinate office under Philip II. was imprisoned upon the disgrace of his patron, Anthony Perez, secretary of state to this prince, and after a confinement of 11 years, released by Philip III. By the duke of Olivarez, the favourite of Philip IV. he was called to public employments. He was deemed a man of wit and judgment. He died in the 88th year of his age; and his Spanish translation of Tacitus, with marginal aphorisms, was published at Madrid, in 1614. Biog. Dict.

ALAMPO, ALAMPY, or LAY, in *Geography*, a town on the gold coast of Africa, east of Ningo, and four leagues from the mountain Redondo, which presents itself in the form of a sugar-loaf to the north-north-west. The town is situated on the declivity of a mountain, which has a northern aspect; and the adjacent coast is bounded by hills of considerable height, that are covered with palm-trees. The inhabitants are gentle and timid; their principal commerce is that of slaves. The anchorage of this port is very good. N. lat. 5° . W. long. 3° .

ALAN, or LYNN, *Alanus de Lynna*, in *Biography*, an English divine of the 15th century, was born at Lynn, in Norfolk, educated at Cambridge, and distinguished as a student and a preacher. He was addicted to allegorical interpretations of Scripture, and to the application of the historical parts of the Old Testament, to the concerns of religion and moral conduct, a practice blamed by Bale, but commended by Pits. He wrote tracts on the interpretation of Scripture, sermons, and elucidations of Aristotle; and he was famous for the pains which he took in making indexes to most of the books he read, of which Bale has given a long list. He at length became a Carmelite in the town of his nativity, and was buried in the convent of his order.

Another person of this name was abbot of Tewkesbury, about the year 1177, and died in 1201. He wrote a book, "De Vita et Exilio Thomæ Cantuariensis. Biog. Brit.

ALAN, ALLEN, or ALLYN, WILLIAM, a cardinal-priest of the Roman church, was born at Rossall, in Lancashire, in the year 1532; and entered, in 1547, at Oriel college, in the university of Oxford, where he made a considerable proficiency, particularly in logic and philosophy, and passed through several gradations of honour. In 1556, he became principal of St. Mary's hall, and one of the proctors of the university; and in 1558, he was made canon of York. But on the accession of queen Elizabeth, as he was a zealous catholic, he lost all hopes of preferment; and in 1560, retired to Louvain in the Spanish Netherlands, where he connected himself with the English college, and was much esteemed on account of his learning and the urbanity of his manners. In this situation he distinguished himself by writing in favour of the catholic cause; and his first piece was "A defence of the Doctrine of Catholics, concerning Purgatory and Prayers for the Dead," printed at Antwerp, in 1565, which commenced a controversy of some continuance. The state of his health, which had been injured by his application to study, rendered it advisable to return to his native country, in 1565; but he soon became obnoxious by the zeal of his attachment to the principles and profession of popery, and by his industry in making proselytes; and he was under a necessity of concealing himself in the neighbourhood of Oxford. In this retreat he wrote an apology for his party, intitled, "Brief Reasons concerning the Catholic Faith;" and he prosecuted his labours for reclaiming apostates and encouraging the wavering, to such a degree, as to make it necessary for him, notwithstanding the patronage

patronage he enjoyed, to leave the country and to retire to Fleis, in 1558. Such was the reputation which he had gained by his learning and labour, that on his retirement at Fleis he opened a divinity lecture, which was received with great applause; at Douay, he was honoured with the degree of doctor of divinity; and he was advanced to the distinguished preferment of canon of Cambrai, and afterwards to that of Rheims. Having established a seminary at Douay for the education of English scholars, he transferred it to Rheims; he procured others to be established for the same purpose at Rome and in Spain; and he persevered in writing a variety of tracts in defence of the doctrines and practices of the catholics, which were conveyed to England, and which were prohibited, by royal proclamation, to be sold or read. Dr. Allen was now considered as an avowed enemy, not only to the protestant religion but to the English government; correspondence with him was regarded as a treasonable offence; and Thomas Allfield, a jesuit, was tried and executed in 1585, for bringing some of his traitorous books into his majesty's dominions. Amongst other exceptionable and offensive passages contained in his writings, and particularly in his "Defence of the twelve Martyrs in one year," which tend to dissolve all social obligations, he expressly asserts, "that parents who become heretics, lose the superiority and dominion they have by the law of nature over their own children. Therefore, let no man marvel, that in case of heresy, the sovereign loseth the superiority over his people and kingdom." But Allen was not satisfied with avowing his hostility to the religion and government of England by his writings, he proceeded, under the instigation and with the advice of his friend, Robert Parsons, the jesuit, to unite with some fugitive English noblemen, who resided in Flanders, in persuading Philip II. of Spain to invade England. At the same time he wrote a vindication of the base conduct of Sir William Stanley and the forces under his command, who garrisoned Daventer, in surrendering it to the Spaniards. In recompence of this treasonable practice, he was created cardinal in 1587, and appointed by the king of Spain, to an abbey of great value in the kingdom of Naples, with assurances of greater preferment, which were duly fulfilled. Thus encouraged, he was active in forwarding the designs of the Spanish armada, in 1588; and for this purpose he either himself wrote, or concurred with Parsons and other jesuits, in writing a book, of which many thousand copies were printed at Antwerp, and which were intended for dispersion in England, upon the landing of the Spaniards. This book consisted of two parts; the first was intitled "A declaration of the sentence of Sixtus V." in which it is maintained, that by virtue of the pope's bull, queen Elizabeth was accursed and deprived of her crown, which was transferred to the king of Spain; and the second part was "An admonition to the nobility and people of England," pronouncing Elizabeth a schismatic and heretic, a pretended queen, and usurper, who had committed actions which rendered her incapable of reigning, and even unworthy of life; and declaring all her subjects absolved from their oath of fidelity. When the enterprise failed, most of these books were destroyed; but some of them were preserved, and their contents are said to have been universally disliked by all sober catholics as well as protestants. The earl of Arundel, who had been three years in prison under a charge of high treason, was tried and found guilty by his peers, and his chief crime was his correspondence with cardinal Allen. Allen, however, was promoted by the king of Spain to the archbishopric of Mechlin; but continued to reside at Rome, where he lived

in great splendour, and employed his interest in serving his fugitive countrymen and the catholic faith. Towards the close of his life he is said to have repented of the measures which he had been instrumental in promoting against his country, and to have disapproved the disposition and conduct of the jesuits with whom he had acted. This change of sentiment is inferred from a letter, dated in 1593, and found among the papers of lord Burleigh, in which he professes affection to his native country, solicitude for its welfare, and a desire of effecting a reconciliation between the protestants and catholics. It is further alledged, that he wished on his death-bed to have an interview with the English students at Rome, but was prevented by the attending jesuit. He died in 1594, not without suspicion of being poisoned by the jesuits, and was buried with great pomp, in the chapel of the English college at Rome, where a monument was erected to his memory, with a Latin inscription in the highest style of panegyric.

As a zealous catholic, Allen might unquestionably alledge the obligations devolved upon him by the conviction of his mind; but how far the plea of conscience will justify the avowal of sentiments, and the encouragement of practices, incompatible with the fundamental principles of personal and social virtue, we must leave for those who undertake the vindication of his character to determine. As an English subject, he was undoubtedly a traitor and rebel; and no casuistry can justify his attempts to overturn the government of a country, deserted by himself, but approved by a majority of its inhabitants. As a writer he may be justly considered as one of the ablest advocates of the Romish church, at the period in which he lived. His works, besides those already mentioned, are, "A defence of the lawful power and authority of the priesthood to remit sins," to which are annexed two other tracts, viz. "The people's duty in confessing," and "An explanation of the doctrine of the Catholic church, with respect to indulgences;" printed at Louvain in 1567, 8vo; "of Sacraments in general, of the Eucharist, of the sacrifice of the mass; three books, addressed to pope Gregory XIII." printed at Antwerp in 1576; "Of the worship due to saints, and their relics;" "A true, sincere, and modest defence of Christian Catholics, that suffered for their faith at home and abroad, &c." printed in 1583, which was an answer to a book written by lord Burleigh, and esteemed the best of the cardinal's writings; so that the learned Edmund Bolton says of it, "a princely, grave, and flourishing piece of natural and exquisite English is Cardinal Alan's Apology. Biog. Brit.

ALAN, in *Geography*, a town and province of Turkestan in Persia.

ALAN, or CAMEL, a river of England, rises north of Camelford, and runs into the sea two miles below Padstow, in Cornwall.

ALAN Bay, lies on the west side of Corsica, in the Mediterranean.

ALANA, in *Ancient Geography*, a town of Ethiopia in Egypt, according to Pliny.

ALANCH, in *Geography*, a town of France, in the department of the Mouths of the Rhone, two leagues north-east of Marseilles, and four south of Aix.

ALAND, an island in the Baltic, at the entrance of the Gulf of Bothnia; situate between the province of Upland in Sweden and Finland, gives name to a cluster of islands, and is about 40 miles in length, and from 12 to 16 in breadth. It contains about 15 villages, and 9000 inhabitants, who speak the Swedish language; but are included under the government

government of Finland, since the year 1634, both as to spiritual and temporal affairs. The basis of the soil seemed to Mr. Coxe, who visited it, to be granite. It is so fertile, that the inhabitants seldom experience any scarcity of corn; it has also rich pastures, forests of wood, and lime-stone quarries. The inhabitants chiefly subsist by agriculture, hunting, and fishing; and they traffic in butter, woodenware, coals and lime. The principal place is Castellholm. This cluster of islands appears like a ridge of rocks, which had been once joined to each other, and the continent, but undermined and separated by the sea. N. lat. $60^{\circ} 18'$. E. long. $19^{\circ} 40'$.

ALAND is also the name of an island on the Norway coast, nearly west of Bergen.

ALAND, a river of Germany, which runs into the Elbe, near Schnackenburgh, in the principality of Lunenburg.

ALAND's Bay, lies on the south coast of Ireland, between the harbour of Waterford and Tramore bay; eight miles south of Waterford.

ALANDER, in *Ancient Geography*, a river of Asia Minor, the source of which is referred by Livy to Phrygia Major.

ALANDSHAGE, a cape at the southern extremity of the island of Amack.

ALANS, or ALANI, a people who, like the Huns, were of Asiatic origin, but represented by Ammianus Marcellinus, as "victu mitiores et cultu;" more polished in their customs and manners. Pliny (H.N. lib. iv. c. 12.) erroneously places them in Europe, beyond the mouth of the Danube; but Josephus (De Bell. Jud. lib. vii. c. 29.) traces their origin more accurately, and describes them as Scythians, who dwelt between the river Tanais and the lake Mæotis. Ptolemy mentions two sorts of Alans, the one in Europe and the other in Asia. From M. de Guignes, Hist. Huns, tom. ii. who has taken pains in investigating their origin and history, we learn that the name *Alin* signifies mountain, and that these people derived their appellation from the mountains which they inhabited towards the sources of the Jaick and near the districts of Oufa, and Solemskoi. In process of time they migrated southward, to the plains that are situated to the north of Circassia and Derbend. About A. D. 73, they formed an alliance with the king of Hircania, and entered Media; but being prevented at this time, and afterwards by Adrian, A. D. 130, from pursuing their march to the south, they directed their course westward, and established themselves on the borders of the Danube. About the year 406, they advanced from the banks of the Danube to the Rhine, and being joined by the Vandals, and some other nations, they traversed Gaul, and settled at the foot of the Pyrenees. In 409 they took the advantage of the revolt of those troops who were stationed to guard the passage of these mountains, and proceeded into Spain, where they settled in 411. Some of them entered Lusitania, and others the province of Carthagera: and many of them remained in Gaul, particularly in Brittany and Normandy. The Goths in Spain, and the Franks in Gaul, dispersed the Alani, so that they were at length confounded with their conquerors. The Alani, according to Ammianus Marcellinus, had no other houses than their waggons, which they removed to such places as they found most convenient for their flocks and herds, which constituted their wealth, and supplied, with their flesh and milk, the means of their subsistence. War was their chief occupation; and whilst their wives and children were left at home, all who were able to bear arms renewed, from time to time, and as they advanced in their progress, their military sallies against their neighbours. They deemed it dis-

graceful to grow old and die peacefully with their families; those were reckoned the happiest who died in battle, and who had killed the greatest number of their enemies; the scalps of those whom they had formed the costly trappings of their horses; and so devoted were these people to military occupations, that a naked scymetar planted in the ground was the only object of their religious worship. Their divinations were performed by means of rods, chosen with proper charms.

On the banks of the Tanais, says Mr. Gibbon, the military power of the Huns and the Alani encountered each other with equal valour, but with unequal success. The Huns prevailed; the king of the Alani was killed; and the remains of the vanquished nation were dispersed by the ordinary alternative of flight or submission. A colony of exiles found a secure refuge in the mountains of Caucasus, between the Euxine and the Caspian, where they still preserve their name and independence. Another colony advanced with more intrepid courage, towards the shores of the Baltic; associated themselves with the northern tribes of Germany, and shared the spoil of the Roman provinces of Gaul and Spain. But the greatest part of the nation of the Alani embraced the offers of an honourable and advantageous union; and the Huns, who esteemed the valour of their less fortunate enemies, proceeded with an increase of numbers and confidence, to invade the limits of the Gothic empire. Ammianus xxxi. 2. M. de Guignes Hist. des Huns, tom. ii. p. 279. Gibbon's Hist. of the Decl. and Fall of the Rom. Empire, vol. iv. p. 373.

ALANI, a mountain of Scythia, on one side of Imaus, and east of the Hyperborean mountains.

ALANQUER, or ALENQUER, in *Geography*, a town and district of Portugal, in Estremadura. The town is said to have been built by the Alani, and was anciently called *Alenker Kana*, i. e. the temple of the Alans. It contains about 2500 inhabitants, five churches, one casa da misericordia, one hospital, and three convents; and it is the chief town of the queen's estates.

ALANORARIUS, in our *Ancient Customs*, a keeper or manager of spaniels, or setting-dogs, for the sport of hunting, hawking, &c. The word is formed from the Gothic, *alan*, a greyhound.

ALAPA, in *Geography*, mountains of Asiatic Russia, in Siberia, extending from the lake of Jaiokaia to the confines of Baskiria, all having mines of very rich copper.

ALAPÆV, a town of Russia, in the government of Perm, on the river Tagil. N. lat. 58° . E. long. $61^{\circ} 14'$.

ALAPI, in *Ornithology*, is a species of *Turdus*, in the Linnæan system by Gmelin, and the white-backed thrush of Latham; its specific characters are, that the colour above is olive-brown, the throat and breast black, the abdomen cinereous, and the tail wedge-shaped and blackish. Its legs are yellowish, the wings above cinereous-brown, and superior coverts spotted with white; the male has a white spot on the middle of the back; the female has none, but its chin is white, the rest of the under-part of the body and the points of the coverts of the wings rusty. Its length is six inches; it feeds on ants; seldom flies for any time, though very agile, and is found in the thick woods of Guiana.

ALAPIA, in *Ancient Geography*, a town of Cælo-Syria, called also *Nerea*.

ALANGIUM, in *Botany*, a genus of the *decandria monogynia* class and order: the characters of which are, that it has from six to ten linear petals, from 10 to 12 stamina, the calyx dentated, in six to ten notches, and superior; the fruit a spherical berry, slightly coraceous, single celled, and

and consisting from one to three seeds. There is one species, viz. the *Al. pinguis* of Juslieu.

ALAPOULI, in *Uranie*, the name of an East-Indian tree, a species of the *Albani*, which is used in medicine as a purge and vomit, mixed with the seeds of mustard.

ALAPTA, in *Universal Geography*, a town of Macedonia, near Acontius.

ALAUQUEA, a medicinal stone brought from the Indies, in small glossy fragments; much praised by some for its efficacy in hemorrhages, when applied externally.

ALAR, in *Geography*, a river of Persia, which runs into the Caspian sea.

AL-ARAF, formed from the Arabic verb *arafa*, to distinguish, in the Mahometan *Theology*, the partition wall that separates heaven from hell.

Alaraf gives the denomination to the seventh chapter of the Alcoran, wherein mention is made of this wall. Some take it for a sort of *limbus* for the patriarchs, prophets, &c. others place here such whose good and evil works so exactly balance each other, that they neither deserve reward nor punishment. Others again appropriate this intermediate space to those who go to war without the leave of their parents and die, and are excluded paradise for their disobedience, but escape hell as martyrs. Sale's Prel. Discourse to the Koran, p. 95.

ALARBES, a name given to those Arabians who dwell in tents, and who are distinguished by their dress from others who live in towns.

ALARCON, in *Geography*, a town of Spain, in the western part of New Castile, on the river Xucar. It was ruined in 1178, under the reign of the Moors, and re-established by Alphonfus IX. N. lat. 39° 40'. W. long. 3°.

ALARES, in *Antiquity*, are supposed by some authors to have been a kind of *militia*, or soldiery, among the Romans; so called from *ala*, a *wing*, because of their lightness and swiftness in the combat.

Others make them a people of Pannonia; but others, with more probability, take alares for an adjective, or epithet, and apply it to the Roman cavalry; because they were placed in the two wings, or *ala*, of the army; for which reason, a body of horse was called *ala*.

An *ala*, or wing of auxiliary horse, consisted of 400, and there were two of these wings annexed to each legion; and therefore, the whole number of cavalry belonging to a legion was 1200, of which 400 were Romans, and 800 auxiliaries.

ALARES *musculi*, in *Anatomy*. See PTERYGOIDEUS.

ALARIC I., in *Biography and History*, king of the Visigoths, was descended from the noble race of the Balti, or bold, the most illustrious of the Gothic nation, next to that of the Amali. With his countrymen, who were expelled by the Huns, and whose number is said to have amounted to near a million of persons, of both sexes and of all ages, and of whom about 200,000 men were Gothic warriors, Alaric passed the Danube, A. D. 376; and served with great reputation in the war between the Romans and the Goths, which lasted from that time to the year 382, when they all submitted to Theodosius, and were allowed to settle in Thrace, on condition of serving in the Roman armies. Accordingly, he attended Theodosius in his expedition against the usurper Eugenius, with a body of his countrymen under his command. But being refused that preferment to which he aspired, he was dissatisfied; and after the death of Theodosius, and, as it is said, at the instigation of his minister Rufinus, he assembled a numerous army, consisting chiefly of his countrymen, and having first

ravaged Pannonia and Dacia, he proceeded in 396 to make an invasion into Greece. Having marched through Macedonia and Thessaly, he passed through the straits of Thermopylae without opposition on the part of Antiochus, proconsul of Achaia, or Garontius, who was appointed to guard them, and laid waste the fairest realms of ancient Greece. The Athenians preserved their city by delivering to the emperor the greatest part of their wealth; but the whole territory of Attica, from the promontory of Surium to the town of Megara, was desolated by the march of his army; so that Athens itself, according to the allusive language of a contemporary philosopher, resembled the bleeding and empty skin of a slaughtered victim. The Gothic prince, having been liberally and splendidly entertained at Athens, penetrated without delay into Peloponnesus, and wherever he came desolation and distress marked his footsteps. Those only could be deemed happy, whose premature death prevented their witnessing the dishonour of their females, the slavery of their families, the conflagration of their cities, and the destruction of every thing valuable and curious which they possessed. In this peninsula, the famous general Stilicho, with his fleet and army, came up with Alaric, and obliged him to retreat to the mountain of Pholoe in Arcadia, and there invested his camp: but either by negligence or connivance permitted him to escape across the gulf of Corinth, to Epirus. Being in full possession of this important province, Alaric had sufficient time to conclude the treaty, which he secretly negotiated with the ministers of Constantinople. In consequence of this treaty, he was declared master-general of the eastern Illyricum, which comprehended the cities and provinces he had so lately laid waste; and the enemy of Rome became the ally and servant of the emperors of the east. Whilst the Gothic prince was thus preferred by Arcadius, Stilicho was declared a public enemy, and his eastern possessions seized and confiscated. At the same period, A. D. 398, Alaric, with the unanimous consent of the barbarian chieftains, was elevated, according to ancient custom, on a shield, and solemnly proclaimed king of the Visigoths. In the plenitude of power which he had thus acquired, by the grant of Arcadius, and the suffrage of his own nation, he avowed his resolution of invading the dominions of the west; and having amused both Arcadius the emperor of the east, and Honorius the Roman emperor, by deceitful promises, till he was prepared for the execution of his purpose, he entered Italy in the year 400, laid waste the country, and carried off a great quantity of spoil and an incredible number of captives. In 402 he ravaged the provinces of Venetia and Liguria: in 403, advanced towards Milan, whence Honorius hastily fled; and pursued the timid emperor to the fortress of Asta, a town of Liguria, on the banks of the Tanarus. In the mean while Stilicho, at the head of a chosen and intrepid vanguard, marched to the relief of the Imperial captive, and arrived soon enough to prevent the indignity of a surrender by capitulation, which the barbarians had proposed. By a successful action, in which he forced his way through the Gothic camp to the walls of Asta, he revived the hopes, and vindicated the honour of Rome. On this occasion, a military council of the Gothic nation was assembled, in which Alaric displayed the spirit of the conqueror of Rome, and concluded an animating speech, by the solemn and positive assurance, that he was resolved to find in Italy either a kingdom or a grave. Whilst the Christian Goths were devoutly employed in celebrating the festival of Easter, Stilicho determined to attack them. The camp of the Goths, which Alaric had pitched in the neighbourhood

neighbourhood of Pollentia, was thrown into confusion by the sudden and impetuous charge of the Imperial cavalry: the engagement which succeeded was long maintained with equal valour and success; but at the moment when the victory of Alaric was almost decided by the defeat of the cavalry, Stilicho led the Roman and Barbarian infantry to the attack, and determined the fate of the day. The Goths retreated from the field of battle; the detachments of their camp were forced; and the scene of rapine and slaughter made some atonement for the calamities which they had inflicted on the subjects of the empire. The magnificent spoils of Corinth and Argos enriched the veterans of the West; the captive wife of Alaric was reduced to the necessity of imploring the mercy of the insulting foe; and many thousand prisoners, released from the Gothic chains, dispersed through the provinces of Italy the praises of their heroic deliverer. Alaric still maintained that invincible spirit, which rises superior to every misfortune, and derives new resources from adversity; and he boldly resolved to break through the unguarded passes of the Apennine, to spread desolation over the fruitful face of Tuscany, and to conquer or die before the gates of Rome. But Stilicho saved the capital, entered into a negotiation with the enemy, and induced him to repass the Po, with the remains of the flourishing army which he had led into Italy. In his retreat, however, he took possession of Verona; but having been defeated in a bloody action near the walls of this city, he escaped by the swiftness of his horse. After this disaster he retired with the shattered remains of his army to the mountains, where he lost the greatest part of them by hunger and disease, and by desertion; and from hence he finally retreated into Thrace, and thus Italy was liberated.

It was not long after this event before Alaric was recommended by Stilicho to Honorius, and appointed by this weak prince master-general of the Roman armies in Western Illyricum. Whilst Stilicho resumed his pretensions to the provinces of the East, and was anxious to employ Alaric and his forces at a distance from Italy, the Gothic king perceived his design; and protracting his languid operations in Thessaly and Epirus, he held a doubtful, and perhaps a treacherous, correspondence with the two rival courts, and advanced to Æmona, on the confines of Italy, with a view of enforcing his demand on the Roman court, for the recompence of ineffectual services. The demand was supported by Stilicho, who lost his life during the hesitation of the senate; and the delay furnished Alaric with a pretext for again entering Italy, in 408. By bold and rapid marches he passed the Alps and the Po; pillaged the cities of Aquileia, Altinum, Concordia, and Cremona, which yielded to his arms; increased his forces by the accession of 30,000 auxiliaries; and at length pitched his camp under the walls of Rome. The city was soon reduced to the utmost extremities of famine and pestilence, and a negotiation was commenced and terminated in a ransom, the payment of which induced Alaric, A. D. 409, to raise the siege, and to withdraw his army into Tuscany. Here the Gothic standard became the refuge of 40,000 Barbarian slaves, who had broke their chains, and aspired, under the command of their great deliverer, to revenge the injuries, and the disgrace, of their cruel servitude. About the same time he received a reinforcement of Goths and Huns, whom Ataulphus, or Adolphus, the brother of his wife, had conducted, at his pressing invitation, from the banks of the Danube to those of the Tiber, and who had cut their way, with some difficulty and loss, through the superior numbers of the Imperial troops. Alaric was now at the head of 100,000

fighting men; and though Italy pronounced his name with terror and respect, he professed modesty, and repeatedly declared, that it was his desire to be considered as the friend of peace, and of the Romans. Ambassadors were sent to the court of Honorius at Ravenna to negotiate a treaty; but he insisted on his military rank in the empire, and the position of some of the provinces between Italy and the Danube. The terms were rejected; and Alaric, soon afterwards to Rome, A. D. 409. The possession of the post of Ostia, he compelled the city to surrender, and elevated Attalus, the prefect of the city, to the dignity of Emperor. He then conducted the new emperor to the gates of Ravenna, with a resolution of driving Honorius; but Attalus, much displeased with Alaric and deposed. The court of Ravenna, however, instead of taking the advantage of this circumstance to effect a peace, offered an insult to Alaric, which provoked his resentment and induced him to march back to Rome with a determination to satisfy his appetite for plunder and vengeance. On the 24th of August, A. D. 410, the Gothic army entered Rome; and thus 1163 years after the foundation of the Imperial city, which had subdued and civilized so considerable a part of mankind, it was delivered to the licentious fury of the tribes of Germany and Scythia. As some of the Goths were Christians, they spared the lives of the unresisting citizens, and respected the churches as holy and inviolable sanctuaries; but the Huns, and other Heathen Barbarians, committed the most horrid massacres, rapes, and violence of every kind, without restraint. After a pillage and devastation of six days, the Gothic army evacuated Rome; and their intrepid leader, at the head of an army, encumbered with rich and weighty spoils, advanced to the southern parts of Italy, destroying whatever dared to oppose his passage, and contenting himself with the plunder of the unresisting country. Having arrived at the extremity of Italy, his ambition was excited by the near prospect of the fertile island of Sicily. But when the first division of the Goths had embarked, in order to pass the Straits of Rhegium and Messina, a tempest arose, which sunk or scattered many of the transports, and daunted the mariners, and their whole design was defeated by the premature death of Alaric, which fixed, after a short illness, the fatal term of his conquests, A. D. 410. His funeral was celebrated with mournful applause; his body was buried in the bed of the small river Bufentinus, which washed the walls of Consentia, and which for this purpose was diverted from its course and then restored; and the place of his interment was concealed by the massacre of the prisoners who had been employed in the work. Of the character of Alaric it is sufficient to say, that he possessed more humanity, moderation, and fidelity to his engagements than many of the chiefs of Barbarian conquerors; and that his exploits have rendered his name memorable in the most civilized parts of the world. Alaric, says Lardner, (Works, vol. ix. p. 180), was a Goth, and therefore called a Barbarian; but he was a man of a great and generous mind, and a Christian of the Arian denomination. When Rome was sacked and plundered, the calamity was attended with some favourable circumstances, resulting from the generosity of Alaric, and his profession as a Christian. By ordering the lives of men to be spared as much as possible, and the churches to be respected, many Christians and Pagans were preserved. Although, adds this candid writer, the taking of Rome by Alaric was the occasion of many reflections upon the Christians, from which they have been vindicated both by Augustine and Orosius, the event was very prejudicial to the interests of Gentilism, and consequently conducive to the progress of the Christian religion. Anc. Un. Hist. vol. xvi.

p. 191—197, 8vo. Gibbon's *Hist. of the Decline and Fall of the Roman Empire*, vol. v. p. 178—330, 8vo.

ALARIC II. king of the Visigoths, succeeded his father Euric in 484, and reigned over all the country between the Rhone and the Garonne; adapting to his own statutes the Theodosian collection of laws, which he published as the law of the Visigoths, and which has been since known by the title of the code of Alaric. By permission of this Arian prince, the orthodox prelates held a council at Agde in 506; but notwithstanding this influence of toleration, Clovis, the powerful king of the Franks, engaged in a war with a view of dispossessing him of his dominions, and alledged as the motive of it, that he was grieved to see the Arians proprietors of the fairest portion of Gaul: "let us march," says he in his speech to the Nobles at Paris, "and with the aid of God vanquish the heretics, and then possess and divide their fertile provinces." After holding a conference with Alaric, in a small island of the Loire, near Amboise, which seemed to terminate amicably, Clovis marched against him with the confidence and enthusiasm of a messenger commissioned from heaven, and having passed the ford of the Hart, over the Vivonne, to which he was guided by a white hart of singular size and beauty, he hastened, under the direction of a flaming meteor that hovered over the cathedral of Poitiers, to attack the Gothic army, more numerous than his own, but enfeebled by a long and luxurious peace. At a village about ten miles south of Poitiers, still named Champagné St. Hilaire, the two armies engaged; but that of the Goths was prepared for a defeat by terror and confusion. They rallied, however, in their extreme distress, and the martial youths, who had clamorously demanded the battle, refused to survive the ignominy of flight. The two kings encountered each other in single combat. Alaric fell by the hand of his rival, A. D. 507, and the victorious Frank was preserved by the goodness of his cuirass, and the vigour of his horse, from the spears of two desperate Goths, who furiously rode against him, to revenge the death of their sovereign. Alaric was succeeded by a natural son, Gesalaric, who took possession of his throne. *Mod. Un. Hist.* vol. xvi. p. 6. Gibbon's *Hist. &c.* vol. vi. p. 330—335.

ALARIO, in *Ornithology*, *Cape such* of Latham, or *sparrow* from the Cape of Good Hope of Albinus, a species of FRINGILLA, with the head and breast black, the body chestnut-colour and under white, and the four lateral feathers of the tail marked with a small black line. It is in length about 4½ inches, and found at the Cape of Good Hope.

ALARIS *vena*, in *Anatomy*, the inmost of the three veins in the bend of the arm.

ALARM, in the *Military Art*, properly denotes a sudden apprehension, conceived from some noise, or report, called also alarm, and signified by firing a cannon, beat of a drum, &c., which makes men run to their arms, and stand on their guard.

The word is *French*, formed from the Italian *all' arme*, *to arms*; whence *ridare all' arme*, q. d. *to call to arms*.

Alarms are either true, that is, founded on just notice, or false. False alarms are frequently given by an enemy, either to fatigue the other's army, or by way of diversion; to keep themselves safe and quiet from attacks. Alarms of this kind are sometimes designed to try the vigilance of the picket-guard, and to render them strictly attentive to their duty. To remedy the inconveniences of formal alarms, and prevent the horror and confusion of trumpets, and noise of warlike cries, the captains usually give the alarm, by silent advice, without noise.

ALARM bell, that which is rung to call the people to-

gether, on some such occasion as a fire, mutiny, or the appearance of an enemy. This is what the French call *toquin*. See BELFRY.

ALARM-post, is the ground appointed to each regiment, by the quarter-master-general, to which it is to march in case of an alarm. In a garrison, the alarm-post is the place where every regiment is ordered to draw up, on ordinary occasions.

ALARM, in *Fencing*, denotes a step, or stamp, made on the ground with the advancing foot.

This coincides with what is otherwise called an appel, or challenge.

ALARM, or rather ALARUM, is also used for an instrument to awaken persons at a certain hour; one very simple contrivance of this kind, is that used by weavers. See WEAVER'S Alarm.

ALARO, in *Geography*, a river of Italy, which rises in the Apennine, and runs into the sea near Cape Stilo, in Calabria Ultra.

ALARODII, in *Ancient Geography*, a people who probably inhabited a country near Colchis, which was terminated by the western part of the Euxine sea. *Stephan. Byz. Not.* Herodot. lib. vii. c. 79.

ALARUM THRUSH, in *Ornithology*. See BELFRY.

ALARYS BAY, in *Geography*, lies on the west coast of Ireland, nearly south-east from Achill-head.

ALASARNE, a nation of the island of Cos.

ALASCANI, in *Church History*, a sect of Antilutherans, whose distinguishing tenet, besides their denying baptism, is said to have been this, that the words, *This is my body*, in the institution of the eucharist, are not to be understood of the bread, but of the whole action, or celebration of the supper. They are said to have taken the name from one Joannes a Lasco, a Polish baron, superintendant of the church of that country, in England.

ALASCHA, or ALASKA, in *Geography*, a long peninsula on the north-west coast of America, formed by Bristol bay and the ocean on the north-west and north, and by the ocean and the waters of Cook's river, on the south and south-east. A number of islands, at its extremity, of which the chief in their order westward, are Oonemak, Oonaslaska, and Ocumnak, form part of the cluster of islands, called the Northern Archipelago. N. lat. 55° 30' to 58°. W. long. 150° to 162°.

ALASCHEIR, a town of Natolia, which, according to some Geographers, is the ancient Hypsus; and according to others, Philadelphia.

ALASCO, JOHN, in *Biography*, a Polish nobleman, uncle to the king of Poland, as Fox (*Acts and Monuments*, vol. iii. p. 32.) informs us, was a member of the Catholic church, and, as it is said by some writers, possessed episcopal dignity. But imbibing the principles of the Reformation, he became a Protestant Divine; and being under a necessity of leaving Germany by the persecution that followed the imposition of the Interim, he and his congregation found an asylum in London, under the protection of Edward VI. This excellent prince granted them the church which had lately belonged to the Augustin Friars; and by a charter, A. D. 1550, erected their congregation into a corporation. John Alasco was appointed superintendant, and four other ministers were associated with him. There were also 380 of the congregation, that were made Denizens of England. Burnet says, that he did not conduct himself with that decency which became a stranger who was so kindly received; as he wrote against the orders of the English church, "both in the matter of the habits, and the posture of the sacrament, being for sitting rather than kneeling. After the accession of Queen Mary, in 1553, their congregation

gregation was dissolved, their charter revoked, and they were ordered to leave the kingdom. Some few of them remained with two of their teachers; but the greater number sought refuge in foreign countries. Alasco, and many of his companions, embarked for Denmark; but when it was understood that they were of the Helvetian confession, they were required to depart in the midst of winter within two days. From thence they emigrated, first to Lubeck, then to Wismar, and afterwards to Hamburg; where disputes about the mode of Christ's presence in the sacrament excited such animosities, that after much barbarous usage, they were banished out of all these towns, and could find no settlement, till the spring of the following year, when they were kindly received at Embden, in Friesland, and permitted to remain unmolested. Such were the eminent talents and virtues of Alasco, that, during his short residence in England, he had formed a friendship with several considerable persons; and his character was so highly esteemed by Queen Elizabeth, that when she came to the crown, he wrote letters of advice and encouragement to her on the reformation of religion. Among his friends were Melancthon and Erasmus. The former addresses him in terms of high respect, and calls him his patron, and apprehending the necessity of seeking an asylum with him, he assures himself of an hospitable reception with one who could adopt the sentiment of the exiled queen. "Non ignara mali, miseris succurrere disco."

"Touch'd with misfortunes I myself have known,
I view with pity woes so like my own."

Virgil, *Æn.* i. 634.

Erasmus, in a letter written in 1527, says of him, that he found him "a man of so amiable a disposition, that he should have thought himself sufficiently happy in his single friendship;" and in another letter, after enumerating his excellent qualities, he adds, "that which the young ought to learn of the aged, I, an old man, have learned of this youth." The friendship between them continued as long as Erasmus lived; and Alasco was probably with him in his last sickness, as he purchased of him, when he lay on his death-bed, his valuable library.

Alasco, by the favour of Sigismund, passed his last years in his native country, where he died in 1560; "having, in times and circumstances of peril, supported a consistent, amiable, and respectable character." Burnet's Hist. Reform. vol. ii. p. 154—250. Gen. Biog. See ALASCANI.

ALA SHARR, i. e. *beautiful city*, in *Geography*, a name given by the Turks, to the ancient city of Philadelphia, on account of its beautiful situation.

ALASIA, a province of THIBET in Asia.

ALASSAC, a town of France, in the department of the Correze, and district of Brive, two and an half leagues north north-west of Brive.

ALATA, a name given by Ptolemy to two towns, one in Arabia Deserta, and another in Arabia Felix.

ALATA CASTRA, a town of Britain, placed by Ptolemy near the Estuary of Bodotria, supposed to be the site of Edinburgh.

ALATAMAHA, a navigable river of Georgia in North America, rises in the Cherokee mountains, traverses the hilly country though a distance of 250 miles, and then passing through the flat country, under the name of Oakmulgee, for 150 miles, and receiving the Oconee, assumes the name of Alamamaha. After this junction, it flows with a gentle current for 100 miles, and discharges itself by several mouths into the Atlantic. The north channel enters the ocean between Sapelo and Wolf Islands; the South channel, which is the largest and deepest, pursues its course

between McIntosh and Broughton islands, and by the west coast of St. Simon's sound, between the south end of the island of that name, and the north end of Jekyll island. At its confluence with the Atlantic, it is 500 miles broad.

ALATED, or WINGED, in *Botany*, an epithet applied to the seed, stem, or leaf-stalk. A seed is alated, when it has an ala or membrane affixed to it, which by its flying serves to disperse it. See SPED. The foot-stalk, or petiole of a leaf, is alated, when it spreads out on the sides, or is winged with membranes. Alated leaves, are those made up of several pinnated ones, or when the sides of a single petiole connect many folioles. See LEAF.

ALATED *Quadrupeds*, in *Zoology*. See QUADRUPED.

ALATERNOIDES, in *Botany*. See PHYLLICA, CLUTIA, CEANOTHUS, and MYRICA.

ALATERNUS. See RHAMNUS and PHYLLICA.

ALATLI, in *Ornithology*. See ACHACHACTLI.

ALATRI, or ALATRO, an ancient city of Italy, in the Campagna di Roma, which is the see of a bishop, and a dukedom, five leagues south-east of Agnani, and 16 south-east of Rome. N. lat. 41° 44'. E. long. 13° 12'.

ALATUNGA, in *Ichthyology*, a species of the SCOMBER, with the first pectoral fins very long, and seven small fins on each side of the tail. It is found periodically gregarious in the Mediterranean.

ALATYR, in *Geography*, a town of Russia, in the government of Kasan, and circle of Alatyrsk, 80 miles west-north-west of Simbirsk. N. lat. 54° 55'. E. long. 46° 14'.

ALATYR, a river of Russia, which runs into the Sura, near Alatyrsk.

ALAVA, ESQUIVEL, DIEGO, in *Biography*, a Spanish divine, bishop of Cordova, was born at Victoria in Alava, and assisted in the council of Trent, where he proposed the prohibition for holding livings in *commendam*, and of all ecclesiastical pluralities. He died in 1562; and wrote a valuable work, intitled "De Consiliis Universalibus, &c." i. e. of general councils, and the regulations that seem necessary to reform the religion and state of the church.

ALAVA, in *Geography*. See ALABA.

ALAUDA, in *Entomology*, a species of CURCULIO, cinereous; subglobose thorax, back marked with a transverse band and black spots, and brown legs: found in Pomerania.

ALAUDA *non cristata*, in *Ichthyology*, a name given by Rondeletius and Gessner to the BLENNIUS *pholis* of Linnaeus, or smooth BLENNY.

ALAUDA, LARK, in *Ornithology*, a genus of birds of the order of *passeres*; the characters of which are, that the beak is cylindrical, subulate, and straight, bending towards the point; the mandibles are of equal size and opening downwards at their base; the tongue is bifid; and the hinder claw is straighter and longer than the toe. Pennant adds, that the nostrils are covered with feathers or bristles, and the toes divided to their origin.

The name *alauda* is, according to Pliny, Suetonius, and Varro, of Gaulish extraction; and hence the French term, *alouette*.

The Greeks were acquainted with two species of larks; the one had a tuft on its head, and was denominated *κορυμβος*, or *κορυμβος*, from *κορυμβος*, a helmet, which the Latins render *galerita*, or *casita*; the other, a common lark, wanted this tuft: though Willughby and Pennant say, that it sometimes bristles the feathers on its head so as to form an occasional crest, which M. Buffon affirms also, from his own observation, with respect to the male. The Germans call it *lerche*, pronouncing it sometimes *leriche*, in imitation of its notes; for, according to Linnaeus, it prolongs its *tirile, tirile, tirile*.

Gmelin enumerates 32 species. 1. *A. Arvensis, vulgaris* of Olin, *Codopeta* of Klein, *Alunda non cristata* of Gmelin and Alder, *Polioptila* of Buffon, and *field-lark* or *sky-lark* of Ray, Willughby, Pennant, Latham, &c. the specific characters of which are, that the two outermost quills of its tail are white lengthwise externally, and the intermediate ones are ferruginous on the inside: the length is about seven inches. The males of this species are somewhat browner than the females; they have a black collar, and more white on the tail; their bill is larger, and their foot bolder; and they evidently possess the faculty of singing. When the female is appointed to brood her nest, she chooses two clods of earth, and lines it with herbs and dry roots, being no less attentive to the concealment than to the structure of it. It sometimes builds its nest among corn and in high grass. Each female lays four or five eggs, which are greenish, with brown spots; and the period of her incubation is about 15 days. The young may be taken out of the nest when they are a fortnight old, and they are so hardy, that they may be easily brought up. Some have said, that she hatches three times in the year; but this must depend on the temperature of the climate. The parent is very tender of her young; and though she does not always cover them with her wings, she directs their motions, supplies their wants, and guards them from danger. The common food of the young sky-larks is worms, caterpillars, ant's-eggs, and even grasshopper; and in maturity, they live chiefly on seeds, herbage, and all vegetable substances. Those birds, it is said, that are destined for singing, should be caught in October or November; and the males should, as much as possible, be selected: and when they are untractable they should be pinioned, lest they injure themselves by their violence against the roof of the cage. As they cannot cling by the toes it is needless to place bars across their cage; but they should have clean sand at the bottom of the cage, that they may welter in it and be relieved from the vermin which torment them. In Flanders, the young ones are fed with moistened poppy-seeds, and soaked crumbs of bread; and when they begin to sing, with sheep's and calves' hearts, hashed with hard eggs; to which are added, wheat, speck, oats, millet, linseed, and the seeds of poppy and hemp, steeped in milk. Their capacity of learning to sing is well known; and so apt are some cock larks, that, after hearing a tune whistled with the pipe, they have caught the whole, and repeat it more agreeably than any linnnet or canary bird. In summer the larks seek the highest and driest situations; but in winter they descend to the plains, and assemble in numerous flocks. In the former season they are very lean, and in the latter very fat, as they are always on the ground, and constantly feeding. In mounting to the air, they ascend almost perpendicularly, by successive springs, and hover at a great height; but in descending, they make an oblique sweep, unless they are pursued by a ravenous bird, or attracted by a mate, in either of which cases they fall like a stone. These small birds, at the height to which they soar, are liable to be wafted by the wind; and they have been observed at sea, clinging to the masts and cordage of ships. Sir Hans Sloane observed some of them 40 miles from the coast, and count Marigli met with them on the Mediterranean. It is conjectured, that those which are found in America have been driven thither by the wind. Some have supposed, that they are not birds of passage, at least in the more southern and milder climates of Europe; but they are occasionally concealed under some rock or sheltered cave; and this concealment was known to Aristotle. (Hist. Anim. lib. viii. 16.), and has been ascertained by Klein. Thevenot (Voyage du Levant, tom. i.

p. 493.) says, that the larks appear in Egypt in the month of September, and continue there till the end of the year. See MIGRATION.

The lark is found in all the inhabited parts of both continents, as far as the Cape of Good Hope; though Villault says, that it is not found on the Gold coast; nor, according to Averroes, in Andalusia.

This bird, and the wood-lark, are the only birds which sing whilst they fly. The higher it soars, the more it strains its voice, and lowers it till it quite dies away in descending. When it ascends beyond our sight, its music is distinctly heard; and its song, which is full of swells and falls, and thus delightful for its variety, commences before the earliest dawn. Milton, in his Allegro, has admirably expressed these circumstances; and bishop Newton observes, that the poet gives a fine picture of the state of the mind, whilst he is beautifully describing the scene of rural cheerfulness, in a situation,

"To hear the lark begin his flight,
And singing startle the dull night,
From his watch-tower in the skies,
Till the dapple dawn doth rise."

In a state of freedom, the lark begins its song early in the spring, which is its season of love and pairing, and continues to warble during the whole of the summer. The Hon. Daines Barrington (Phil. Trans. vol. lxxiii. part ii. p. 282.), reckons this among the best of the singing larks: and as it copies the warble of every other bird, he terms it a mocking-bird. See SONG of Birds.

These birds, which are esteemed a delicacy for the table, though Linnæus thinks the food improper for gravelly complaints, are taken with us in the greatest numbers, in the neighbourhood of Dunstable. The season begins about the 14th of September, and ends the 25th of February; and during this time, about 4000 dozen are caught for supplying the London markets. Those caught in the day, are taken in CLAP-NETS, till the 14th of November. See DORING. But when the weather becomes gloomy; and also in the night, the larker makes use of a trammel-net, 27 or 28 feet long, and five broad, which is put on two poles 18 feet long, and carried by men under each arm, who pass over the fields, and quarter the grounds as a setting dog. When they see or feel a lark strike the net, they drop it down, and thus the birds are taken. The darkest nights are the most proper for their sport; and the net will not only take larks, but all other birds that roost on the ground; among which are woodcocks, snipes, partridges, quails, field-fares, and several others. In the depth of winter people sometimes take great numbers of larks by nooses of horse-hair. The method is this: take 100 or 200 yards of packthread; fasten at every six inches a noose made of double horse-hair; at every 20 yards the line is to be pegged down to the ground, and so left ready to take them. The time to use this is, when the ground is covered with snow, and the larks are to be allured to it by some white cats, scattered among the nooses; they will soon fly to these, and in eating will be hung by the nooses. They must be taken away as soon as three or four are hung, otherwise the rest will be frightened; but though the others are scared away just where the sportsman comes, some will be feeding at the other end of the line, and the sport may be thus continued for a long time. As the sky-lark is a kind of mocking-bird, and apt to catch the note of any other which hangs near it, even after its own note is fixed; the bird-fanciers often place it next to one which hath not been long caught, in order, as they term it, to keep the caged sky-lark honest.

The

The method of catching larks by lime-twigs, practised in French Lorraine, is as follows. For this purpose, 1500 or 2000 willow rods, about three feet, ten inches long, straight and well smoothed, are provided. These are sharpened and slightly burnt at one end, and the space of about a foot from the other end is covered with bird-line. The stakes are planted in parallel rows, in a situation which abounds with larks; the rows are at such a distance as to admit a person passing between them; and the stakes are fixed at the distance of a foot from each other, and opposite to the interval in the next row. The chief art consists in so placing them, that they shall retain their perpendicular position till they are touched, and fall immediately upon a lark's brushing against them in its flight. When the lined rods are planted, an oblong square is traced, with one of its sides presented to the ground where the larks are lodged, and at each corner is erected a flag, which serves as a mark to the fowlers, and sometimes as a signal for their manœuvres. In Autumn, about four or five o'clock in the afternoon, the company attending this sport is divided into two detachments; one is assembled at the flag on the right, and the other at that on the left; and each observing the most profound silence, extends itself in an arch, so as to meet at the distance of half a league from the front, and then form one rank, gradually closing as it advances to the rods, and thus driving the larks before it. About sun-set, the middle of the line ought to be within two or three hundred paces from the front; and this is the time when they *charge*: that is, they proceed cautiously, pause or lie on the ground, rise up or push forward, according to the commands of their leader. Upon the proper conduct of these manœuvres depends the success of the sport; for thus the larks will be enclosed, and mounting no higher than three or four feet, they will rush forward and be caught among the lime-rods, and falling to the ground with these, they may be picked up by the hand. If it be not too late, a second line is made on the opposite side, at the distance of 50 paces, which drives back the larks that had escaped; and this is called *tacking about*. One hundred dozen of larks or more are sometimes caught in one of these sweeps, and the sport is reckoned bad when only 25 dozen are taken. Although such numbers are taken in this way, and others destroyed by the voracious tribes, their fecundity is very great; and they are naturally long-lived, the term of their existence being, according to Olina, ten years, and as others say, 12, 22 and even 24 years. Larks abound in various parts of Germany, and Keyser (Travels, vol. iv. p. 315.) informs us, that those about Leipzig, where they are very numerous, are very fat, and have a very delicate flavour. The excise on these birds produces 6000 dollars, or about 900*l.* sterling annually. They are also taken in great numbers in the country about Naumburg, Meiseburg, and Halle. Of this species there are three varieties; *viz.* the *white sky-lark*, which is seldom of a snowy white colour, but tinged with yellow or brown, and which is chiefly found on the northern shores of the Baltic, in Denmark and Sweden, and in Norway; and occasionally in the vicinity of Hildesheim in Lower Saxony, and in other places. A second variety is the *black sky-lark*, represented by Albin as entirely of a dull brown and reddish colour, verging to black, excepting the back of the head, which is of a dun yellow, and the lower part of the belly, which has feathers edged with white: the feet, toes and nails, being of a dirty yellow. The subject of this description was caught in a meadow near Highgate, where such birds are found. A perfectly black lark is mentioned by Mauduit, which was caught in the plain of Mont-

rouge near Paris. A third variety is the *long-legged lark* of Latham.

2. *A. pratensis*, or *pratensis*, *sp. pal. alera* of Aldrovand and Willughby, *alera de p. s.* or *la p. s.* of Faison, *tit-lark* of Pennant, Roy, Albin, and Latham, &c. of which the specific character is, that above it is a greenish brown; its two outermost tail-feathers are externally white, and it has a white line on its eyebrows. This bird is of an elegant slender shape; five inches and a half long; its bill is black; the back and head of a greenish brown, spotted with black; the throat and lower part of the belly are white; the breast yellow, marked with oblong spots of black; the tail is dusky; the exterior feather is varied by a bar of white, which runs across the end and takes in the whole outermost web; the tail on the hind toe is very long, and the feet yellowish. The male is in general more yellow than the female, on the throat, breast, legs and feet. The tit-lark is found generally in meadows and low marshy grounds; and, like other larks, it builds its nest among the grass, and lays five or six eggs, which are roundish, of a dusky red colour, with many small spots. While the female hatches, the male sits on a neighbouring tree, and rises at times, singing and clapping his wings. It feeds chiefly on the worms and insects which it finds in new-ploughed lands; and it will live for a long time on no other food than small seeds. Like the wood-lark, it sits on trees; but it is flushed at the least noise, and shoots with a rapid flight: it has a very remarkable fine note, singing in all situations; on trees, on the ground, while it is sporting in the air, and particularly in its descent. This bird, and many others, such as the thrush, blackbird, willow-wren, &c. become silent about Midsummer, and resume their notes in September; hence this interval is the most mute of the year's three vocal seasons, Spring, Summer and Autumn. Perhaps the birds are induced to sing again as the autumnal temperament resembles the vernal. The tit-lark inhabits England, France, Germany, Italy, and Sweden. Albin says, that it appears in England about the beginning of April, and that it departs about the month of September. It is said to be fond of the company of its fellows; and when it cannot get the society of these, it will intermingle with the flocks of finches and linnets, which it meets with in its passage. The varieties of this species are the *white tit-lark*, differing from the preceding in its plumage, which is yellowish white, but yellower on the wings, with brown bill and feet, seen by Aldrovand in Italy, and reckoned by Rzaczynski among the birds of Poland: and the *tit-lark with black feet*.

3. *A. arvensis*, *le arvensis* of Buffon, *wood-lark* of English writers, is specifically characterized by a white annular belt, encircling its head. This bird is smaller than the sky-lark, and of a shorter thicker form; the colours of the plumage are paler; the first feather of the wing is shorter than the second; the hind claw is very long and somewhat bent; it perches on trees; it haunts the uncultivated tracts near copses, without penetrating the woods, whence its name; its song resembles more the warble of the nightingale, or the whistling of the blackbird, than that of the sky-lark; its note being less sonorous and less varied, though not less sweet; and it is heard not only in the day but in the night, both when it flies and when it sits on a bough.

This bird builds on the ground, and forms its nest on the outside with moss, and on the inside with dried bents, lined with a few hairs, and conceals it with a turf; and the situation it selects is ground where the grass is rank, or become brown. It lays four or five eggs, which are dusky and blotched with deep brown; its fecundity is inferior to that

that

that of the sky-lark, and its numbers are not so great: it breeds earlier, since its young are sometimes flown in the middle of March, and therefore they pair in February, at which time, and not before, they part with their last year's brood; whereas the common lark does not hatch before the month of May. This is a very tender and delicate bird; so that, according to Albin, it is impossible to rear the young taken out of the nest: but this is the case only in England and such cold climates, for in Italy they are removed from the nest, and reared at first like the nightingale, and afterwards fed upon panic and millet. The wood-lark feeds on beetles, caterpillars, and feeds: its tongue is forked; its stomach muscular and fleshy; and it has no craw, but a moderate dilatation of the lower part of the oesophagus, and its cæca are very small. It lives ten or twelve years. The males are distinguished from the females by their larger size; the crown of the head is also of a darker colour, and the hind nail longer; its breast is more spotted, and its great wing-quills edged with olive, which in the female is grey. The wood-lark mounts high, warbling its notes, and hovering in the air; it flies in flocks during the winter colds; it is found in Sweden and Italy, and is probably dispersed through the intervening countries, and consequently over the greatest part of Europe. It is also found in Siberia, as far as Kamtschatka, and in the island of Madeira. Of these larks, like the common sort, some are migratory, and some stationary. In autumn the wood-lark is fat, and is then excellent for food. There are three seasons, according to Albin, for catching wood-larks. The first is the summer, or the months of June, July, and August, when the small branches begin to chirp, before they undergo the moulting. The second is the month of September, when they fly in flocks and roam from one country to another, roving over the pasture grounds, and perching on trees near lime-kilns. The young birds now change their plumage, and are not distinguishable from the old ones. The third and the most favourable season for catching wood-larks, begins with the month of January, and lasts till the end of February, when they separate to pair. The young birds, which are then caught, make generally the best singers; they chirp a few days after, and with a clearer tone than those that are caught at any other season. Those that are taken in the Summer months are usually taken in nets, by the help of a hawk. With this view, the sportsman is to go out in a dewy morning, and fixing on some hill, he is to go to that side of it which faces the rising sun; for this is the place which they are sure to frequent. He is then to take out a hawk, and a small net at the end of a stick: when he sees a bird, he is to shew the hawk, upon which it will squat down; and on his approaching near, and making the hawk flutter over the place, the bird will only lie so much the closer, so that he may go up and lay the net over it, and thus take it without injury. The best wood-larks that are kept in cages, have been caught in this manner. A better way of taking numbers of them, is to prepare a net made like that for taking partridges, only with much smaller meshes; three or four persons are to go out with this, and one of them is to take out a hawk, which serves in the same manner for the larks, as the setting-dog does for the partridges. Wherever a flock of these larks is seen together, which is very common, the whole flight keeping with the female till the next coupling season, the hawk is to be shewn; and on his hovering, they will all lie still, and the net may be easily drawn to completely over them, that not one can escape. The best time for taking this bird for the cage is July, or the preceding or following month. Those that are put

into the cage at this time, sing presently, but their song-time is not lasting, for they soon fall to molting, in which state many die; but if they get over it, they commonly prove very healthful afterwards, become very tame and familiar, and sing sweetly. Those which are taken in the latter end of September are generally very strong and sprightly; but they do not sing till after Christmas. Those taken in January and February finally prove the best of all; they generally begin singing in two or three days, or at the utmost in a week after they are taken.

The method of keeping them in health in the cage is this: there must be two pans of food, the one containing meat, the other oatmeal and hempseed. The following is very good food: boil an egg very hard, to which add the crumb of a half-penny loaf and as much hempseed; let the egg be chopped very small, and the hempseed bruised in a mortar; when these are mixed, the bread is to be crumbled in among the rest, and the whole to be rolled together with a common rolling-pin, and kept for use. There must be some fine small gravel strewed at the bottom of the cage, and renewed at farthest once in a week. This will prevent the bird's feet from injury by being clogged with dung; and his basking in this will also keep him from being lousy, after which few birds are of much use. A perch must be in the cage, and it should be lined with green baize, or made of fine matting, of which the lark is very fond. When the bird is first taken, some meat should be strewed on the sand in the bottom of the cage; for the bird will be sometimes almost famished before he finds the meat in the pan. The cock-bird of this kind is known from the hen by the loudness and length of his call, by his tallness as he walks about the cage, and by his doubling his notes in the evening, as if he were going with his mate to roost. A better rule than all others, however, is his singing strong; for the hen wood-lark sings but very weakly. Both the cock and hen of this kind are tender, and subject to many disorders; the principal of these are, cramps, giddiness of the head, and breeding lice. Cleanliness is the best cure for the first and the last of these complaints; but we know of no cure for the other. A good strong bird will last very well for five or six years, and frequently improve during the whole of this time. The lark is not only a very agreeable bird for the cage, but it will also live upon almost any food, so that it have once a week a fresh tuft of three-leaved grass put into the cage with it. The wood-lark is one of the sweetest of our singing-birds, and is indeed very little inferior to the nightingale, when in good health; but we are not to judge by such as are made feeble by improper food, or want of cleanliness in their cages.

4. *A. Campestris*, la *Jipiollette* of Buffon, *glareana* of Gessner, &c. in German *gickerlin*, *bracklerbe* and *krautlerbe*, meadow-lark of Latham, is rather larger than the tit-lark; being six inches and a half in length. Its specific characters are, that its tail-quills are brown; the lower half, except two intermediate quills, white; the throat and breast, yellow. According to Willughby, the meadow-lark differs from the other larks by the blackness of its bill and feet; he adds, that its bill is slender, straight, and pointed, and the corners of its mouth edged with yellow; that it has not, like the wood-lark, the first quills of the wings shorter than the succeeding; and that in the male the wings are rather darker than in the female. Though the males are hardly to be distinguished from the females by their external appearance, yet if another male be presented, shut up in a cage, they will instantly attack it as an enemy or a rival. This bird has a slenderer body than the sky-lark, and is distinguished from it by the shake of its tail, like that of the wagtail

wagtail and tit-lark. It inhabits heaths and uncultivated tracts, and frequently the out-stubble, after the corn is reaped, where birds of this species gather together in numerous flocks. In spring, the male perches to discover or to woo his mate, and sometimes he mounts into the air, singing with all his might, and then descends quickly to pair on the ground. When a person approaches the nest, the female betrays her fear by her cries; whereas, other larks are silent and unmoved, when danger is apprehended. They make their nest close to the ground, sometimes in furze-bushes, and form it of moss, lined with straw and horse-hair. The egg is half the size of that of the sky-lark, which it resembles, and its tints are lighter. Where the young males are reared for the sake of their song, they require great attention. The cage must be covered with a green cloth, little light be admitted, and plenty of ant's eggs must be provided. By degrees bruised hemp-feed, mixed with flour and yolks of eggs, may be substituted. The meadow larks are caught like the sky larks, with the drag-net, and also with lime twigs, placed in the trees which they haunt. They associate with the finches; and both arrive and depart with these. They are found in Italy, Germany, England, Sweden, &c. They live on small seeds and insects: and their flesh, when fat, is excellent. The meadow-lark of Britain differs from that of Linnaeus; as in that of the latter, all the quills of the tail, except the two middle ones, are white from their origin to half their length, but in that of the former, the two outermost quills only are white. Of this species there is a variety, viz. the *spinoletta*.

5. *A. trivialis*, *A. sepiaria* of Brisson, *spipola s. anthus* of Aldrovand, *L'alouette pipi* of Buffon, the *snail lark* of Ray and Willughby, the *pipit lark* of Albin, the *grasshopper warbler* of Latham, is distinguished by brown tail-quills, the outermost half white, the second white at its wedge-like tip, with a double whitish line on the wings. The German epithet *piep*, and the English *pipit*, formed from the Latin *pipio*, which signifies to utter a feeble cry like chickens, alludes to the sibilous notes of this bird. Its cry, especially in winter, is like that of the grasshopper, but stronger and shriller, and it utters this, both when perched on the tallest branches among the bushes, and when it is on the wing. Its tones are soft, harmonious and clear. This little bird builds its nest in solitary spots, concealed under a turf, and its young are frequently a prey to the adders. It lays five eggs, of a light grass-green colour, thinly sprinkled with deeper coloured specks. The grasshopper larks appear in England about the middle of September, and great numbers of them are caught in the environs of London. They are found in Sweden and Germany, as well as in England: they frequent the heaths and plains, and flutter at a moderate height; they chiefly feed, as the slender form of their bill indicates, on insects and small seeds, and from the diminutive size of this bird, being about five inches and a half long, it may be inferred, that it is not long-lived.

6. *A. cristata*, Κορυδαλος λοφιν εχουσα, i. e. the helmet-lark having a crest of Aristotle; the *galerita* of Pliny and *galeritis* of Varro; *A. cristata* of Brisson, *A. cristata major* of Ray, Aldrovand, and Gesner, *ledola capelluta* of Olina, *le cochevis* of Buffon, *heidelerche* of the Germans, and *crested lark* of Willughby, Albin and Latham, is distinguished by black tail-quills, the two outermost white at their exterior edge, its head crested, and its feet black. Its length is about six inches and three quarters. It lives in the meadows and fields, on the sides of ditches and the backs of furrows; it is often seen at the margin of water, and on the high roads,

rarely in the skirts of woods, perched on a tree, and sometimes on the tops of houses, and of abbeys, &c. This lark though not so common as the sky-lark, is found in most parts of Europe, in Italy, France, Germany, Poland, Denmark, Russia, Scotland; and does not change its abode in winter. The song of the males is loud, and yet mellow and pleasant: and their warbling is usually accompanied with a quivering of the wings. They are the first to hail the return of spring, and the dawn of the morning, and they sometimes warble in the night; being animated by fine weather, but depressed and silenced by clouds and rain: and they generally sing till the end of September. The male is distinguished, not only by the excellence of his warble, but by the strength of his bill, the bulk of his head, and by a large portion of black on his breast. The female constructs her nest like the common lark, but often near the highways; she lays four or five eggs, which are ash-coloured, with numerous dingy brown spots, and takes little concern in hatching them; but when the young are excluded, she provides for them till they are flown. They are said to breed twice in the year. They are easily reared, but cannot be supported in a cage, without difficulty, for a whole year: their best food is ant's eggs, ox and sheep's hearts minced, and bruised hemp-feed and millet. The proper season for raising these birds is autumn; and great numbers are then caught in a plump state on the verge of the forests. They may be decoyed by the call, and thus differ from sky-larks; besides, they never consort in flocks; their plumage is less varied and more white; the bill longer, the tail and wings shorter; they do not mount so high in the air, are less able to struggle with the wind, and return sooner to the ground. In other respects the two species are alike.

The crested lark is the only one that may be instructed in a month; it learns many airs perfectly, which it repeats without confusion, and retains nothing of its native warble; and in these particulars it is superior to the canary.

7. *A. rufa*, *L'alouette noir a'dos fauve* of Buffon, the *rufous backed lark* of Latham, is specifically distinguished by its blackish brown colour; its neck and back rufous-orange, the tail-quills rufous at their outward margin, the lesser and middle coverts of the wings blackish and fulvous, or of a deep yellow at their margin. Its length is scarcely five inches, is much smaller than the common sky-lark, and found at Buenos-Ayres. Buffon observing its plumage to exhibit so striking a resemblance to that of the sky-lark, considers it as a variety of that species.

8. *A. capensis*, *A. capitis bona spei* of Brisson, *la cravate jaune ou calandrie du cap de bonne esperance* of Buffon, *cape lark* of Latham, has its three lateral tail-quills tipped with white, its throat yellow, margined with black, and its eyebrows yellow. Its length is eight inches, and it is found at the Cape of Good Hope.

9. *A. calandra*, *A. non cristata major* and *tetrao parva* of Gesner, *calandrie* of Buffon, *calandra* of other writers, *calandrie lark* of Latham, is specifically described as having its outermost tail-quill externally altogether white, the second and third tipped with white, and a brown stripe on the breast. This bird is mentioned by Oppian in the second century of the Christian Era, under the appellation of Καλάνδρα; and he describes the best method of catching it, since recommended by Olina, which is to spread a net near the brook to which it usually resorts to drink. It is larger than the sky-lark, its length being seven and one-fourth inches, and its bill stronger and shorter: in other respects it exactly resembles the common lark. Its warble is more sonorous, but not less pleasant; so that in Italy a person who sings well is complimented

every one, telling him, that he sings like a calandrie. It can like the common lark, imitate the notes of several birds, and even the clamping of elms, and the low-squall of the thrush. When calandries are to be reared, in order to have good singers, they should be taken from the nest before the nest-mouth, and those are to be preferred which are hatched in August. Their food should be paste mixed with the p's heart, together with seeds and crumbs of bread; and rubbish should be laid in the cage for whetting their bill, and food for them to welter in when teased with vermin. Their cages should at first be partitioned, and instead of the top of the cage, a crown should be substituted. When they are removed to their situation, they will sing incessantly, and even neglect their food to repeat their warble. The male is larger and blacker round the neck than the female, which has only a very narrow collar. The calandrie nestles on the ground, like the common lark, under a grassy tuft, and lays four or five eggs. It is found in Italy, Sardinia, Provence, France, the Pyrenees, Syria, near Aleppo, the southern part of Russia, the deserts of Tartary, and even America whither it might have been driven by the winds across the Atlantic, and there thrive and become naturalized. Adanson regards the calandrie as intermediate between the sky-lark and the thrush; but this is an analogy which must be restricted to the plumage and external form, for the habits of this bird and the thrush are very different.

10. *A. alpestris*, *A. virginiana* of Brisson, *hauffe-col noir* of Buffon, *lark*, with a yellow throat of Catesby, and *shore-lark* of Pennant, Latham, &c. has these specific characters; the tail-quills are half white on the inside, the throat is yellow, the stripe under the eyes, and on its breast, is black. Its length is six and an half inches, and in bulk and habit it resembles the common lark. It inhabits North America, Siberia, Russia and Poland; migrates in flocks, feeds on oats and other grains and grasses; lives upon the ground; has little or no song, and its flesh is delicious.

11. *A. magna*, *merula americana torquata* of Brisson, *la fer-a-cheval ou merle a collier d'amerique* of Buffon, *large lark* of Catesby, and *crescent flare* of Pennant and Latham, is characterized by Linnæus as having the under-side of the body yellow, a black curved band on the breast, and the three lateral quills of the tail white. Above, says Latham, it is variegated with rusty brown and blackish, below yellow, with a black curved stripe on the breast, and the three lateral quills of the tail white. Its length is 11 inches. It is found not only in Virginia and Carolina, but in almost the whole Continent of America; and Linnæus asserts that it occurs also in Africa. In the state of New York it appears in the beginning of April, breeds in June, and retires in September or October. It nestles on the ground, and its eggs are whitish. It lives in Savannas, perches on the tops of bushes, has a brisk motion upwards and downwards of its tail, eats scarcely any thing but the small seeds that are found on the ground, such as those of the yellow flowered *ornithogalum*; sings agreeably in the spring; and is reckoned good food.

12. *A. minor*, *lesse field lark* of Willughby, *field lark* of Latham, is of a reddish brown colour, and the two outer quills of the tail are externally white. The throat is yellow; the breast also yellow, marked with large black spots; the belly and vent feathers white; the coverts of the wings dusky, edged with white; and the legs of a very pale brown. It is larger than the tit-lark, but distinguished from it by the very short claw on the hind toe.

13. *A. italica*, *giarda* of Ray and Willughby, *girole* of Buffon, and *Italian lark* of Latham, has the middle quills

of the tail bay, the last but one white at the tip, the two outermost entirely white. Its size is that of the sky-lark, and it has a long nail projecting from each foot. Its head, neck, back, and wings are of a mottled colour, resembling that of the quail. The general colour of the feathers is a chestnut brown, and their edges are variegated with white, yellow and red; the back part of its head has a sort of crown or ring of white feathers; its belly is white; its bill red; and the corners of the mouth yellow, and its tail is so short, that it seems to have none; it is bifid, however, and elegantly variegated with chestnut-colour and white. The feet are flesh-coloured and the nails whitish. It is eight inches long, and inhabits Italy.

14. *A. ludoviciana*, *lark-savanne* of Buffon, and *Louisiana lark* of Latham, resembles the tit-lark. Its specific characters are, that the last quills but one of the tail are tipped with white; the outermost are partly brown; partly white. Its length is seven inches. It is found in Louisiana.

15. *A. rubra*, *A. pennsylvanica* of Brisson, *abouette aux joues brunes de Pensylvanie* of Buffon, and *red lark* of Pennant and Latham, is of a brown colour, and has the space about its eyes black, and the two outermost quills of the tail white. It is about the size of the meadow-lark. Its bill, feet, and nails are of a deep brown colour; its neck, breast, and underpart of the body, of a reddish fulvous colour, speckled with brown; and the brown spot that surrounds the eyes defends on the cheeks and is bounded by a zone, partly white and partly bright fulvous. This is a migratory bird, common to both continents. It appears in Pennsylvania in the month of March, and advances northward at the end of May; and it was seen by Mr. Edwards in the vicinity of London. He remarks, that when the wing is gathered up, the third primary feather reaches to the tip of the first.

16. *A. mosellana*, *la rouffeline* of Buffon, and *marsh-lark* of Latham, is rufous, below rufous white; its cheeks and breast are marked with brown lines; its tail is black with a rufous margin. Its length is six and one-fourth inches. The bill, feet and nails are yellowish. It haunts wet situations, frequents the sandy margin of the Moselle, and sometimes breeds on its banks, near Metz, where it appears annually in October, and some few are caught. It begins its song at dawn, which is said to be very pleasant.

17. *A. malabarica*, *Malabar lark* of Latham, has the primary and secondary wing-feathers and the tail, of a fordid brown colour, tawny at their margin. The bill is black, the feathers that form the crest on the head are brown, and their apex white; those on the neck are tawny with a black longitudinal streak passing along the middle; the throat and abdomen reddish white; the feathers of the back and the coverts of the wings brown, towards their edge tawny, and marked with a white spot, and the feet are tawny. This is a beautiful species and found in Malabar.

18. *A. gingica*, *Gingi lark* of Latham, has the upper part of the body cinereous brown, its under side black. The bill and feet are reddish grey. Its length is four and one-half inches, and it is found in Coromandel.

19. *A. tartarica*, *A. nigra* of Falck, and *black lark* of Latham, has a subbifurcated tail, the two intermediate quills of the tail slightly white at their limb, the next whitish at the apex, and the lateral very black. This bird inhabits the very dry salt deserts between the rivers Volga and Ural, the Caspian deserts, and the whole southern desert of Tartary; it is gregarious in winter, solitary in summer, and has scarcely any song.

20. *A. mutabilis*, *mutable lark* of Latham, has a black forked

forked tail, the outer quills of the tail on both sides unspotted, the rest grey at their apex, and the bill whitish. It is about seven inches in length, and inhabits the deserts of Aitracan. This bird, when young, is wholly cinereous, and the colour gradually changes into black.

21. *A. nemorosa*, *A. cristata minor* of Ray and Brisson, *le lulu* of Buffon, and *lesser crested lark* of Pennant, Willughby and Latham, is characterised by black tail-quills, the two outermost white on their exterior edge, its head crested, and its feet red. The crest is very long in proportion to its size. This bird is distinguished by its cry, *lu, lu, lu*, which is disagreeable, and never uttered except it flies; it likewise mimicks oddly the songs of other birds; it frequents heaths, commons, and even woods, where it builds its nest; and in the rigour of winter, when the ground is covered with snow, it resorts to dunghills, and picks up its food about barns, and also haunts the highways for the same purpose. It is found in Italy, Austria, Silesia, and Poland, and seen in flocks in the northern counties of England. It remains in Germany through the winter, and leaves the country about the equinox.

22. *A. undata*, *coquillade* of Buffon, *undated lark* of Latham, has its tail-quills brown, tawny at the edge, its feet yellowish, and the feathers of its crest black, edged with white. Its length is six and three-fourth inches. This bird can elevate its crest at pleasure; it is properly the lark of the morning, as it begins its song with the earliest dawn, and seems to rouse the other birds. The male does not leave his mate when she hatches, and when the one is employed in seeking their food, which consists of caterpillars, grasshoppers, and snails, the other keeps watch, to give signal when danger threatens. It was found by M. Guys, in Provence; and Sonnerat brought a bird very like it from the Cape of Good Hope, only that it had no crest, that the colour of the under part of the body was more yellowish, and that none of the quills of the tail or wings were edged with white. It was perhaps a female, or a young bird of the year's hatch.

23. *A. senegalensis*, *A. senegalensis cristata* of Brisson, *la griseite* of Buffon, and *Senegal lark* of Latham, has the two middle quills of the tail grey, the rest brown, the outermost rufous white on the outer side, and the head somewhat crested. Its length is six and a half inches. It inhabits Africa, and perches on the trees, which grow on the banks of the Niger; and is also seen in the island of Senegal.

24. *A. testacea*, *testaceous lark* of Latham, has the four intermediate quills of the tail black, the rest testaceous white, the body above testaceous, and below testaceous white. It inhabits the vicinity of Gibraltar.

25. *A. lusitana*, *Portugal lark*, has the quills of the tail tawny lutescent, the exterior ochroleucous, the feet flesh-coloured, and the bill red. It is found in Portugal.

26. *A. africana*, *le sirle du cap de bonne esperance* of Buffon, *African lark* of Latham, has the tail, the quills, and the coverts of the wings brown, edged with white, the inferior part of the body white, variegated with oblong brown spots. Its length is eight inches. It is found at the Cape of Good Hope.

27. *A. cinerea*, *la cendrille* of Buffon, *cinereous lark* of Latham, is of a cinereous colour; its belly and vent white; the quills of its wings and tail brown, the outermost externally white near the tip. Its length is six inches. Buffon queries whether there be any analogy between this bird and the cinereous lark which Dr. Shaw saw in great numbers near Bilerta, in Africa?

28. *A. rufa*, *la variole* of Buffon, *rufous lark* of Latham, has its tail-quills brown, the eight intermediate ones rusty-

coloured at the edge, and the outermost white at the edge. The bill is brown; the body blackish above, variegated with rufous tints, and below white; the feet are yellowish; the length five and one-fourth inches. Comerfon brought this beautiful bird from Buenos Ayre, near the river de la Plata.

29. *A. Nova-Zelandica*, *New Zealand lark* of Latham, has white eyebrows, a black bar on each eye, its vent cinerascens or ashy, and its feet reddish cinereous. It is seven and a half inches long. The bill is ashy black above; the body black above, white below, the feathers edged with ashy colour; the claws black, the hind one almost straight. It is found in New Zealand.

30. *A. mongolica*, *mongolian lark* of Latham, has the crown of the head ferruginous, bound with a white annular fillet, and in the middle a white spot. It is larger than the calandre, which it resembles; it sings sweetly on the ground, and inhabits the saline marshes that lie between the rivers Onon and Argon.

31. *A. sibirica* has the secondaries white, the crown of the head, ears and shoulders ferruginous, and the outer tail quill externally altogether white. It inhabits the fields of Siberia, near the Irty, nestling on the ground, in its flight and song inferior to the sky-lark, in stature larger, and similar to the calandre.

32. *A. flava*, *la ceinture de peire* of Buffon, has the upper part of its body red and grey, varied with brown, the under part whitish, the face, throat and sides of the head yellow, the tail-quills black, edged with grey, except the outermost which are white at their margin. The yellow of the face, &c. is set off by a black spot between the eye and the bill, that joins to another larger one immediately below the eye; and the breast is ornamented with a broad black girdle. The bill and feet are leaden-grey. Its length is five and three-fourth inches. It inhabits Siberia, but is rarely found. Of all the birds denominated larks, this is the most conspicuous for beauty of plumage.

33. *A. obscura* has the under part of the body white without spots, and the posterior claw shorter than the toe. It inhabits Sardinia, and agrees with the common lark in its size and nearly in its colour, but as the hind claw, though longer than the others, is shorter than the toe, Gmelin queries whether it belongs to the genus *alauda*.

The *alauda yeltonensis*, or yellow lark, is black, variegated with rufous and white. It is found at the lake Yelton, beyond the Volga; is gregarious, and in the month of August is fat and delicious.

The *A. obscura* of Latham, or *duffy lark* of Lewin, is now described under the name of the *A. petrosa*, or *rock lark*, by Mr. G. Montagu. Its specific characters are, that it is olive brown, yellowish under the body, the sides of the neck and breast are spotted with brown, and the half of the outermost tail-quill is white. Mr. M. in 1791 discovered this bird to be a native of the coast of South Wales, in all the rocky situations; and it was known to the fishermen, under the name of the rock lark. Mr. Pennant is supposed to have met with this bird, as in his folio edition of British Zoology, he has given a variety of the tit-lark (*A. pratensis*) with dusky legs, shot on the rocks on the coast of Carnarvonshire. This bird affects only the rocky parts of the coast; and in winter it is occasionally found in the marshes, seeking its food, which is marine insects. It begins its song early in the Spring, which very much resembles that of the *A. pratensis*; as it mounts in the air like that bird, and returns again to the ground, or to some neighbouring rock, with motionless wing. It breeds early in the Spring, a nest with five eggs having been found on the 16th of April; it was placed upon the shelf of a rock, behind a tuft of coarse

grafs, under a small bush, and was formed of dry grafs, marine plants, and dry mofs externally, and lined with finer grafs and a few long hairs. The eggs were of a dirty white, sprinkled with numerous fpecks of brown. The length of the bird was fix and three-fourth inches. Mr. M. has lately obferved this bird on the coaft of Kent and Suffex. Tranfact. of Linnæan Society, vol. iv. p. 41—43. Gmelin's Linnæus's Syft. Nat. tom. i. p. 791—801. Buffon's Birds, vol. v. p. 1—77.

ALAUNA, in *Ancient Geography*, a town of Britain, belonging to the *Damni*, fited, according to Horfley, near Falkirk, upon the Roman wall, at a place called Camelon, where are ftill fome veftiges of a Roman town; but Baxter maintains, that it was where Stirling now ftands. Alauna was alfo a town of Gaul, placed by M. d'Anville among the *Uneli*, north of Coffedia, and weft of Crociatonum.

ALAUNI, a people placed by Ptolemy in Noricum, and alfo in European Sarmatia; probably the fame with the *Alani*.

ALAUNIUM, a town of Gaul, placed by M. d'Anville in the mountains between Saguntum to the north-eaft, and Aptia-Julia to the fouth-eaft.

ALAUNUS, a river of Britain, which Horfley fupposes to be the Tweed, but Camden and Baxter think it is the river Alne, in Northumberland; and their conjecture is favoured by the affinity of the names.

ALAUNUS *mon.*, a name given by the ancient geographers to the VALDAY mountains of Ruffia.

ALAUZA, or ALOSA, in *Ichthyology*, a fpecies of CLUPIA. See SHAD.

ALAUZI, or ATUASI, in *Geography*, a town of South America, in the jurifdiction of Cuença, in Terra Firma.

ALAUT, or ALT, a river of Turkey in Europe, which rifes in the mountains that feparate Moldavia from Tranfylvania, and runs into the Danube near Nicopolis, in Bulgaria.

ALAY, denoting, in the Turkish language, “the triumph,” in *Modern Hiftory*, a ceremony which accompanies the aflembly of the forces of the Turks upon the breaking out of a war. It is defcribed by Baron Tott, in his memoirs, as a kind of mafquerade, in which perfons of the feveral trades and manufactures prefent to the fpectators the implements and exercife of their refpective occupations. The labourer draws his plough; the weaver handles his fhuttle, the joiner his plane; and thefe perfons are feated in cars, richly ornamented, and commence the proceffion; then follows the ftandard of Mahomet, which is brought out of the feraglio, and carried to the army, in order to ensure victory to the Ottoman troops. An emir precedes this banner, proclaiming with a loud voice; “Let no infidel dare to profane with his prefence the holy ftandard of the prophet; and let every muffulman who perceives an unbeliever, make it known, under pain of reprobation.” From this moment, a religious fury feizes the people, and impels them to commit acts of the moft fhocking barbarity. No regard is paid to fex or age, and many fall facrifices on the occafion.

ALAYA *Cape*, in *Geography*, the eaftern extremity of Venezuela, or Little Venice, which extends to and from the entrance of the gulf of that name, 130 leagues.

ALAYMO, MARC ANTHONY, in *Biography*, a Sicilian by birth: in the year 1610, being then only 20 years of age, was made doctour in medicine. He then went to Palermo, where he was particularly celebrated for his fuccefs in treating the plague, which raged in that city, in the year 1623. He died 1662, aged 72 years, and was buried

in the church of St. Mary of the Agouifers. In what estimation he was held by his fellow-citizens may be judged by the following lines, part of the infcription on his monument.

“En hunc iteritur,
Qui ab humo ipfe totum Siciliam dira ficiente
pefte liberavit.”

He left feveral works, part in manuſcript, the following were printed: Difcorſo intorno alla prefervazione del morbo contagioſo e mortale, che regna al prefente in Palermo, &c. 1625. 4to. Conſultatio pro ulceris Syriaci nunc vagentis curatione, Panormi, 1632, 4to. Dialectica five de ſuccedaneis medicamentis, 1637. 4to.; Conſiglii medicopolitici, &c. della peſta. 1652. 4to.

ALAZEIA, in *Geography*, a river of Siberia, which runs into the Frozen Ocean. N. lat. 72° 40'. E. long. 142° 14'.

ALAZEISKOI, a ſettlement in Siberia, on the river Alazeia, 30 leagues weſt-north-weſt of Niznei Kovinskoi. N. lat. 69° 40'. E. long. 144° 14'.

ALAZIA, in *Ancient Geography*, a town of Aſia, ſituate on the river Rymus, which paſſed through Mygdonia. Strabo. Geog. tom. ii. p. 828.

ALAZONES, a people of Aſia, mentioned by Strabo, Stephanus Byz. &c. whoſe origin and hiftory are unknown. They were reckoned among the Scythians, who dwelt on the borders of the Euxine ſea, and Alazia was probably their capital. Apollo was the object of their worſhip.

ALAZONIUS, a river of Aſia, which descended from mount Caucasus, and ran into the Cyrus; but Pliny ſays, that this river ſeparated the Iberians from the Albanians, and was therefore more to the weſt. Strabo. tom. ii. p. 764.

ALB. See ASPER.

ALB, in *Geography*, a river of Germany, which riſes three miles weſt-north-weſt of Wildbad, in the circle of Suabia, and runs into the Rhine, about five miles weſt-north-weſt of Durlach.

ALBA, a city of Italy, in the duchy of Montferrat, ſituate on the river Tanaro; the ſee of a biſhop, who is ſuffragan to the archbiſhop of Milan, and whoſe diocefe is of conſiderable extent. Beſides the cathedral, it has three parochial and three other churches, with ſeveral convents. It is 18 miles ſouth-eaſt of Turin. N. lat. 44° 40'. E. long. 7° 51'.

ALBA, in *Ancient Geography*, a city of Dacia, which ſome ſuppoſe to have been the ſite of the preſent BIELGOROD.

ALBA, a town of Spain, in the country of the Baſtiani, ſouth-eaſt of Baſti.

ALBA, now *Elvas*, a city of Luſitania.

ALBA, a river of Gaul, now *Aube*.

ALBA FIRMA, or ALBUM, in *Antiquity*, was a yearly rent, payable to the chief lord of a hundred; ſo called, becauſe it was paid in white money, or ſilver, and not in corn, which was called *black mail*.

ALBA *Fucenſis*, now ALBI, in *Ancient Geography*, a town of Italy, to the north-weſt of the *lacus Fucinus*, in the country of the Marſi. It was denominated *Fucenſis*, in order to diſtinguiſh it from other Italian cities of the ſame name, and particularly from *Alba Longa*. The inhabitants were denominated *Albenſes*. Silius Italicus (Punic. lib. viii. v. 508.) refers to it:

“ — Interiorque per udos
Alba ſedet campos, pomique rependit arifas.”

This town was ſituated in the centre of Italy, amidſt mountainous

mountainous passes, and secluded from all means of escape; and it was therefore chosen for the state-prison, to which the Romans confined captive princes, after having barbarously dragged them through the streets of Rome, at the chariot-wheels of a triumphant consul. Here Perseus, king of Macedonia, and his son Alexander, terminated their career, after the triumph of Marcus Antoninus. Syphax, the Numidian, and Bituitus, king of the Averni, were also condemned to this gaol, by the particular clemency of the senate, which sometimes indulged its savage disposition, by putting its captives to death. The natural security of this place was augmented by artificial fortifications; the ruins of which prove, at this day, their ancient solidity. For the entertainment of the garrison, which was required in a place of such importance, an amphitheatre was erected, the shattered remains of which are still visible, as well as the foundations of a temple, and other buildings, of Roman times. Lucius Vitellius, brother of the emperor of the same name, had a villa near this place, famous for the variety and excellence of its fruit-trees, which he brought from Syria. His gardens were the nurseries, where several of the most delicious stone-fruits that are now so common in Europe, were first cultivated and multiplied. Against the severity of this climate, in which the adjoining lake is frequently frozen over, it was necessary to shelter the trees transplanted from Asia, and to treat them with peculiar attention, in order to rear them to perfection. Swinburne's Travels, vol. iv. p. 367.

ALBA Helviorum, or *Albaugusta*, i. e. *Alba Augusta*, a town of Gaul, in the *provincia Narbonensis*, was the capital of the Helvii, and situated at a small distance from the Rhone. Hence the Helvii were denominated *Albenses*. This town was afterwards called *Vivarium*, and it is now *Viviers*.

ALBA Julia, now *Weissenburg*, a town of Transylvania, on the river Maurusius or Marisch, supposed to be called *Alba Julia*, after Julia Domna, the wife of Severus, and mother of Caracalla. There are several inscriptions, however, near this place, which bear *COL. APUL. I. E. colonia Apulensis*; without the least mention of *Alba Julia*, though they were inscribed after the time of Caracalla. Besides, Ulpian, reciting the colonies of Dacia, calls this colony *Apulensis*, and neither *Alba* nor *Julia*. From these circumstances it has been inferred, that *Alba Julia* is a corruption of *Apulum*. It was also called *Apulum Augustum*. Cellarius, tom. i. p. 381.

ALBA Longa, a city of Italy in Latium, south-east of Rome, founded by Ascanius, the son of Æneas, and a colony from Lavinium, at the foot of mount Albanus, according to Blair's Chronology, in the year 1152 before Christ, or 399 years before the foundation of Rome; and selected by him as the place of his residence, and the capital of his kingdom. It was called *Alba*, we are told, from a white sow found by Æneas, which furrowed 30 pigs on that spot, and which afforded an omen, that a city would be built there within 30 years. See Varro, R. R. (l. xi. c. iv.) Aurelius Victor de orig. Rom. gentis, and Propertius, lib. iv. eleg. i. ver. xxxv.

“Et stetit Alba potens, albæ suis omine nata.”

The epithet *longa*, was added to distinguish it from the *Alba of the Marsi*, or to express its length, as it was extended along the lake near which it was built. Its situation was at an equal distance between the lake and the mountain; probably between the present city of Albano and the lake of Castel Gandolfo, and peopled by a mixed colony of

Latins and Trojans. The inhabitants of this city were called *Albani*. It was 30 years after Lavinium was built, that Ascanius fixed his abode at Alba; and there he died, after a reign of about 38 years, 12 of which he passed at his new settlement. Upon the death of Ascanius, the Latins resolved to unite Alba and Lavinium to one sovereignty, under Sylvius; and Sylvius was succeeded by 13 kings of the same race, who, for near 400 years, reigned at Alba. Procas, one of them, bequeathed the throne to his eldest son Numitor; but he was displaced of the kingdom by his brother Amulius, who, in order the more effectually to secure himself, killed the son of Numitor, and betrothed his daughter, Rhea Sylvia, to the worship of Vesta. Rhea, however, was delivered of the twins, Romulus and Remus; who, after having been rescued from the Tiber, into which they were thrown by order of Amulius, were suckled by Acca Laurentia, the wife of Faustulus, and educated by the Gabii, under the direction and order of Faustulus. Upon a quarrel between the herdsmen of Amulius and those of Numitor, the two brothers took part with the former against the latter; and, in consequence of the fray that was thus occasioned, Remus was carried before Numitor to receive punishment. When he was questioned concerning his birth and parentage, his reply excited, in the mind of Numitor, a lively remembrance of his two grandsons, and his anger was changed into tenderness. The two brothers concurred at length in dethroning Amulius, and restoring their grandfather Numitor to the throne. They then, by the advice of Numitor, undertook to found a new colony on the lands near the Tiber, where they had been taken up, and which he granted them for this purpose. Romulus and Remus differed concerning the precise spot where the new city was to be erected; the latter declaring for the Aventine, and the former for the Palatine mount. Remus, as it is said, fell in the contest that was then occasioned, and Romulus prevailed, and laid the foundations of the new city, which was called Rome, after his name. Rome, in a little while, became the rival of Alba; and soon after the accession of Tullus Hostilius to the throne, a dispute arose between the Albani and the Romans, and preparations were made for war. In an interview that occurred between Tullus and Fufetius, or, as others call him, Suffetius, the Alban general Tullus, proposed to determine the dispute by a single combat between himself and Fufetius, which the latter declined. It was at length agreed, that three champions should be selected out of each camp to decide the difference. The champions, on the part of Rome, were the Horatii; and on that of Alba, the Curatii. Rome ultimately gained the victory over Alba, her mother-city. When Tullus afterwards made war upon the Veientes, Fufetius joined him with the Alban troops, but afterwards proved treacherous and deserted him. This treachery being known, Tullus detached Horatius, who had conquered the three Albans, with a chosen body of horse and foot, to demolish Alba, as he had previously concerted the business with the senate. Fufetius was ordered to be fastened to two chariots drawn by horses, and to be torn asunder: his accomplices were put to the sword; but the rest of the Alban soldiers were carried to Rome with the citizens, and the chief men among them were even admitted into the Roman senate. Thus fell, A. U. C. 89, ante Christ. 665, the city of Alba, famous for its riches, the number of its inhabitants, and, above all, for being the mother of Rome. The temple only, says Strabo, was preserved. Dion. Hal. lib. i. p. 52. lib. iii. p. 152—165. tom. i. Ed. Oxon. Livy, lib. i. c. 3—7. c. 24—29. tom. i. p. 22—38. p. 101—124. Ed. Drakenb. Plat.

Plut. in Romul. Oper. tom. i. p. 19. Ed. Xylandr. Strabo Geog. tom. i. p. 350—353.

ALBA MARITIMA, a city of Dalmatia.

ALBA PICTA, a city of Italy in Liguria, near the river Ceba or Ceva, where the emperor Pertinax was born. It was a colony first established at first by Ptolemy, or restored, after having been first settled by Scipio. The inhabitants were called *Pertinax's Pompeiani*. It is now called ALBA, without any epithet.

ALBA REGIA. See NICH-WEISEMBURG.

ALBA TERRA, in *Alban*, one of the many names that were anciently given to the philosopher's stone.

ALBACETE, or ALBAZETE, in *Geography*, a small town of Spain, in the canton of La Sierra, in the eastern part of New Castile, situate in a fertile vale not far from the mountains that separate La Mancha from the country called the Desert. W. long. 1° 46'. N. lat. 38° 55'.

ALBACHSEN, or ALBASIN, a town of Germany, in the circle of Westphalia, three miles north of Corvey.

ALBACK, a town of Persia, in the province of Aiderbeizan, 55 leagues south-west of Tauris.

ALBACK, is situated on the western coast of Africa, in N. lat. about 27° 15'. and about 35 leagues south-south-west from the river Orodus. It has a bay so called, and a cape denominated Chabi.

ALBAN, (ST.), in *Biography*, the first Christian martyr in England, and usually called the protomartyr of Britain, was born at Verulam, of Pagan parents, and flourished in the third century. In his youth, he went to Rome, with Amphibalus, a monk of Caerleon, and served seven years in the army of Dioclesian. On his return to England, he was instructed by Amphibalus in the Christian faith, became a convert, and lived in the profession of Christianity till the year 303, when the Dioclesian persecution commenced; but being cited before the Roman governor, for having afforded an asylum to his preceptor, who was a Christian, and avowing his own conversion, he was ordered immediately to be beheaded. The traditionary tales of the times report many miracles which happened on occasion of his death. Bede, and other ancient writers, relate, that in his way to execution, a stream was miraculously divided to afford a passage for him and a thousand persons who accompanied him; that the executioner was converted by the miracle; that a fountain opened at the feet of St. Alban, which afforded water in answer to his prayer for allaying his thirst; and that the eyes of the executioner dropped out of his head at the instant of his giving the fatal stroke. We learn from the same authority, that many of the spectators were converted by these miracles. But the testimony of those who report them deserves little credit; and they seem to be duly appreciated by Milton, who, in his History of England, speaking of St. Alban, says: "The story of whose martyrdom, foiled and worse martyred with the fabling zeal of some idle fancies, more fond of miracles than apprehensive of truth, deserves no longer digression." When the east end of the church of St. Alban's was repaired, in 1257, the labourers found some leaden chests, containing relics; and on a plate of lead, the following inscription:—"In hoc mausoleo, inventum est venerabile corpus Sancti Albani, protomartyris Anglorum;" i. e. "In this mausoleum is found the venerable body of St. Alban, the protomartyr of the English." Part of the hymn formerly sung on the festival of this saint, is as follows:

"Ave protomartyr Anglorum,
Miles regis angelorum,
O Albane, flos martyrorum."

"Hail, protomartyr, of the English,
Soldier of the King of Angels,
O Alban, flower of the martyrs!" Biog. Brit.

See AMPHIBALUS.

ALBAN, JOHN DE ST. in *Biography*, so called from the place of his birth, and de St. Quatrie, a church of that name in Picardy, where he was made a dean (doyen), taught philosophy and medicine at Oxford, towards the end of the twelfth century. In this station he acquired so much celebrity that he was invited to Paris by Philip Augustus, and made his physician. After residing some years at Paris, he went to Montpellier, to hear the professors of that place, then famous for its school of physic. Being distinguished for his great learning and abilities, he was soon invited to fill a professor's chair. In 1223, he returned to England, Mathew Paris says, to attend Robert Grossette, bishop of Lincoln. The time of his death is not known. He was doctor and professor of theology, as well as of medicine, a junction at that time by no means uncommon.

ALBAN, in *Geography*, a town of France, in the department of Tarn, and district of Alby, five leagues east-south-east of Alby.

ALBANA, in *Ancient Geography*, a sea-port town of Albania, on the Caspian sea; now called Bachu or Baka, whence this sea is called *mer de Bachu*. N. lat. 40°. E. long. 49°.

ALBANELLA, in *Geography*, a town of Naples, in the Principato Citra, 20 miles south-east of Salerno.

ALBANENSES. See ALBIGENSES.

ALBANESIUS, GUY ANTHONY, in *Biography*, taught medicine in the university of Padua, from 1632 to 1657, in which year he was assassinated by one of his pupils. He published, "Aphorismorum Hippocratis expositio peripatetica." Patavii, 1649. 4to.

ALBANI, in *Middle Age writers*, denote strangers or foreigners; corresponding to those whom we call aliens.

ALBANI, in *Antiquity*, a college of SALII, or priests of Mars, instituted by Tarquin, and denominated from mount Albanus, the place of their residence.

ALBANI, or ALBANO, FRANCIS, or FRANCESCO, in *Biography*, an eminent painter, was born at Bologna, in 1578, and educated with Guido, who assisted his early studies, first at the school of Dennis Calvart, and afterwards under the Caracci. He completed his studies at Rome, working after the best models, and became one of the most agreeable painters of the Roman school. At Rome, where he resided 18 years, he was employed in some great works, and where he married his first wife, who died in child-birth. From hence he removed to his native town, and married a beautiful woman, by whom he had 12 children, who served him for models in the practice of his art. Albani converted his children, who were very beautiful, and who were placed in different attitudes, into Cupids, and the mother into a Venus or grace; but, graceful as were his models, by constantly painting after them, he preserved too great a similitude in his figures, and in the airs of his heads. His manner, however, may be thus easily distinguished. In the summer months he retired to one of his country houses, which was adorned with fountains and groves, and here he was furnished with landscape scenery, in his favourite subjects of loves and graces, which he treated with an elegance of design, harmony of colouring, and delicacy of finish, that are the characteristics of his pencil. All his pictures, indeed, have not the same force of colour, but though some are weaker than others, they are all delicate and pleasing. His boys and female forms were lovely and graceful; but

but his figures of the other sex were usually lean and without masculine beauty, except in some of his heads. In his drawings he was sometimes hasty and incorrect. His pictures of the four elements in the palace of the king of Sardinia, at Turin, are of an extraordinary beauty, and well preserved; the design is excellent, the draperies perfectly elegant, the colouring lovely, and the whole very correct. His other principal works are at Rome and Bologna; but as he was extremely industrious, and the productions of his pencil were highly esteemed, his cabinet pictures are found in all considerable collections. As an engraver, he made one small folio etching of Dido killing herself, in which he did not succeed; and in this art he did not add to the character which his other works have established. He was fond of Italian poetry, and lamented that his early education had not enabled him to read the originals of the Latin poets. In private life he was modest, affable, unaffected, attached to his family, pleasant in conversation, condescending to his pupils, whose works he occasionally retouched and improved. His life and faculties were continued to old age; and he died at Bologna, in 1660, aged 82 years. Pilkington and Strutt. Gen. Dict.

ALBANI, GIOVANNI BATTISTA, was the brother and disciple of the former, and became an admirable painter in the style, manner, and colouring of his brother. He excelled in landscape, which he designed in an exquisite taste, touching the trees with great spirit, and giving them a peculiar sweetness of colour. He died in 1668. Pilkington.

ALBANI, JOHN JEROM, was born at Bergamo, of a noble family, and devoted himself to the study of the civil and canon law. By the zeal with which he prosecuted some of his own relations in the Inquisition, he recommended himself to Cardinal Alexandrinus, the inquisitor, who, upon his being advanced to the papal see, under the name of Pius V. conferred upon Albani a cardinal's hat. He died in 1591. His works were a treatise "De immunitate Ecclesiarum;" published in 1553; another, "De potestate Papæ et Concilii," printed at Venice, in 1561; and a third, "De Cardinalibus, &c." Nouv. Dict. Hist.

ALBANI, in *History*, the inhabitants of ALBANIA, in Asia, who are said by some writers to have derived their name from their fair complexion. Ptolemy mentions a people of this denomination on the confines of Macedonia.

ALBANIA, in *Ancient Geography*, a country of Asia, was bounded on the west by Iberia, on the east by the Caspian sea, on the north by mount Caucasus, and on the south by Armenia. The cities which it contained, and mentioned by Strabo, Ptolemy, and Pliny, were Teleba, Thalbis, Gelda, Thiauna, Thabilaca, Albana, Chadaca, Misia, Boziata, and Cabalica, which last Pliny calls the metropolis of Albania. Its chief rivers were Cyrus, now Kur, Albanus, Casius, Gerrhus, Soana, Cambyfes, and Alazon, all of which discharged themselves into the Caspian sea. The whole country, now known by the names of Schirwan and East Georgia, is extremely fertile and pleasant. Strabo (tom. ii. p. 767.) describes the inhabitants as tall, robust, and graceful in their persons, excelling those of other nations in comeliness as well as in stature, and as very simple in their manners. He adds, that they were unacquainted with weights and measures, and the use of money; that they could not count above one hundred, and that they carried on trade by exchange. They chiefly devoted themselves to pasturage, and had some resemblance of the wandering tribes; they were not altogether unacquainted with the art of war, nor unused to the practice of it; their common weapons were bows and arrows; they defended themselves with shields, and bore on their heads helmets made of the

skins of wild beasts. They excelled in hunting, and were famous for the dogs which they reared for this purpose. They respected age, both in their parents and others; they thought it wrong to take any notice of the dead; they buried their money with them, and lived in poverty, as they had thus no patrimony. They worshipped, as gods, the sun, Jupiter, and the moon; and the priest was next in honour to the king. Pliny (H. N. tom. i. p. 371.) says, that they were of a white complexion, and that they could see by night as well as by day. Tacitus (lib. v.) and Pliny (tom. i. p. 311.) trace their origin to the Thessalians, who attended Jason in his expedition to Colchis, and settled in this part of the isthmus, between the Euxine and Caspian seas. According to Justin (lib. xiii.), they were descended from the inhabitants of Alba in Italy; and Ammianus Marcellinus derives them from the Massagetæ. Albania was anciently divided into several small kingdoms; and Strabo (*ubi supra*) says, that the country had 26 different languages, and as many kings and kingdoms as languages. But the Albani, in process of time, overcame the other petty princes, and made themselves masters of the whole country. In the time of Pompey, as we learn from Strabo, they could bring into the field 60,000 foot and 20,000 horse. Of their kings we have no account, before the reign of Alexander the Great, to whom the king of Albania is said, by Pliny (tom. i. p. 465.), to have presented a dog of extraordinary size and swiftness. The next king, mentioned in history and named Oræses, was defeated by Pompey, and obliged to retire to mount Caucasus. Another king of Albania, named Pharasmenes, committed great devastations in Armenia, Cappadocia, and Media, in the time of Adrian, and was summoned by the emperor to Rome. Instead of attending, he sent a number of such great coats as were then worn, made of cloth of gold, in which the emperor, as an insult to the king, ordered 300 criminals to be clad, and in that attire to fight the wild beasts in the public theatre. Upon Adrian's death, the Albanian king attended the summons of Antoninus Pius, who received him with respect and dismissed him with presents. Two other kings are mentioned; one the contemporary of Valerian, and the other of Constantius the son of Constantine the Great. The Albanians continued to be governed by their own princes till the reign of Justinian II. who is said by Zonaras and other writers to have subdued Albania by his general Leontius. Anc. Univ. Hist. vol. ix. p. 122—126.

ALBANIA, a city of Asia in Assyria, was situated to the east of the river Titana.

ALBANIA, in *Modern Geography*, sometimes called *Arnaut*, a province of Turkey in Europe, comprehending the ancient Illyricum, and Epirus, situate in the Adriatic, and bounded on the north by Dalmatia and Servia, on the east by Macedonia and Thessaly, on the south by Livadia, and on the west by the Adriatic. Its length is about 80 leagues, and its breadth about 20. Its capital was formerly Albanopoli; but it is now Durazzo. The other principal towns are Scutari, Dulcigno, Antivari, Croya, Alessio, Velona, Dataro, Dibra, &c. The most remarkable river is Delichi, formerly Acheron; amongst the lakes we may reckon Scutari, and to the class of mountains we may refer the Acroceraunian, or mountains of Chimæra. The soil of this province is fertile, and produces excellent wine. Its manufacture is chiefly carpets. Its inhabitants are robust and courageous, and make good soldiers, especially cavalry. In the Turkish army, they are distinguished by the name of *arnauts*. The religion of Albania is that of the Greek church. This province was annexed to the Ottoman em-

pire, in 1467, by Mahomet II. by whom it was conquered, after the death of Scanderberg, who had the courage to maintain it against the Turks and the Venetians. A small part of the wall still belongs to the Venetians, and is divided by them into fangiaes or governments. N. lat. 39° to $43^{\circ} 30'$. E. long. $18^{\circ} 32'$ to $21^{\circ} 54'$.

ALBANET *Pole*, or *Porte*, the *Albanian Porte*, a place situate on the Caspian Sea, north of Cabanaca.

ALBANO, a town of Italy, in the Campagna of Rome, situate within 15 miles south-east of Rome, on a lake of the same name, at the distance of a mile from Castello Gandolfo, which was the favourite residence of pope Clement XI.; and built in the time of Nero on the ruins of the ancient *Alla Longa*. This place, on account of the pleasantness of its situation and the salubrity of the air, serves as a summer resort for the nobility of Rome. It is famous for its excellent wine. It has the title of a principality, and is the see of one of the six cardinal bishops. At its entrance is the ruin of a mausoleum, said to be the tomb of Aescanius; and there is another mausoleum 45 feet square with five pyramids 10 feet in diameter, which report alledges to be the tomb of the Horatii and Curatii; and which some think to be that of Pompey the Great. Among other venerable remains of antiquity in and near this place, there is seen the ruin of a palace of Domitian. The lake of Albano is about seven miles in circuit and of an oval form, and is surrounded by high mountains. The waters of the lake are conveyed by a canal, which is said to have been made 398 years before Christ. The mountain of Albano, called Monte Cavo, has, on the top of it, the ruins of a temple, dedicated to Jupiter and Juno. N. lat. $41^{\circ} 43'$. E. long. $12^{\circ} 29'$.

ALBANO is also a town of Naples, in the Basilicate; 13 miles south-south-east of Acerenza.

ALBANOPOLE, a town of European Turkey in Albania, situate upon the Drin, 16 leagues from Aleffio. N. lat. $51^{\circ} 48'$. E. long. $20^{\circ} 18'$.

ALBANOPOLIS, in *Ancient Geography*, a town of Greater Armenia.

ALBANS, (St.) in *Geography*, a market-town in Hertfordshire, in the north west road, about 21 miles from London. It is a borough town, sends two members to parliament, gives the title of duke to the Beauchamp family, and has an excellent market for wheat. The market days are Wednesday and Saturday. This town was built near the site of the ancient Verulam. In the year 795, Offa, king of the Mercians, erected a monastery in the place where St. Alban suffered martyrdom, and near to which the town was afterwards built. The abbot was reputed, by favour of pope Adrian IV. who was born near Verulam, the first in dignity of all the abbots. The church of this monastery is still in being, and much admired for its size, beauty, and antiquity. When the monks were turned out, it was purchased by the townsmen for 400 pounds, and converted into a parochial church. N. lat. $51^{\circ} 44'$. W. long. $0^{\circ} 12'$.

ALBANS, *St. Higland*, lies on the coast of Dorset, in the English channel, east of Weymouth, and eight leagues west of Dunnoke, on the back of the isle of Wight. N. lat. $50^{\circ} 15'$. W. long. $2^{\circ} 5'$.

ALBANS, *St. Jersey Island*, is in N. lat. $49^{\circ} 10'$. W. long. $2^{\circ} 25'$, towards the south-west point of the island. Its haven is within a deep bay, before which are Halier island to the east, and St. Alban's island to the west, nearly before the town of that name, on the west side of the bay.

ALBANS, *St.* a township of America, in Franklin county, Vermont, on Lake Champlain, opposite North Hero island. It contains 256 inhabitants.

ALBANUM, in *Ancient Geography*, a town of Pannonia. ALBANUM *Pompeii*, a name anciently given to the present ALBANO.

ALBANUM *mare*, a name given by Pliny to that part of the Caspian sea, which bordered on Armenia.

ALBANUS, JOANNES, in *Biography*, was received Doctor in Medicine at Bologna, in the year 1616, where he taught the theory and practice of physic several years, and published a treatise on the regimen to be observed by convalescents.

ALBANUS, in *Ancient Geography*, a river of Albania, thought by M. d'Anville to be Samura.

ALBANUS *Mons*, the mountain adjoining to *Alla Longa* or ALBANO; and also a part of the *Albus Mons* of Strabo, which the Ancients considered as forming the extremity of the Alps, and together with the Montes Bæbii separating the further Liburnia and Dalmatia from Pannonia.

ALBANY, a county of America, on Hudson's river, in the state of New York, lies between Ulster and Saratoga. Its extent is 46 miles by 28. By the census in 1796, the number of electors in this county was 6087, and the number of towns 11.

ALBANY, the chief town of the above county, is situated on the west bank of Hudson's river, 160 miles north of the city of New York, and 340 south of Quebec. N. lat. $42^{\circ} 39'$. W. long. $73^{\circ} 30'$. This city and the suburbs, in 1797, contained 6021 inhabitants. The situation of Albany is peculiarly favourable for residence and for commerce. It is at the head of a sloop navigation, on one of the noblest rivers in the world; the air is salubrious; and by the improvements of roads and canals, which are contemplated, it is expected to encrease and flourish. The public buildings in this town are a low Dutch church of ancient and curious construction, one for the Episcopalians, two for Presbyterians, one for Germans or High Dutch, and one for Methodists; an hospital, city hall, and well-built brick gaol. The corporation consists of a mayor, recorder, six aldermen and as many assistants. In the vicinity of this city there are extensive works, in which the machinery is moved by water, for the manufacture of Scotch and Rappee snuff, roll and cut tobacco, chocolate, mustard, starch, hair-powder, split pease, and hulled barley.

ALBANY, a British fortress in New South Wales, in North America, situated on a river of the same name. N. lat. $52^{\circ} 14'$. W. long. $81^{\circ} 59' 58''$.

ALBANY *River*, a river of North America, which, after running in a north-east direction, and communicating with several small lakes, falls into James's bay, in N. lat. $51^{\circ} 30'$. W. long. $84^{\circ} 30'$.

ALBARA, in *Botany*. See CANNA.

ALBARA, in *Ancient Geography*, a town of Syria, on the borders of Phœnicia.

ALBARAZIN, or ALBARACIN, in *Geography*, a fortified town of Spain, in the kingdom of Aragon, on the river Guadalavir, and near the frontiers of New Castile, is the see of a bishop, suffragan to the archbishop of Saragossa, and famous for its excellent wool, called by this name. It is 30 miles south-west of Saragossa, and 40 miles east of Madrid. N. lat. $40^{\circ} 32'$. E. long. $2^{\circ} 10'$.

ALBARDEOLA, in *Ornithology*, a name given by many authors to the SPOON-BILL.

ALBARII, in *Antiquity*, properly denoted those who gave the whitening to earthen vessels, &c. In which sense they stood contradistinguished from *dealbatores*, who whitened walls.

ALBARIUM *opus*, in the *Ancient Building*, the incrustation or covering of the roofs of houses with white plaster, made of mere lime. The workmen were called *alбини*, or *albarii*.

This

This is otherwise called *opus album*. It differs from *testurium*, which is a common name given to all roofing or ceiling, including even that formed of lime and sand, or even lime and marble; whereas Albarium was restrained to that made of lime alone.

ALBAS, in *Geography*, a town of France, in the department of Lot, three leagues west of Cahors.

ALBASANO, a town of Albania, in European Turkey, 132 leagues west of Constantinople. N. lat. $41^{\circ} 32'$. E. long. $26^{\circ} 15'$.

ALBASTRA, an ancient town of Egypt, on the Arabian coast; the inhabitants of which are called by Epiphanius Alabastrides.

ALBATEGNI, in *Biography*, a celebrated astronomer of the ninth century, was a native of Bata, in Metopotamia, and hence called Al Battani, or Albatani. As Bata was one of the dependencies of Harran, he was also denominated Mohammed Ebn Jaber Ebn Senan Abu Abdallah al Harrani and Mohammed of Aractus. His astronomical observations were made about the years 882 and 883, at Antioch, and at Araca or Aractus, a town of Chaldaea; and Blair, in his chronology, states the time of his death about the year 888. Dr. Halley highly commends him (Phil. Trans. for 1693, n^o 204.), as a man of admirable genius, and an excellent observer, though he detects many errors in the editions of his works. He observed the autumnal equinox at Aractus on September 19th, one hour and 15 minutes after midnight, A. D. 882; and he also observed, about 883, that the first star of Aries was $18^{\circ} 2'$ from the equinoctial point; he states the obliquity of the ecliptic at $23^{\circ} 35'$, and the motion of the sun's apogee, since Ptolemy's time, as well as the motion of the stars, one degree in 70 years. He computed new astronomical tables, instead of those of Ptolemy, which were imperfect, and adapted them to the meridian of Aractus or Raca; and they were long used as the best among the Arabs. He also composed a work, entitled "The Science of the Stars," comprising all parts of astronomy, according to his own observations and those of Ptolemy. This work was translated into Latin by Plato of Tibur, and published at Nuremberg in 1537, with some additions by Regiomontanus; and reprinted at Bologna in 1645, with the notes of this author. The Alphonic tables of the moon's motions were founded on the observations of Albategni. The original Arabic of this work, which was never published, is in the library of the Vatican. Blair's Chronol. N^o 38. D'Herbelot Bibl. Orient. Hutton's Math. Dict. vol. i. p. 59, &c.

ALBATEL, in *Geography*, a Cape on the coast of Barbary, about 12 leagues north-east of Cape de Tenes, within which are several good roads, particularly at Marfolach, to the west of Cercelli island and point.

ALBATENIUS, an Arabian physician, lived towards the end of the 11th century, cotemporary with Serapion. He translated the works of Galen into Arabic.

ALBATI-equi, in *Antiquity*, was a denomination given to those horses in the games of the circus, which were distinguished by white cloths or furniture. In which sense, they are contradistinguished from *rustati*, *præfina* and *veneri*.

ALBATROSS, in *Ornithology*. See DIOMEDEA.

ALBAZIN, in *Geography*, a town of Great Tartary, in the road from Pekin to Moscow, situated on the river Amur, and defended by a good fortress against the attacks of the Chinese and Tartar Monguls. N. lat. 54° . E. long. $104^{\circ} 14'$.

ALBE, in *Commerce*, a small coin, current in Germany, valued at a French sol and seven deniers.

ALBEC, in *Geography*, a river of Switzerland, runs into the Rhine, near Furlenau.

ALBECK, a town of Germany, in the district of Ulm, which is the capital of a prefecture of the same name, is situated on the river Alb, five miles north-east of Ulm, and eight miles west-north-west of Augsburg. N. lat. $48^{\circ} 29'$. E. long. $9^{\circ} 58'$.

ALBECOR, in *Ichthyology*, the SCOMBER THYNNUS of the Linnaean system.

ALBEGNA, in *Geography*, a river of Tuscany, runs into the sea between Telamon and Orbitella.

ALBEKERK, a town of Holland, 12 league south-west of Medemblick.

ABEL, a river which rises in Mount Abel, in the country of the Omions, and discharges itself into the Rhine near Bergen.

ALBELDA, a town of Spain, on the river Iregua, in the country of Rioja.

ALBELEN, in *Ichthyology*, called also ALBULA, and resembling the *sarra*, caught in the German and other lakes, is a fish of a fine silvery white colour, and from five or six to twelve pounds in weight.

ALBELLA, in *Conchology*, a species of *HELLIX*, with an umbilicated smooth shell, the under part gibbous, and a semicordated aperture; found on the rocks of Europe.

ALBELLUS, in *Ornithology*, a species of *MERGUS*. See SMEW.

ALBEMARLE, AUMARLE OF AUMALI, in *Geography*, a town of France, which gives the title of Earl to the noble family of Keppel. See AUMALE.

ALBEMARLE, a county of America, in the state of Virginia, lies between the Blue Ridge and the Tide Waters, and contains 12,585 inhabitants, in an extent of about 35 square miles.

ALBEMARLE Port, a spacious bay or harbour, on the southern coast of Falkland islands, is situated between Fox bay and Port Stephens, and may be known by a small island off the entrance.

ALBEMARLE Sound, an inlet of the sea, on the coast of North Carolina, 60 miles long, and from eight to 12 broad. It communicates with Pamlico sound, and with Currituck inlet, and receives Roanoke and Meherrin rivers. The passage into it from the sea is called Roanoke inlet. N. lat. $35^{\circ} 50'$. W. long. $76^{\circ} 10'$.

ALBEN, a town of Austria, in the Inner Carniola, is environed on all sides with high mountains, large forests and deserts, and is distant two miles north-west from Cirknitz. There are mines of mercury in the vicinity of this town. From the mountain of the same name on which it is situated, called also *Monte del carso* the river Alben flows, which runs into the gulf of Venice, between Laubach and Capo d'Istria.

ALBEN-see, a lake of Austria, 13 miles west of Windisch-Garten.

ALBENGA is a small island on the coast of Genoa, opposite to the town of Albenga, and called also Gallinara.

ALBENGUA, or ALBENGA, anciently *Albium Ingaunum*, or *Albingaunum*, a sea-port town of Italy, in the territory of Genoa, is the see of a bishop, suffragan to the archbishop of Genoa. It was formerly a very considerable and well-fortified town, but has suffered by the wars, and is deserted on account of the insalubrity of the air. The vicinity abounds with olive trees, and produces great quantities of hemp. It was burnt by the Pilans in 1175, but rebuilt by the Genoese. It is about 15 leagues south-west of Genoa. N. lat. $44^{\circ} 42'$. E. long. $8^{\circ} 12'$.

ALBENQUE,

ALFENQUE, a small town of France, in the diocess of Cahors and department of Lot, distant 9 leagues from Montauban.

ALBOLA, in *Ornithology*, the *Anas allarda* of the Linnæan system by Gmelin, the *gallinula alaudina* of Bechm., both black and white duck of Edwards, the *spina* of the Arabs, Zoolary, and the white and black *fratelle* or nun of Buffon, is typically distinguished by a white colour; black back and wing-quills, bluish head, and back of the head white. Its white robe, and white band with a black cap and mantle, have given occasion for calling it *religieuse*, or nun. The back of the head is decorated with green and purple lustre, and the white band encircles it behind from the eyes. The Newfoundland fishers call it *spina*, as Edward Dugger has, because it is a variable diver, appearing at a great distance, very soon after it has plunged. It is found in America, from Hudson's bay to Carolina, and from its nest in trees near fresh water.

ALBERCHE, in *Geography*, a river of Spain, which runs into the Tago, near Talavera.

ALBERDÖRF, a town of Austria, on the river Bulckan, 100 miles east of Schmuttenal.

ALBERGOTTI, FRANCIS, in *Biography*, an eminent civilian, of the 14th century, studied under Baldi, and exercised his profession at Ancona, in the state of Florence; but removing to Florence, he was there ennobled. His character for integrity is no less applauded than his skill in the law; so that the appendage annexed to his name is, "solidæ veritatis doctor;" or the teacher of solid truth. He wrote "*Commentaries on the Digest*," and some other pieces in law; and died in 1376. Gen. Biog.

ALBERGUS, JOHN, a native of Mazarin, in Sicily, where he practised medicine with success, towards the end of the 17th century, published at Palermo in 1703, "*Summa Tractatum Chirurgicæ praxeos*, 12mo."

ALBERIC, or ALBERT, a French historian, was canon of the church of Aix in Provence, in the 12th century, and wrote a history of the first crusade, from the reports of those who attended it. His narrative extends from 1095 to 1120, and is contained in two distinct works, viz. "*Chronicon Hierosolymitanum*," printed in 4to., at Helmanstadt in 1584; and "*Gesta Dei per Francos*," in folio, 1611. Gen. Biog.

ALBERIZZI, PETER JOSEPH, studied medicine at Pisa, and practised several years at Milan, where he died 1722, aged only 31 years. He published "*Critologia Medica de causis suis pestiferæ, ejusdemque cûræ, qua vermiculi, de quibus somniarunt nonnulli, exploduntur*."

ALBERNUO, in *Commerce*, a kind of camblet brought from the Levant, by way of Marseilles.

ALBERONE, in *Geography*, a town of Naples, in the province of Capitanata, eight miles south-south-east of Volturara.

ALBERONI, CARDINAL, in *Biography*, a celebrated statesman, was born at Placentia in Italy, in 1664, and employed till the age of 14 in the occupation of his father, who was a gardener. Having relieved M. Campistron, secretary to the duke of Vendome, when he was robbed near the village where he lived, he was recommended by him to his general, who took him into Spain. From this menial low state he rose by several gradations to the dignity of cardinal and archbishop of Valentia, and to the office of prime minister, in the court of Spain. For both these honours he was indebted to the patronage of the prince of Parma, whose marriage with Philip V. he had projected and accomplished. His disposition was intriguing and enterprising; and not content with effecting some domestic reforms and arrange-

ments, he formed the design of an expedition against Sardinia and Sicily, and in order to prevent the interference of other powers, he made an alliance with Czar Peter, Charles XII. of Sweden, and, as some say, with the Ottoman Porte. He also proposed exciting the Turks to make war on the emperor, to advance the Pretender to the throne of England by means of Peter and Charles, to divest the duke of Orleans of the regency of France, and to annihilate the German power in Italy. But an union between England and France was the result of the discovery of this plan; and both these powers concurred in declaring war against Spain in 1719, and the condition of peace was the removal of Alberone, and his banishment from the kingdom. Having received an order in Dec. 1720, to quit Madrid in 24 hours, and to leave Spain in a fortnight, he retired with great wealth; nor was it discovered before he had been two days on his journey, that he had taken with him the testament of Charles II. of Spain, which appointed Philip universal heir of the Monarchy. The instrument was wrested from his possession by force; and pursuing his journey to Genoa, he was there arrested by order of the pope, on the charge of negotiating with the Turks. On his exculpation, and subsequent liberation from the convent of the Jesuits, to which he was confined for a year, he engaged in new intrigues, and particularly in an unsuccessful enterprise against the small republic of St. Marino. A *bon mot* of Benedict XIV. on this occasion was very generally circulated: "Alberoni is like a glutton, who, after having eaten a large salmon, cannot help casting a wishful eye at a minnow." His views were more laudably directed to the establishment and endowment of a seminary of education for poor scholars in his native city. Alberoni preserved his health and vivacity to old age; his conversation chiefly turned on the recital of his own exploits, and was instructive and amusing; though in his temper he was irascible and impatient of contradiction. He died in 1752, at the advanced age of 87, and left behind him the character of "a great politician, as daring as Richelieu, and as supple as Mazarin, with as little principle as either. His life, to the year 1719, has been published by John Roussel, translated from the Spanish. A pretended "Political Testament," in the name of cardinal Alberoni, printed in 1753, is considered as spurious. Nouv. Dict. Hist. Gen. Biog.

ALBERT I. duke of Austria, and emperor, was the son of the emperor Rodolphus, and a competitor for the Imperial crown with Adolphus of Nassau, whom he defeated and killed in battle. Before this victory, he had been elected king of the Romans; but apprehending that his election would be contested, he obtained the confirmation of it, and was solemnly crowned at Aix-la-Chapelle, in the year 1298. He began his reign with renewing the ancient leagues between the emperor, and with forming a treaty of marriage between his son Rodolphus and Blanche, the daughter of Philip the French king. The alliance with France was protested against by the three ecclesiastical electors, and upon the emperor's appeal to pope Boniface, with a demand that he would ratify his election, the pope declared that it was null and void, and that Albert ought to be treated as a murderer. Boniface proceeded, upon the complaint and remonstrance of the electors, to prohibit the subjects of the empire from acknowledging the claims of Albert, and to release them from the obligation of their oath of allegiance. The emperor, incensed at the conduct of the ecclesiastical electors, declared war against them, and soon compelled them to sue for peace. In 1303, the pope having quarrelled with Philip the Fair of France, made advances to Albert,

Albert,

Albert, confirmed his election, invited him to Rome to receive the Imperial crown, and exhorted him to declare war against Philip, whom he had excommunicated. The conditions, however, were humiliating; but the emperor acquiesced, and agreed to take the oath of allegiance to the pope, after acknowledging that kings and emperors received the power of the temporal sword from the holy see, and consenting to perform all the promises made by Rodolphus and his predecessors, and to defend the rights of the holy see against all its enemies. Before this reconciliation between the pope and the emperor took place, Albert had engaged in an unsuccessful war with John d'Avenes, next heir to John count of Holland, who had lately died, under a claim of his dominions, as fiefs reverfible to the empire. The war terminated with a stipulated condition that John d'Avenes should enjoy the countries of Holland, West Friesland, and Zealand, in consideration of doing homage to the emperor, from whom he accordingly received the investiture of these dominions. Albert, likewise, in 1302, invaded Bohemia, but was obliged to retreat with loss. But upon the death of Wincenslaus the younger, who was assassinated by his subjects, and who died without issue, the emperor seized Bohemia, and placed his son Rodolphus on the throne; but Rodolphus dying suddenly, Albert could not secure the crown for his next son, Frederic. His next object was to support Philip of Nassau, brother of Adolphus, the late emperor, in an unjust attempt to recover Misnia and Thuringia from the rightful possessors; but this exploit terminated in a disgraceful defeat. In another instance he was no less mortified, but the event proved singularly important. The three cantons of Uri, Switz, and Undervald, though they do not seem to have been in any respect dependent upon the house of Austria, had voluntarily sought the protection of Rodolphus; and he treated them with great indulgence, and defended their rights and privileges, without ever considering them as fiefs of the house of Austria. But the conduct of his son Albert was directly the reverse: he wished to govern them as an absolute sovereign, and had formed a scheme for converting Switzerland into a principality for one of his sons. By his own insolence and oppression, and the similar conduct of the governor whom he appointed, they were so aggrieved and incensed, that the three cantons above-mentioned formed a confederacy for the purpose of emancipating themselves from the Austrian yoke. They succeeded in their efforts, and retrieved that liberty which they have since enjoyed. The other cantons soon engaged in the confederacy, and thus was laid the foundation of the Helvetic republic. Albert was uniformly influenced by a spirit of rapacity and an unwarrantable desire of aggrandizing his own family; and he at length fell a sacrifice to his ambition and avarice. Having refused to put his nephew John, duke of Suabia, in possession of his paternal estates, which, it was thought, he designed for one of his own sons, the nephew formed a conspiracy against him. With this view, he engaged three confederates, who contrived to meet Albert on his progress from Basil to Rhin-felden, after he had crossed the river Rhees, near Schaffhausen; and John, having stabbed him in the throat, his accomplices completed the murder in the sight of his son and their attendants, who were incapable of affording him any succour. In the place where the emperor was slain, A.D. 1308, a cloister was built, and called Konigsfelt, from whence his body, after having been deposited there for some time, was carried to Spire, and kept among his predecessors. His character has been differently appretiated by different writers. Some represent him as a prince of a brutal disposition and manners, and of the most fordid ava-

rice: whilst others describe him as a prince of singular courage and address, and distinguished by an excellent understanding, and an inviolable attachment to truth. All agree, however, in charging him with an insatiable degree of avarice. It is said, that he equally abhorred flattery and slander; and that there were three sorts of prisons for whom he had a particular regard, viz. women of honour, men of courage, and pious ecclesiastics. He was called "*the Triumphant*," on account of his generosity and valour, and the many victories he obtained over his enemies; and the "*one-eyed*," because he had lost one eye by the operation of poison, which was given to him at his own palace in Vienna, about three years before he was elected emperor. Albert, by his wife Elizabeth, daughter of the duke of Carinthia and Gorcia, had six sons and five daughters. By his youngest son Albert, surnamed the "*Counterfeit*," the male issue of the family is derived. Mod. Un. Hist. vol. xxvi. p. 130, 142.

ALBERT II. duke of Austria, and emperor, surnamed the "*Grave*" and "*Magnanimous*," was the son of Albert of Austria, called the "*Wonder of the World*," and married Elizabeth, daughter of the emperor Sigismund. By his wife conduct he re-established the security of his Austrian subjects, which had been for a long time interrupted by intestine wars and rapine; and if his life had been prolonged, he would probably have been the greatest prince that ever sat upon the Imperial throne. In one year, he was honoured with three crowns. To the Hungarian throne he was advanced in consequence of the will of Sigismund, whose daughter and heiress he had married; and he was elected king of Bohemia, in consequence of a convention between the two families, which stipulated, that when the lawful heir male of the house of Bohemia should chance to fail, the crown should devolve upon a prince of the house of Austria. The throne, however, was disputed by Casimir; but after a successful struggle secured by Albert, who was crowned at Prague. During his conflict with Casimir, he was elected emperor at Frankfort. After his election and coronation at Aix-la-chapelle, it was his chief care to reform the administration of justice, and to abolish the tribunal, called the secret or Westphalia judgment, which condemned without trial, or even public accusation. He also confirmed the neutrality which had been adopted by the German electors and princes, with respect to pope Eugenius and the council of Basil, and by the mediation of the pope and council he concluded a peace between Hungary and Poland. When Bulgaria was invaded by Amurath, the Turkish Sultan, Albert took arms in its defence, and marched to Buda; but being there seized with a violent dysentery, he was under a necessity of returning to Vienna; and in his way thither the disorder proved fatal, A.D. 1439; and he was interred at Weissenburg. He left a posthumous son and two daughters. In one of the diets which were held at Nuremberg during the short reign of this prince, Germany was divided into four circles, viz. Bavaria and Franconia, the countries about the Rhine together with Almenia, Westphalia, and the Low Countries, and Saxony. In another diet, it was proposed to divide the empire into six circles, and this division was established by the emperor Maximilian I. Albert was of tall stature and great strength, liberal and just in his disposition, and of a virtuous character; he cherished a warm affection for his people, a great zeal for religion, and an uncommon esteem for learned men. Mod. Un. Hist. vol. xxvi. p. 273—278.

ALBERT the Great, so called on account of his great erudition, in *Biography*, was born at Lawingen in Suabia, about the year 1193, or, as some say, 1205. He

was educated at Paris, and in 1235 he was made doctor in medicine at Paris; where his father had father Jourdain, the Dominican prior, he was induced to take the habit; and on the death of Jourdain, was made vicar general, then provincial of that order. He taught philosophy, medicine and theology at Cologne, and at Paris to numerous auditors. At Cologne St. Thomas Aquinas was his pupil. In 1246, he was made bishop of Ratisbon; but at the end of three years he resigned that dignity, and retired to Cologne. From hence he went to Germany and Bohemia, to preach the crusades; and in 1254, he attended the council of Lyons. Afterward for the remainder of his life, he continued to instruct the religious of his order in this city, till the 14th of November 1270, the time of his death. His works, which were very voluminous, were collected by father Jamet, a Dominican of Grenoble, and published at Lyons in 1715, in 21 volumes in folio; but many of them are supposed to be spurious. The treatise "*De secretis Mulierum, item de virtutibus herbarum, lapidum, et animalium*," published under his name, was written by Henry of Saxony, one of his pupils. He was undoubtedly the author of several works on the mathematical sciences: as arithmetic, geometry, perspective or optics, music, astrology and astronomy; under the titles—"De Sphæra, de Antris, de Astronomia, item Speculum Astronomicum." As he was a man of genius and knowledge superior to his contemporaries, and particularly devoted to mathematical disquisitions, he was charged, according to the cant of the times, with being a magician. He is said to have contrived a kind of androides, or machine in the human form, which he had brought to such perfection, that it could speak: and of this machine many tales are related, but they are not worth recording. It is not at all incredible, that by his knowledge of mechanics and acoustics, he might have constructed a machine, which, by means of the air and certain springs, produced sounds, resembling those of the human voice; and that he might apply his knowledge in chemistry to the production of artificial flowers and fruits. Some have, without foundation, ascribed to Albert the invention of fire-arms. The chief object of his investigation, was probably the philosopher's stone, as this was the "*ignis fatuus*" of the age. Gen. Dict. Hutton's Dict. Dupin cent. xiii. Brucker's Hist. Philos. by Enfield. vol. ii. p. 371-372.

ALBERT of Aix, or ALBERTUS Aqueus, was a canon of Aix-la-Chapelle, in the 12th century, who travelled into the Holy Land, and wrote in Latin, "A History of the Expedition to Jerusalem, under Godfrey of Boulogne, and other Leaders." This history comprehends a period of 24 years, terminating in 1120, and is esteemed accurate. It was printed by Reineccius, in 1584. Cave. H. L. tom. i. p. 256.

ALBERT, ERASMUS, a German divine of the 16th century, was born at Frankfort: from a book entitled, "The Harmony between Jesus Christ and St. Francis;" and highly valued by the Franciscans, he collected many absurdities in a book which he entitled—"The Alcoran of the Cordeliers." To this book Luther, of whom Albert was a disciple, prefixed a preface, and it has passed through a great number of editions. The author wrote other works in Latin and German, and died in 1551.

ALBERT, KRANTZ, an historical writer, was professor of divinity at Hamburg, in the beginning of the 16th century. His works are—"Metropolis;" or, A History of the Churches established or restored in the reign of Charles V.;—"A History of Saxony;"—"A History of the Germans;" and "A Chronicle of the Affairs of the

North, from the time of Charlemagne to the year 1504." He died in 1517. He is said to have collected facts with diligence, and to have related them with fidelity and freedom. Voss. de Hist. Lat. Cave. H. L. tom. ii. p. 243.

ALBERT of Stade, a benedictine monk, flourished about the middle of the 13th century. He wrote "a Chronicle," comprehending the whole period, from the beginning of the world to the year 1256, which was published with notes, by Reineccius, in 1587. Cave.

ALBERT of Stenfburg, or ALBERTUS ARGITENSIS, flourished in the 14th century, and published in Latin, "A History or Chronicle of Affairs from the Reign of Rodolphus I. in 1270 to the Death of Charles IV., in 1378." This work, which is faithfully written, was edited by Ursinius, in a collection of authors, who wrote on the affairs of Germany. Vossius. Cave.

ALBERT, SOLOMON, a pupil of Fabricius ab Aquapendente, a learned and ingenious anatomist, studied medicine at Wittenberg, where he was several years professor. He is said to have discovered the valve of the colon, first in a cat, afterwards more distinctly in the body of a man, and to have made many other improvements in anatomy. Haller Biblioth. Anatomic. vol. i. p. 251. His works are—"Historia, &c. humani corporis partium in usum Tyronum edita, figuris illustrata, Wittenberg, 1583. 8vo." The plates, with the exception of two, are from Vesalius. This work has passed through several editions. "Tres orationes, quarum tertia agit de disciplina anatomica, quo oris caperit, &c. tunc de Galeni libro quid. assibus inscribitur. Annexum est thema de lachrymarum utilitate in levando animi affectu." Norimbergæ 1585, 8vo. This Discourse on the Efficacy of Tears, in alluaging the Affections of the Mind, is inserted in Haller's collection of dissertations. "Oratio de surditate et mutitate; Norimb. 1591. 8vo." "Orationes quatuor, de felle restagnante, de fudore cruento, &c. ibid." 1590, &c. He died March 29th, 1600. His age is not known.

ALBERT, in Geography, a town of France, in the department of Somme, and district of Peronne, five leagues north-east of Amiens, and four north-west of Peronne.

ALBERTI BORGHEGIANO, CHERUBINO, in Biography, an eminent painter and engraver, was born at Borgho S. Sepulchro in 1552, and died in 1615. The rudiments of historical painting he acquired from his father, Michael Alberti; and in this art he made very considerable progress. His best works are in Frieze at Rome; and there are also paintings in oil, which are admired for their judicious disposition, lively and beautiful colouring, and fine expression. His superior merit, as an engraver, is also acknowledged; and in this respect his best style of execution seems to have been founded on the prints of C. Cort and Agostino Carracci, whilst in his friezes and other slighter plates, he was indebted to the works of Francesco Vilemena, whose freedom of handling the graver is justly admired. He worked entirely, like these artists, with the graver, and seems never to have called in the assistance of the point. His engravings are never highly finished, or powerful in effect. The great fault of his time was the little attention paid to the chiaro-scuro. The lights are scattered and left untinted, as well upon the distances, as upon the principal figures of the fore ground, which destroys the harmony, and prevents the proper gradation of the objects. The drawing of the naked parts of the figure, in the works of this artist, is rarely incorrect: the extremities are well marked; and the characters of the heads generally very expressive; but his draperies are apt to be rather stiff and hard. His prints

prints may be considered as very extraordinary efforts of a great genius; whilst the art was at a considerable distance from perfection. The number of plates engraved by Alberti, amounts to nearly 180; of which 75 are from his own compositions, and the rest from Michael Angelo, Buonarroti, Raphael, Polidoro, Andrea del Sarto, &c. Of these we shall enumerate the following, viz.—A large nativity; a dead Christ, supported by an angel; St. Jerome seated in a landscape, meditating upon the cross; the resurrection of our Saviour; a holy family; creation of Adam and Eve, their expulsion from paradise, their subjection to labour; and the miracle of St. Philip Benizzo, where the men, who despised the exhortations of the faint, are struck dead with lightning, which is esteemed one of the most excellent prints of this master. Pilkington and Strutt.

ALBERTI, DOMENICO, a Venetian *dilettante*, gifted with genius and an exquisite taste. He was of the *corps diplomatique*, and secretary to the Venetian ambassador at Madrid. At a time when there was little melody in harpsichord lessons, he brought about a revolution in the style of playing that instrument, by giving a fingering treble to a rapid base, composed of chords broken into groups of semiquavers, which it was so easy to imitate, that composers and players soon grew tired and ashamed of it. Jerig at Paris, and Vento in London, glutted the public with whole volumes of lessons upon Alberti's base, but none ever composed such elegant treble parts for keyed instruments; the melody of which still stands its ground, through all the vicissitudes of 60 years:—a prodigious longevity for a musical production in point of taste! There is a little history, belonging to the publication of Alberti's lessons in England, worth recording, as a beacon to plagiarists. The first time these lessons were heard in London, was at Hickford's room, when they were admirably performed by Jozzi, the second finger at the Opera, at his own benefit; who, not only passed them off for his own compositions, but printed them, and had the courage to affix his name to the title-page, and the conscience to sell them for a guinea a book, equal at least to two guineas now. Unluckily for the author of this fraud, but not before many copies were sold, a gentleman, just returned from Venice, being possessed of a MS. copy of these sonatas in Alberti's own hand-writing, made Walsh, the music-seller, a present of the book, on purpose to expose the transaction. Walsh having obtained the MS. upon such easy terms, sold the eight charming sonatas for six shillings a book. The style being new, and so much more within the power of gentlemen and ladies to execute, than the rich and complicated pieces of Handel, and wild and original legerdemain of Scarlatti, had a prodigious sale, and soon obliged Jozzi to make a precipitate retreat to Holland, where he practised the same trick, but not with equal profit.

ALBERTI, DURANTE, flourished in 1590, and died at Rome in 1613, at the age of 75. He, and his two brothers, Cosmio and Giorgio, who were painters and engravers, were natives of Borgo S. Sepulchro. The two first engraved upon copper and wood; the last upon copper only, and died young in 1597. They are not supposed to have been artists of any great note. The son of this artist, viz. Pietro Francesco Alberti, was born in 1584, and died in 1638. He was an historical painter, and we have a print, called the "Accademia de Pittori," and containing many figures slightly etched, but with spirit and in a style that indicates much of the master.

ALBERTI, GIOVANNI, a painter of perspective and history, brother of Cherubino, was born at Florence in 1558, and

died in 1601. After receiving only instruction from his father, he went to Rome, where he studied geometry, and the works of Buonarroti and other great masters. His principal attention was devoted to perspective, in which he arrived at great eminence. He was distinguished by the elegance of his composition, the firmness and delicacy of his pencil, the grandeur of his thoughts, the judicious distribution of the parts, and the spirit visible through the whole. Pilkington.

ALBERTI, JOHN, a learned German lawyer, was born at Widmanstadt, and flourished in the 16th century. He was well acquainted with the oriental languages, and wrote "An Abridgment of the Koran," with notes, published at Nuremberg in 1543. In 1556, he published in 4to., at Vienna, at the expence of the emperor Ferdinand I. a New Testament in the Syriac character and language, for the use of the Jacobite sect, in which book are omitted the second epistle of Peter, the second and third of John, the epistle of Jude, and the Revelation. Alberti also wrote a Syriac grammar, with a preface, tracing the progress of the oriental languages among the Latins. Nouv. Dict. Hist. Gen. Biog.

ALBERTI, LELANDER, of Bologna, a Dominican, and an Italian historian of some celebrity, was born in 1479. His works are in Latin, "A History of illustrious Men of his Order," fol. 1527; in Italian, "A History of Bologna," and "A Description of Italy," printed in 1550, and translated into Latin by Kirlander, which abounds with curious information. Vossius. Hist. Lat. Gen. Biog.

ALBERTI, LEONI-BAPTISTA, an eminent architect of Italy, was born of a noble family at Florence in 1398, and pursued his studies at the University of Bologna with such success, that at the age of 20 he composed a Latin comedy, intitled "Philodexaos," under the name of Lepidus, which Aldus Manutius conceived to be antique. Here he took the degree of doctor of laws, and was ordained priest. However he chiefly devoted himself to the study of design, and to the examination of ancient edifices; and at Rome he was employed by pope Nicholas V. in several works of architecture. He also planned several considerable buildings at Mantua, Rimini, and Florence. Alberti was a painter, and a good mechanic; and invented an instrument for the practice of perspective; but he is principally known as a writer. His Latin work "On the Art of Architecture," in 10 books, was printed in 1481, much esteemed, and translated by Bartoli, into Italian, in 1546, and afterwards into French. He also wrote, in Latin, a work upon sculpture and painting, in three books, which was translated by Domenichi. He lived to an advanced age, and died at Rome in 1480, as some say, but according to Tiraboschi, in 1472. His funeral oration was pronounced by Angelo Poliziano, and he was celebrated by the contemporary Italian poets. Gen. Biog.

ALBERTI, MICHEL, professor of medicine at Hall, in Saxony, and member of the Royal Academy at Berlin, a strenuous defender of the principles of Stahl, against the mechanical physicians, particularly against Heister, was born at Fribourg, November 13th, 1682: he published "Epistola qua Thermarum et Acidularum idolum medicum destruit," Halle 1714, 4to. "Introductio in Universam Medicinam," ibid. 1718, 1719, 1721, 3 vols. 4to., containing a multitude of theses on different parts of medicine. For the titles of these, see Haller's Bibliotheca Medicinæ Practicæ, vol. iv. p. 386, &c. "Systema jurisprudentiæ medicæ Schneeberg," 4to. 1725. Haller gives a particular account of this work, which he highly commends. See as above; also for accounts of the remaining works of the author, who died at Hall, May 17th, 1757.

ALBERTINI, FRANCIS, a Christian, resigned a rich abbey in order to become a poet. He died in 1619. In his "Scherzo dell' Itey," the account he attempts to render of himself with philosophy; and a treatise "De Arte Critica," he endeavours to prove that critics have the right of the matter. 1 p. 1800.

ALBERTINUS, of the name of an historian and poet of Italy, was born at Bassano and flourished in the sixteenth century. He wrote during the reign of the emperor Henry VIII., 12 books on the history of Italy after Henry VIII., and a third part of the history of Louis of Bavaria; and he has been esteemed a judicious, faithful, and for the time in which he lived, an elegant historian. He also wrote a tragedy on the tyranny of Ascanius, which, with other poetical productions, gained him distinguished honours in the University of Padua. Petrarch mentions him with respect, as a diligent and accurate inquirer into facts. He died in 1529. Vossius. Gen. Biog.

ALBERTISTS, a sect of Scholastics, were thus denominated from their leader Albertus Magnus.

ALBERTO, BAYOS DE, in *Geography*, a shoal of rocks before the city of St. Salvador, in the bay of All Saints, on the coast of Brazil. On one of them is a strong fort which commands the road, and between them and the city is a very good harbour, where ships may ride with safety.

ALBERTON, or PORT ALBERT, a sea-port town of Africa, in the kingdom of Barca, on the confines of Tripoli, 6 leagues from Alexandria.

ALBERTUS, in *Commerce*, a gold coin, worth about 14 French livres, which was struck during the reign of Albertus, Archduke of Austria.

ALBESTA, in *Antiquity*, a kind of shield used by the ancient Albanians, a nation of the Mariti.

ALBESTROFF, in *Geography*, a town of France, in the department of the Meurthe, three leagues north-north-east of Douze.

ALBETROSS point, a rocky prominence on the coast of New Holland. S. lat. 38° 4'. W. long. 184° 42'.

ALBI, a town of Italy, in the province of Abruzzo Ultra. See *ALBA FURFIS*.

ALBI is also a town of Savoy in the Genevois, nine miles north-north-east of Aix.

ALBI, or ALBY, Alliga or Civitas Albiensium, a city of France, in the department of the Tarn, and situate on the river Tarn, was, before the revolution, the capital of a small country called the *Albigensis*, in Upper Languedoc. It has been the residence of a royal tribunal, and since 1677 the see of an archbishop. Its cathedral is dedicated to St. Cecilia, and has one of the finest choirs in the kingdom. The archbishop was metropolitan of five bishops, and they reckon 30 cardinals, who had been bishops of this see. The diocese contained about 327 parishes, and produced about 65,000 livres. It stands upon an eminence, and the number of inhabitants has been estimated at 10,000. In the cathedral was a valuable silver shrine, of the mosaic kind, and of exquisite workmanship, which contained the reliques of St. Cyprian, said to have been the first bishop of this city. There is a pleasant walk, called La Lice, a little above the city; and the archiepiscopal palace is very magnificent, and the small town of Chateauxvieux serves as a suburb. The river washes the walls of the city, and serves both for an ornament and a defence. It is 35 miles north-east of Toulouse, and 270 miles south of Paris. The territory of the Albigensis, is about 10 leagues long and seven wide, is well peopled, and produces abundance of grapes, corn, wood, saffron, and sheep. It has also coal-mines. The trade of this district consists of dried prunes, grapes, wine, and a confite

kind of cloth. N. lat. 43° 55' 44". E. long. 2° 8' 45". See *ALBI*, p. 10.

ALBI, in *Geography*. See *ALBETHEN*.

ALBETHEN, in *Geography*, a town on the Ivory coast of Africa, 60 miles east of Bini.

ALBIANTIA Cape, lies on the north-west point of the island of Cyprus, near the eastern extremity of the Mediterranean. N. lat. 35° 20'. E. long. 32° 18'.

ALBIAS, a small town of France, in the district of Quercy, divided into two parts by the river Aveyron.

ALBICILLA, in *Conchology*, a species of *FALCO*, in the Linnæan system, the *aquila albicilla* of Brisson, the *pygargus*, *albicilla* *hirundinaria* of Bellon, Gesner and Ray, the *grand pygargus* or great *erme* of Buffon, *braun fahler adler* of Linné, *white-tailed eagle* of Willughby, and *cinnereous eagle* of Pennant and Latham. Its specific characters are, "that its cere and feet are yellow, the tail-feathers white, and the intermediate ones black at their vertex." It is of the size of a peacock, being two feet nine inches long; its head and neck are of a pale ash colour; the iris and bill pale yellow, and the bill elongated at its base; the front between the eyes and the nostrils naked, with small scattered bristles, and of a cœrulean hue. The body and wings are cinereous, intermixed with dun; the tail white; the legs woolly below the knees, and of a bright yellow; the claws black. It inhabits Europe, particularly Scotland, and the adjacent islands, and preys upon large fish. Aristotle (*Hist. Anim. lib. ix. c. 32. tom. i. p. 937.*) gives this species the epithet of *Himularia*, denoting that it preys upon fawn, that is, young stags, deer and roe-bucks; and he represents it as haunting the plains, graves, and towns, and also resorting to the mountains and forests.

ALBICILLA, in *Conchology*, is a species of the *NERITA*, with a striated shell, subdentated lips, the interior tuberculated. It is found at the Cape of Good Hope and in the Indian sea.

ALBICUS, in *Biography*, an archbishop of Prague, was raised to that dignity by Sigismund, king of Bohemia, and distinguished by the liberality of his sentiments. His character has been reproached by the papists on account of the indulgence which he exercised towards John Huss and the other disciples of Wickliff. He composed three medical treatises, viz. "Praxis Medendi," "Regimen Sanitatis," and "Regimen Pestilentie;" printed at Leipzig, in 1484, 8vo., long after his death.

ALBIGAUNUM, or Allium Ingaunum, in *Ancient Geography*. See *ALBENGUA*.

ALBIGENSES, in *Ecclesiastical History*, a sect or party of reformers, who appeared about Toulouse and the Albigeois, in Languedoc, in the 12th century; and who derived their name, not from Albi's being the place of their birth, or residence, or the seat of their principal assembly; but from their having been condemned in a council held in that town, in the year 1176. Their origin may be traced to the PAULICIANS, who, with a view of propagating their opinions, or of escaping oppression and persecution, retired from Bulgaria and Thrace, and formed settlements in other countries. Their first migration was into Italy, whence, in process of time, they sent colonies into almost all the other parts of Europe, and gradually formed a considerable number of religious assemblies of persons who adhered to their sect, who were severely persecuted by the Roman pontiffs. About the middle of the 11th century many of the Paulicians settled in Lombardy, Infubria, and principally at Milan; and from hence they migrated to France, Germany, and other countries, where by their piety and zeal they captivated the admiration and esteem of the multitude. In Italy they

they were called Paterini, and Cathari or Gazar; in France they obtained the appellation of Albigenses, from the circumstance already mentioned; and they were also denominated Bulgarians, because they originally came from Bulgaria; Paulicians probably by corruption from Paulicians, from-Homages, or Good Men; Lero-Bulgians from Peter Bruys, who is said by some to have first brought them into Languedoc; Arnoldus, Alchidius, Henriens from the names of Arnold de Brene, Peter Abound, and Henry, who adopted their opinions. They were also called Passagers, Albi, and Albigenes; but some consider the latter as distinct from the Albigenses, though they avowed similar sentiments, and trace their origin to the 5th century. As the Albigenses were distinguished by their opposition to the discipline and ceremonies of the church of Rome, the Popish writers have comprehended all the adversaries of this church under the same appellation. Accordingly they have confounded them with the Waldenses, or Vaudois, who sprang up at a later period, and differed from them in some of their opinions. Bossuet, the bishop of Meaux, contends, that they were different sects; and he alledges, that the Albigenses were heretics and manichees; and that the Waldenses were merely schismatics, who were found as to articles of faith, and separated from the church of Rome on account of forms and discipline. But they were unquestionably agreed in their opposition to the papal hierarchy, and in asserting the usurpation, tyranny, and idolatry of the Romish church, and in representing the pope as Antichrist. The learned Limborch has taken pains to investigate and ascertain the difference between these two sects; and he states, in detail, the several opinions and practices in which they both agreed and differed. They concurred in maintaining the unlawfulness and sinfulness of every kind of oath, and the inutilty of confession to the priest, and the inefficacy of absolution, and in representing the church of Rome as antichristian. The opinions in which they disagreed were those of the manichees, which he inclines to think were adopted by many of the Albigenses, but which are not justly chargeable against the Waldenses. The former are said, upon the authority of the book of the Sentences of the Inquisition at Toulouse, to which this writer refers, to have believed, that there are two Gods and Lords, the one good, the other evil; that all things visible and corporeal were created not by God, our Heavenly Father, and the Lord Jesus Christ, but by the devil, the evil god, who is the god of this world, and the maker and prince of it. They also maintained, that the sacraments of the church of Rome are vain and unprofitable; viz. the eucharist, baptism, confirmation, orders and extreme unction. In the eucharist they believed, that there was not the body of Christ, and nothing but mere bread; the baptism of water they condemned as unavailing, and particularly that of children; extreme unction was, in their judgment, of no avail; and as to the orders of the church of Rome, they reproached and condemned its whole constitution; matrimony was sinful, and not appointed by the good God; they also denied the incarnation of Christ; and maintained, that he did not take a real human body, nor rise again with it, but merely with the likeness of it; and that it was impossible for God to be incarnate; they are also charged with denying the resurrection of bodies, alledging that though the souls of men shall come to judgment, they shall not then appear in their bodies; they objected to the adoration of the cross, the sign of which they represented as a detestable emblem of the devil; and they believed, that the souls of men were spirits banished from heaven because of their sins. The Albigenses differed also from the Waldenses in their rites and customs, as well as in their doctrines.

Of the former, it is said, there were two sorts, some professed their faith, and conformed to the customs of their sect, and were called *perfecti* or *comfortati*, perfect or comforted. Others only entered into a covenant with these perfect persons, which they call *La Consensus*, the agreement, that at the end of life they would be received into their sect; for this reception they were prepared by certain abstinences or fasts; and the admission, called spiritual baptism, was believed to save the soul of the person admitted, and was delayed to the last sickness, when there were no hopes of recovery. Those who were thus received were commanded to make use of the *crucifix*, i. e. falling themselves to death, and even to hasten their death by opening a vein and bleding. Of the manichæism of the Albigenses, and other opinions and practices, which have been charged upon them by inquisitors and popish writers, they have been execrated by protestant authors; and the charges have been ascribed to that malignant zeal, which has induced persecutors to vindicate their own conduct, and to fix reproach on those who have been deemed heretics. The errors and crimes of individuals have been, not unfrequently, charged upon whole bodies of men; and we have reason to think, that this has been very much the case in the present instance. However this be, the Albigenses became so formidable, both by their number and zeal, that a holy league, or crusade, was agreed upon among the Catholics; and pope Innocent III. exhorted all princes to oppress them as much as possible, and to expel them from their dominions. Raymond, earl of Toulouse, afforded them temporary protection and favour; upon which the pope ordered him to be excommunicated as a favourer of heretics. He also sent his legate, with letters to many of the prelates, commanding them to make inquisition against the Albigenses, and to destroy them. He also engaged Philip, king of France, to concur in this work of extirpation. The pope's legate was accompanied by 12 abbots of the Cistercian order, preaching the cross against the Albigenses, and promising, by the authority of Innocent, a plenary remission of all sins to all who took upon them the crusade. To these Dominick joined himself, and in that expedition invented the *INQUISITION*: and he deputed those who were denominated *CROSS-BEARERS* to unite their efforts for suppressing these heretics. When these deputies of Dominick and the pope were suspected of being less zealous than they wished them to be, a plenary indulgence was proclaimed in order to engage a greater number of assistants in this warfare of intolerance and blood. The cross-bearers on this occasion wore the cross on their breasts, as those who took it up against the Saracens bore it on their backs or shoulders. Raymond, who was still forbearing and indulgent, was excommunicated by a bull of Innocent, his subjects were absolved from their oath of allegiance, and power was given to any catholic, not only to act against his person, but to take possession of his country. The Earl was at last overcome, promised obedience, and sought reconciliation with the church. After the reconciliation of the earl, the cross-bearers were busily employed in attacking the heretics, seizing their cities, filling all places with slaughter and blood, and burning many whom they had taken captives. In the year 1209 Biterre was taken, the inhabitants without distinction put to the sword, and the city burnt. Carcassonne was also destroyed; and Simon, earl of Montfort, made governor of the whole country, for the purpose of extirpating heretics, which he faithfully fulfilled. In the next year a new expedition of the cross-bearers was undertaken against the Albigenses. They seized Albi, and other towns, and either hanged or burnt those heretics, whom they captured. The earl of Toulouse was alarmed by the destructive progress

prince of Simon Montfort, and fearing for himself, and for his country, raised a large army, and received his aid from the kings of England and Aragon, to whom he was related. Having been deprived of his dominions by Montfort, he appeared, in obedience, to the council of Lateran in 1213, but without avail. The threat denouncing him for ever excluded, he went to Spain, and his son Raymond to Provence, in order to collect auxiliary forces; and with these he recovered part of his dominions, and the city of Toulouse itself. Montfort was killed at the siege in his endeavour to retake it. The earl died in 1221, and was succeeded by his son, who was unable to procure christian burial for his father. When Raymond had recovered his father's dominions, the Inquisition was banished from the country of Toulouse; but pope Honorius III. used every effort to render him obnoxious, and earnestly urged king Lewis of France to take up arms against the Albigenes. The French king undertook the expedition against Raymond and the heretics, and laid siege to Avignon; where he and many of his army died of a dysentery and other diseases. Avignon was at length taken by treachery, and Toulouse was compelled to surrender. Raymond obtained peace upon very humiliating conditions; being required to abjure his heresy, and to be for ever subject to the see of Rome, to expel all heretics, and in no case to defend them; to pay a fine of 2000 marks, and to surrender a considerable part of his dominions to the king and the church. He was then led to the high altar, in a linen garment and with naked feet, and absolved from the sentence of excommunication. Oppressed afterwards by a series of misfortunes, he bowed his neck to the papal yoke, and signified to the pope his desire that heresy might be wholly extirpated from his dominions. Soon after this act of servile humiliation, viz. in 1249, he died, and was the last earl of Toulouse of that line. In consequence of these events, the Albigenes were dispersed, and they were little known or heard of till the time of the Reformation, when those who remained fell in with the VAUDOIS, and conformed to the doctrine of Zuinglius, and the discipline of Geneva. Limborch's Hist. of the Inquisition by Chandler, vol. i. p. 42—70. Mosheim's Eccl. Hist. vol. ii. p. 580. 8vo.

ALBIN, in *Geography*, a town of France, in the department of the Aveyron, six leagues north-west of Rhodes.

ALBINA, in *Conchology*, a species of *HELIX*, with a smooth perforated white shell, gibbous below, and quadrangular aperture. It resembles the *Albella*.

ALBINALLI, in *Geography*, a town of Asia, in Arabia Felix.

ALBINATUS *Jus.* See *AUBAINE*.

ALBINE. See *ASSINE*.

ALBINELLA, in *Entomology*, a species of *PHALÆNA TINEÆ*, with brown wings, and a single golden line, arched on the fore part, found in the groves of the northern part of Europe.

ALBINEN, or ALPEN, in *Geography*, a town of Switzerland, in the Valais, 22 miles east of Sion.

ALBINGAUNUM, or ALBIUM INGAUNUM, a town of Italy on the north east side of Liguria. See *ALBENGA*.

ALBINI, in *Antiquity*. See *ALBARIUM OPUS*.

ALBINOS, in *Zoology* and *Geography*, a denomination given to the white negroes of Africa, who have light hair, blue eyes, and a white body, resembling that of the Europeans, when viewed at a distance; but, upon a nearer approach the whiteness is pale and livid, like that of leprosy persons, or of a dead body. Their eyes are so weak that they can hardly see any object in the day, or bear the rays of the sun, and yet, when the moon shines, they see as well, and run through the deepest shades of their forests, with as much ease and activity, as other men do in the brightest daylight. Their complexion is delicate; they are less robust

and vigorous than other men; they generally sleep in the day, and go abroad in the night. The negroes regard them as monsters, and will not allow them to propagate their kind. In Africa this variety of the human species very frequently occurs. Wafer informs us, that there are white Indians of the same general character among the yellow or copper-coloured Indians of the isthmus of Darien; and the *CHACRELAS* of Java, as well as the *BEDAS* of Ceylon, seem to be of the same description. M. Buffon observes, that this variation of nature takes place from black to white only, and not from white to black; and that all the people in the East Indies, in Africa, and in America, among whom these white men appear, lie under the same latitude: the isthmus of Darien, the Negro country, and the island of Ceylon being under the same parallel. It has been a subject of inquiry, whether these men form a peculiar and distinct race, and a permanent variety of the human species, or are merely individuals who have accidentally degenerated from their original stock. Buffon inclines to the latter opinion, and he alledges in proof of it, that in the isthmus of America a husband and wife, both of a copper colour, produce one of these white children; so that the singular colour and constitution of these white Indians must be a species of disease which they derive from their parents; and the production of whites by negro parents, which sometimes happen, confirms the same theory. According to this author, white appears to be the primitive colour of nature, which may be varied by climate, food, and manners, to yellow, brown, and black; and which, in certain circumstances, returns, but so much altered, that it has no resemblance to the original whiteness, because it has been adulterated by the causes that are assigned. Nature, he says, in her most perfect exertions, made men white; and the same nature, after suffering every possible change, still renders them white: but the natural or specific whiteness is very different from the individual or accidental. Of this we have examples in vegetables, as well as in men and other animals. A white rose is very different, even in the quality of whiteness, from a red rose, which has been rendered white by the autumnal frosts. He deduces a farther proof that these white men are merely degenerated individuals from the comparative weakness of their constitution, and from the extreme feebleness of their eyes. This last fact, he says, will appear to be less singular, when it is considered, that, in Europe, very fair men have generally weak eyes; and he has remarked, that their organs of hearing are often dull: and it has been alledged by others, that dogs of a perfectly white colour are deaf. This is a subject which demands farther investigation. Buffon, *Nat. Hist.* by Smellie, vol. iii. p. 179—182.

M. Saussure, in his "Voyages dans les Alpes," gives an account of two boys at Chamouni, whom he refers to the class of Albinos. One of them was about 20 or 21 years of age, and the other about two years younger. The eldest had a dull look, with thickish lips, but his features in other respects were not different from those of other people. The youngest was of a more agreeable figure, and more sprightly. Their eyes were not blue; the iris was rose-coloured; and the pupil, when viewed in the light, appeared red; whence he infers, that the interior membranes were deprived of the uvea, and of the black mucous matter by which they should have been lined. In their infancy, their hair, eye-brows, eye-lashes, and the down upon their skin, were very fine, and of a perfect milk-white colour; but at the age above-mentioned, the hair was of a reddish cast and more strong. Their sight was also strengthened, and, even in their infancy, was not much

offended by the light of the day. They were unable to labour with persons of their age, and were maintained by the charity of a relation. Although they had not the thick lips and flat noses of the white negroes, this difference is owing, as M. Saussure thinks, to their being Albinos of Europe, and not of Africa. The malady that affects the eyes, the complexion, and the colour of the hair, enfeebles also their strength, without altering the conformation of their features; and of this malady, he apprehends, there are different degrees; so that it produces, in various instances, different effects. He at first ascribed it to an organic debility; in consequence of which, a relaxation of the lymphatic vessels within the eye, might admit the globules of the blood in too great abundance into the iris, uvea, and even the retina, and thus occasion the redness of the iris and of the pupil. This debility, he supposed, might account for the intolerance of the light, and for the whiteness of the hair. But M. Blumenbach, professor in the university at Göttingen, attributes it to a different cause. He has observed the same phenomenon in brutes, in white dogs, and in owls; and he says, that it generally occurs in the warm-blooded animals, and that he has never found it in those with cold blood. This ingenious physiologist is of opinion, that the redness of the iris, and of the other internal parts of the eye, as well as the extreme sensibility that accompanies it, is owing to the total privation of that brown or blackish mucus, which, about the fifth week after conception, covers all the interior parts of the eye in its sound state. He observes, that Simon Pontius, in his treatise, "*De coloribus oculorum*," long ago remarked, that the interior membranes of blue eyes are less abundantly provided with this black mucus, and are therefore more sensible of the action of light. He adds, that this sensibility of blue eyes is very conformable to the situation of northern people, during their long twilight; and that, on the contrary, the deep black in the eyes of negroes enables them to bear the strong glare of the sun's beams in the torrid zone. As to the connection between this red colour of the eyes, and the whiteness of the skin and hair, he says, it is owing to a similarity of structure. This black mucus is formed, as he asserts, only in the delicate cellular substance, which has numerous blood-vessels contiguous to it, but contains no fat, like the inside of the eye, the skin of negroes, the spotted palate of several domestic animals, &c. and the colour of the hair generally corresponds with that of the iris. *Gazette Litt. de Göttingue.* Oct. 1784.

M. Buzzi, surgeon to the hospital at Milan, published, at the same time, in the "*Opusc. Scelti de Milan*, 1784. tom. vii. p. 11." a very interesting memoir, in which he demonstrates, by dissection, the hypothesis of M. Blumenbach. Having an opportunity of dissecting the body of a peasant, who died at the age of 30 years, in the hospital of Milan, of a pulmonary disorder; and who was remarkable for the uncommon whiteness of his skin, hair, beard, and all the other covered parts of the body: he found the iris of the eyes perfectly white, and the pupil of a rose-colour; and the eyes were altogether destitute of that black membrane, called the uvea, which was not discernible, either behind the iris or under the retina. Within the eye, there was only found the choroid coat, extremely thin, and tinged of a pale red colour, by vessels filled with discoloured blood. The skin, when separated from different parts of the body, appeared to be almost wholly divested of the rete mucosum, nor was the least trace of it to be discovered by maceration, even in the wrinkles of the abdomen, where it is most abundant and most visible. The

whiteness of the skin and hair is ascribed by M. Buzzi to the absence of the rete mucosum, which, in his judgment, gives the colour to the cuticle, and to the hairs that are scattered over it. In proof of this opinion, he alleges a well-known fact, that if the skin of the black slave be accidentally destroyed in any part of the body, the hairs that afterwards grow on that part are always white, because the rete mucosum, which tinges those hairs, is never regenerated with the skin. M. Buzzi having assigned the probable proximate cause of this phenomenon, it still remains to determine, what is the remote cause of it, or how the rete mucosum is destroyed in such subjects. It seems to be a fact, very generally admitted, that persons of this description do not form a distinct species, as they are produced from parents with dark skins and black eyes. This was the case with respect to the Albinos of Chamouni. M. Buzzi relates a fact, cited by M. Saussure, which seems to throw some light on the subject. A woman of Milan had seven sons, of whom the two eldest, and the two youngest had brown hair and black eyes; the other three had white skins, white hair, and red eyes. During the pregnancies that produced these Albinos, the woman had a constant and immoderate appetite for milk, which she took in great quantities, but when she was pregnant with the other four, she had no such desire. But it does not appear, that this preternatural appetite was not the effect of a certain heat, or internal disease, which destroyed the rete mucosum in the children before they were born. M. Saussure observes, that this faulty conformation is more rare among women than among men; and it does not seem to be owing to the air of the mountains; for though he traversed the greatest part of the Alps, and the other mountains of Europe, he met with no other individuals of this kind.

ALBINOVANTES, PEDO, in *Biography*, a Latin poet, to whom Ovid addresses his 10th epistle, "*Ex Ponto*." *Opus. tom. iii. p. 876.* Ed. Burmann. There are extant of his writings, his *Elegy on Drusus*, and another on the death of *Mecænas*, published by Le Clerc in 1703, 8vo. and in 1715, 12mo. at Amsterdam, with a prolix commentary.

ALBINTEMELIUM, or ALBIUM INTEMELIUM, in *Ancient Geography*, now *Vintimiglia*, a town of Liguria, or the present territory of Genoa. See VINTIMIGLIA.

ALBINUS, BERNARD, called WEISS or *White*, in *Biography*, was born at Dessau, in the province of Anhalt, in Saxony, January 7th, 1653, and studied medicine at Leyden. In 1676, having taken his doctor's degree, he returned to his own country, where he soon distinguished himself for his sagacity and learning. In 1680, he was nominated professor of medicine at Frankfort on the Oder, and became so celebrated for the perspicuity of his lectures, that pupils flocked to him from all parts of Germany. In 1694, Frederic, elector of Brandenburg, appointed him his physician, with a pension of 600 florins, and soon after gave him a canonry at Magdeburgh. In 1702, he was chosen professor of medicine at Leyden. Having filled that office 19 years with the highest reputation, he died on the 7th of September 1721, aged 68 years.

A large collection of *Theses* is published under his name, the titles of which may be seen in Haller's *Bibl. Med. Pract.*

ALBINUS, BERNARD SIGEFRED, son of the former, prosecuted his studies with so much zeal and success, that on the recommendation of Boerhaave, he was appointed professor of anatomy and surgery at Leyden, in 1718, when he was only 20 years of age. This office he continued.

continued to fill by an unequalled felicity, Haller says, for 50 years, and acquired a greater degree of reputation, as teacher, or demonstrator in anatomy, to which he exclusively dedicated himself, than had been enjoyed by any of his predecessors. He died, Sept. 12th, 1757, aged 73 years. His great work, entitled, "*Opera musculorum hominis*," first appeared in 1734. In compiling this, he took great pains to measure and describe all the inflexions of the muscles in the bones, and to mark them in with aqua fortis, which he afterwards caused to be drawn by an excellent artist. In 1737, he gave some coloured plates of the arteries and veins of the intestines, and some elegant figures of the bones of the fetus. An anatomical explanation of the plates of Eustachius, with a new edition of the plates themselves, was published by him in 1743, and republished with improvements in 1761. His own large tables of the skeleton and muscles appeared in 1747; and about the same time, seven tables of the gravid uterus. His great tables of the bones was edited in 1753; and again, in an improved state, in 1762. Eight volumes, 4to, of "*Anatomical Annotations*," replete with curious matter, but too much occupied with controversy, appeared successively from 1754 to 1768.

Besides his original works, which are numerous, and highly illustrative of the science, he published in 1725, an edition of the works of Vesalius, with an account of his life; in the same year, "*Index suppellectilis Ravianæ*;" and in the year 1737, "*Gulielmi Harvæi Opera, et Hieronimi Fabricii ab Aquapendente*." See Haller's *Bibliotheca Anatomica*, vol. ii.

ALBINUS, CHRISTIAN BERNARD, though eclipsed by the superior fame of his brother, was so much esteemed for his skill and diligence, as to be raised to the chair of professor of anatomy, at Utrecht. He died April 5, 1752, aged 56 years. He published, in 1722, "*Specimen Anatomicum, exhibens novam tenuium hominis intestinum descriptionem*," 4to.; and the next year, "*De anatomie erroribus detegendis in Medicina*," also in 4to.

Two other authors of the same name are noticed by bibliographers; James, a native of Hamburg, who published in 1720, a "*Dissertation on the Scurvy*;" and Eleazer, who published natural histories of Birds and of Insects.

ALBINUS, PETER, or WEISS, a celebrated historian and good poet of the 16th century, was born at Sneberg in Misnia, and became professor of poetry and mathematics in the academy of Wittemberg, and then secretary to the elector at Dresden, where he published a second enlarged edition of the "*Chronicles of Misnia*," which he had printed at Wittemberg in 1580. His other works, principally historical, were much esteemed. Biog. Dict.

ALBINUS, DECIMUS CLODIUS, was born at Adrumetum in Africa, and called Albinus, on account of his fair complexion at his birth. In his youth he was instructed in the Greek and Latin languages, and he is said to have written a treatise on agriculture, and a collection of Milesian tales, which was a licentious performance; but his prevailing taste inclined to a military life, and he was accustomed at school to repeat frequently, and with peculiar pleasure, the following verses from Virgil:

"Arma amens capio, nec fat rationis in armis,"

ÆNEID, ii. v. 314.

"With frenzy seiz'd, I run to meet th' alarms;

"Resolv'd on death, resolv'd to die in arms!"

DRYDEN.

He commenced his career under the emperor Antoninus, whose esteem he acquired; and after some previous gradua-

tion of advancement, he commanded the army in Dithynia, when Avidius Cassius revolted against Marcus Aurelius. On this occasion he distinguished himself by his fidelity to his prince, and by his active service, for which he was rewarded, as it is said, with the consulship. Under Commodus he acquired reputation in several battles on the Rhine and on the Danube, and he was at length appointed commander of the legions in Britain. Whilst he governed Britain, Commodus, by the account of Capitolinus, which is not generally credited, indulged him with permission to assume the title of Cæsar, with all the ensigns appropriate to that dignity. However this be, Severus, as we are informed by Dion Cassius and Herodian, soothed his ambition and engaged his attachment, by giving him this title. Albinus was deluded by this honour, and by the expectation which the emperor led him to entertain of sharing with him in the Imperial government. Severus also appointed him his colleague in the consulship in the year 194, ordered statues to be erected to him, and conferred upon him other distinctions, which afforded an opportunity ultimately of destroying him. Having defeated and killed Niger, whom he had amused and deceived by the same kind of dissimulation which he was practising on the credulous Albinus, he determined to get rid of this rival, whose character, contrasted with his own, induced the senate to exchange one master for another. Some say that, before he had recourse to open force of arms, he tried the base and perfidious means of assassination; but Dion Cassius's account is more probable, who says, that Severus, after his victory over Niger, deprived Albinus of the title and prerogatives of Cæsar; and that Albinus, on the other hand, pretended even to the title of Augustus. Accordingly Albinus was proclaimed under this appellation, engaged Gaul and Spain in his interest, and hastened with a powerful force to meet Severus, who had proclaimed him a public enemy. The two rivals, after some previous skirmishes, decided the contest for the empire in the plain between Lyons and Trevoux. Their two armies were equal in number, each of them consisting of 150,000 men, and they were led on by the two emperors. The troops on each side fought with great valour. The British legions under Albinus were not inferior to those of Illyricum; but Severus was thought to be an abler general than his competitor. The victory was long doubtful, but at length Severus prevailed; and Albinus was compelled to fly with the shattered relics of his army, first to Lyons, and then to a house near the Rhone, where he either destroyed himself with his own sword, or made one of his slaves perform the fatal office for him. He was not quite dead, when a detachment of the enemy arrived, cut off his head, and carried it to Severus. His wife and children were at first pardoned; but afterwards inhumanly massacred, and their bodies thrown into the river. The whole family of Albinus, all his friends, and most distant relations, without distinction of age or sex, were, by the orders of Severus, barbarously slaughtered, and their estates confiscated. Most of the great men of Gaul and Spain, who had manifested any attachment to Albinus, underwent the same fate. By means of these murders and confiscations, Severus amassed an immense treasure, enriched his soldiers, and, at his death, left incredible wealth to his children. This event happened on the 19th of February, according to Tillemont, A. D. 197, the 4th year of Severus's reign.

Of the character of Albinus, different accounts have been given. Capitolinus, on whose report we cannot much depend, represents him as stern, reserved, unsocial, rigid to cruelty in his discipline, gluttonous and brutal. But this account is not very credible, when it is considered that his soldiers

soldiers were attached to him, and that he was exceedingly beloved by the senate, and applauded for his justice and humanity. He seems, however, to have been a brave warrior, who had the art of making himself beloved; but who had not cunning enough to guard against the artifices of his enemy, and this was the cause of his ruin. Crevier, *Hist. of the Emperors*, vol. viii. p. 63—96. *Anc. Un. Hist.* vol. xiii. p. 374—393.

ALBINUS, A. *Posthumius*, the colleague of Licinius Lucullus in the consulship, in the year before Christ 151, wrote a History of the Affairs of Rome, in the Greek language. He is mentioned by Cicero in his *Brutus* (*Oper. tom. i. p. 399. Ed. Olivet.*) as a man of learning and eloquence. Upon his making an apology, and intreating pardon for the improprieties of expression that occurred in a work written in a language so different from that of his own country, Cato facetiously asked, "Why did you chuse rather to solicit pardon for a fault than not to have committed it?" His conduct however in this respect needed no apology, as the Greek language was known to almost all nations, whilst the latter was almost wholly confined to the Roman territory, and therefore his history would be more extensively read. See Cicero per Archia, *Oper. tom. v. p. 405.*

ALBIOECE, or ALEBECE, in *Ancient Geography*, called also *Reji Apollinares*, from their worship of Apollo, and *Civitas Rejensium*, was a Roman colony of Gallia Narbonensis. It is now *Riez* or *Rieux*, in Provence.

ALBION, a name formerly given to the island of Britain, comprehending England, Scotland and Wales, by way of contradistinction from Hibernia, and the other British islands. Thus Agathemerus, (*lib. xi. c. 4.*) speaking of the British islands, says, they are many in number; but the most considerable are Hibernia and Albion; and Ptolemy (*lib. ii. c. 3.*) calls Albion a British island. Pliny also (*H. N. lib. iv. c. 16. tom. i. p. 222.*) observes, that the island of Britain, so much celebrated by the Greek and Latin writers, was formerly called Albion; the name of Britain being common to all the islands round it. The etymology of the name is uncertain. Some derive it from the Greek *αλφον*, *alphon*, signifying white, in reference to the chalky cliffs on our coasts; others pretend that its name was borrowed from a giant, the son of Neptune, mentioned by several ancient writers. Some of our etymologists have recourse to the Hebrew tongue, and some to the Phœnician; *alben* in the former signifying *white*, and *alp* or *alpin*, in the latter, denoting *high* and *high* mountain, the land appearing so as you approach it from the continent. The derivation from the Greek or Hebrew word signifying *white*, seems to be countenanced by the British poets, who call Britain *Inis Wen*, i. e. the White Island. Selden's notes on *Polyalbion*, p. 20.

ALBION, *New*, in *Geography*, the name given by Sir Francis Drake to California, and part of the north-west coast of America, when he took possession of it in 1578. Captain Cook discovered the coast of New Albion, March 7, 1778, and landed in a place situate in N. lat. 44° 33'. E. long. 235° 20'. He describes the land as abounding with mountains, the summits of which were covered with snow; but the vallies that lay between them and the sea-coasts, high as well as low, produced a great number of trees, which appeared like a large forest. The inhabitants at first seemed to prefer iron to every other article of commerce; but they afterwards shewed such a predilection for brass, that scarcely a fragment of it was left in the ships except that which belonged to the necessary instruments. They were also observed to be much more tenacious of their property than those of the other savage nations which the voyagers had met with, so that they would not part with wood, water,

grafs, or even the most trifling article, without a compensation; and they were sometimes very unreasonable in their demands. The place in which the Resolution anchored was called by Captain Cook, *St. George's Sound*; but he afterwards understood that the natives gave it the name of *NOOTKA*. Its entrance was situated in the east corner of Hope bay, in N. lat. 49° 33'. E. long. 233° 12'. The climate seemed to be much milder than that on the eastern coast of America, in the same parallel of latitude; and the thermometer, even in the night, never fell lower than 42°, and in the day-time frequently rose to 60°. The trees of this country are chiefly the Canadian pine, white cypress, and some other kinds of pine. The birds were few, and much harassed by the natives, who use their feathers as ornaments for their dress, and their flesh for food. The people are acquainted with the use of metals, having many iron tools; and two silver spoons were procured, which were similar in their construction to those seen in some Flemish pictures, and were worn by one of the natives as an ornament round his neck. These metals had probably been conveyed to them by the way of Hudson's bay and Canada, or some of them might have been introduced from the north-western parts of Mexico.

On the 18th of April, 1792, Captain Vancouver, employed in an expedition for completing the survey of the western coast of North America, from the latitude of 30° N. to 60° N., fell in with the coast of New Albion in N. lat. 39° 27'. E. long. 236° 25'. As he approached the land, the shore seemed to be perfectly compact, formed, generally speaking, by cliffs of a moderate height and nearly perpendicular. The inland country, which arose in a pleasing diversity of hills and dales, was completely clothed with forest trees of considerable magnitude, and those spots, which were destitute of wood, were beautifully green, with a luxuriant herbage, interrupted by streaks of natural earth. This part of the coast abounded with whales, most of which were of the tribe called the Greenland finners. In directing their course along the coast northward, they passed Cape Mendocino, in lat. 40° 19', long. 235° 53'. This Cape is the highest on the sea-shore of this part of New Albion. The mountains behind it are considerably elevated, and form a high steep mass, composed of various hills that rise abruptly, and are divided by many deep chasms. Dwarf-trees were thinly scattered in the chasms and on the ridges of the hills; and the general surface was covered with vegetables of a dull green colour, occasionally interspersed with perpendicular strata of red earth or clay. As they advanced further north, the distant interior country was composed of mountains of great elevation, before which were perceived hills and dales, with woodland and clear spots, as if they were in a state of cultivation; but they could discern neither houses, huts, smoke, nor any other signs of its being inhabited. On the coast to which they next approached, and which was formed by rocky precipices, the most projecting part, situate in lat. 41° 8'. long. 236° 5', was called *Rocky Point*. Near this point the colour of the sea changed to a light river-coloured water, which gave reason for concluding that some considerable river or rivers were in the neighbourhood; but pursuing their course they arrived again, in oceanic-coloured water, in lat. 41° 36'. long. 235° 58'. The land in this part, formed a conspicuous point, which was denominated *Point St. George*, in lat. 41° 46½', and long. 235° 57½', and a dangerous cluster of rocks extending from thence, the *Dragon rocks*. The point forms a bay, and the north point of it was called *St. George's bay*. The inland mountains were much elevated, and clothed with a variety of trees, chiefly of the pines, and some spreading trees of considerable magnitude were observed. Proceeding further along the coast they cast anchor in lat.

42° 38'. long. 235° 44'; a cliff which projected into the sea near their station, and terminated in the form of a wedge, was called *Cape Orford*, lat. 42° 52'. long. 235° 35'. Some canoes came from the coast to visit the ships, and approached along the shore with the greatest confidence. The people were distinguished by a pleasing and courteous deportment; their countenances indicated nothing ferocious; their features partook of the European character: their colour was a light olive; and their hair being pointed like that of the South Sea Islanders, then it had many other marks, which were either the effects of injury in rowing through the forests with their clothing, or purely ornamental. Their stature did not exceed five feet six inches; they were well-limbed, but slender in their persons, bore little or no resemblance to the people of Nootka; nor did they seem to have the least knowledge of their language. They preferred cleanliness to the painting of their bodies; in their ears and noses they had small ornaments of bone; their hair, which was long and black, was clean and neatly combed, and generally tied in a club behind, and some of them had it thus tied in front. They were dressed in garments, nearly covering them, made principally of the skins of deer, bear, fox, and river otter. Their canoes, capable of carrying about eight people, were rudely wrought out of a single tree, resembling in shape a butcher's tray, and appearing to be unfit for either a sea voyage or any distant expedition. They brought but a few articles to barter, and they anxiously solicited in exchange iron and beads. In their traffic they were scrupulously honest in fixing their bargain with the first bidder, and in refusing any presents without an equivalent in return.

In their progress from their last station near Cape Orford, they discovered a point of land which they considered to be the *Cape Blanco* of Martin d'Aguilar, in lat. 43° 23'. long. 235° 50', and the *Cape Gregory* of Captain Cook; and they sought for the river or straits, which are said to have been discovered by this navigator. They next arrived at a promontory, which Captain Cook calls *Cape Perpetua*, in latitude 44° 12'. longitude 236° 51'; and pursuing their route, they passed *Cape Foulweather*, which is a conspicuous promontory, in latitude 44° 49'. longitude 236° 4'. They next proceeded to *Cape Lookout*, in latitude 45° 32'. longitude 236° 11', which is a small projecting point, that had been seen by Mr. Mears, and off which are four rocks, one of them being perforated as he has described it. They afterwards passed *Cape Disappointment* of Mr. Mears, in latitude 46° 19'. and longitude 236° 6', and the opening to the south of it called *Deception Bay*. The country before them presented a luxuriant landscape; the interior parts were elevated and diversified with hills, and the whole had the appearance of a continued forest, as far as the eye could reach. They wished to find a bay in the vicinity of a country that presented so delightful a prospect of fertility; but they were under a necessity of pursuing their course; and having passed the *Low point* of Mr. Mears, and his *Shoal-water bay*, they arrived at *Point Grenville*, in latitude 47° 22'. longitude 235° 58½'. The coast from hence northward rose regularly in height, and the inland country acquired a considerable degree of elevation; and here they saw that land, called by Mr. Barclay, *Desolation Island*, in latitude 47° 37'. longitude 235° 49'; which is the largest detached land that they had observed on the coast, and presented a very barren aspect. A canoe or two were seen paddling near the island. "It is a fact," says Mr. V. "not less singular than worthy of observation, that on the whole extensive coast of New Albion, and more particularly in the vicinity of those fertile and delightful shores we had lately passed, we had not, excepting to the

southward of *Cape Orford*, and at this place, seen any inhabitants, or met with any circumstances, that in the most distant manner indicated a probability of the country being inhabited." Since they had passed *Cape Orford*, they had a constant current, setting in the line of the coast northward, at an uniform rate of near half a league per hour. In this part of the coast the most remarkable mountain which they had seen, presented itself: its summit, covered with perpetual snow, was divided into a very elegant double fork, and rose conspicuously from a base of lofty mountains clothed in the same manner, which descended to hills of a moderate height, and terminated in low cliffs, falling perpendicularly on a sandy beach. This was considered to be the mount *Olympus* of Mr. Mears, in latitude 47° 10', though the latitude of the observers was 47° 38', and the mountain was north of them. Pursuing their course further northward, they distinguished the fourth point of entrance into De Fuca's straits, and on the opposite side of the straits an opening of considerable extent. They perceived that this coast, like that which had been explored from *Cape Mendocino*, was firm and compact, without any opening into the Mediterranean sea, as stated in latitude 47° 45', or the least appearance of a secure harbour, either in that latitude, or from it southward to *Cape Mendocino*; although, in that space, geographers have thought it expedient to furnish many. They now saw several villages scattered along the shore, whose inhabitants came off, as it was supposed, for the purpose of trading. Having passed between *Tatoosche's Island*, and a rock, called *Rock Duncan*, along the southern shore of the supposed straits of De Fuca, they anxiously looked for the point which Captain Cook had denominated *Cape Flattery*; and at last concluded, that *Classet*, a projecting and conspicuous promontory, at the south entrance of the inlet, is the point, with an island lying off it, which Captain Cook called *Cape Flattery*. The village of *Classet* is situated about two miles within the cape, and appeared to be extensive and populous. The few natives, who came off to the ship, resembled in most respects the people of Nootka: their persons, garments and behaviour, were very similar; but instead of the ornamental crescent at the nose, used by the inhabitants of Nootka, they wore straight pieces of bone; their canoes, arms and implements were the same, and they spoke the same language. They anchored about eight miles within the entrance, on the southern shore of the supposed straits of De Fuca. The shores on each side of the straits are of a moderate height; those on the south side are composed of low sandy cliffs, and from the top of these the land appeared to ascend gently, and to be covered with trees, chiefly of the pine tribe, until the forest reached a range of high craggy mountains, the summits of which were covered with snow. The northern shore did not appear quite so high, nor were the mountains, which formed a compact range, so much covered with snow. Steering to the east, along the southern shore, their latitude was 48° 19', and longitude 236° 19'; and the variation of the compass 18° east. The north promontory of *Classet* was situated in latitude 48° 23½', longitude 235° 38'. Proceeding forward, they came to anchor in 14 fathoms water, about three miles from a low sandy point of land, resembling *Dungeness* in the British Channel, and called *New Dungeness*; whence they discovered a lofty mountain, which they called *Mount Baker*, apparently at a very remote distance. "We had now," says Mr. V. "advanced further up this inlet than any other person from the civilized world; although it should hereafter be proved to be the same which is said to have been entered

tered by De Fuca; in support of which, oral testimony is the only authority produced, a tradition rendered still more doubtful, by its entrance differing at least 40' in latitude. This difference of latitude, however, is not sufficient altogether to discredit the traditionary accounts to which Mr. V. refers; and as a strait, with a considerable extent of sea, has been actually found, and to the north of the strait many islands, or an archipelago of islands, it is much more reasonable to suppose that some error has been introduced into the old accounts, or that the situations may have originally been erroneously described, than that an assertion of the existence of a strait and of an archipelago of islands should have been the mere result of random conjecture.

It must be considered as a very singular circumstance, that in so great an extent of sea coast, as 215 leagues, to which the inquiries of these navigators had been directed, they should not till now have seen the appearance of any opening on its shores, which afforded any certain prospect of affording shelter; the whole coast forming one compact, solid, and nearly strait barrier against the sea. The huts observed to the eastward of Claflet, were built exactly like the houses at Nootka; and were composed of a few mats thrown over cross sticks, and plainly indicated the residence of the natives to be merely temporary. The inhabitants viewed their European visitors with the utmost indifference; they traded with them in a civil and friendly manner; but did not appear to understand the Nootka language. Their next remove was to a harbour called *Port Discovery*, where they moored about a quarter of a mile from the shore under a kind of promontory, which afforded them shelter; and which they called *Protection Island*. The entrance of port Discovery is situated in lat. 48° 5'. long. 237° 20½'. The country in its neighbourhood is bounded on the west side by mountains covered with snow; the soil is generally a light sandy loam, which being mixed with decayed vegetables, forms a rich fertile mould. Iron ore was generally found here, and appeared tolerably rich. Quartz, agate, the common flint, and a great intermixture of other siliceous matter, with some variety of calcareous, magnesian, and argillaceous earths, were the mineral productions commonly found. The vegetables that grew most luxuriantly were the Canadian and Norwegian hemlock, silver pines, the Turamahac and Canadian poplar, arbor-vitæ, common yew, black and common dwarf oak, American ash, common hazel, sycamore, sugar, mountain, and Pennsylvania maple, oriental arbutus, American alder, and common willow. These, with the Canadian elder, small fruited crab, and Pennsylvania cherry-trees, constituted the forests. Of esculent vegetables few were found; the white or dead-nettle, and samphire, the wild orache and the vetch were the most common. Two or three sorts of wild peas, and the common hedge mustard were met with occasionally; they were excellent of their kind, and proved extremely agreeable and useful. The only living quadrupeds that were seen were a black bear, two or three wild dogs, as many rabbits, several small brown squirrels, rats, mice, and the skunk of a peculiarly offensive smell. The aquatic birds were few, and so timid that they could not be killed. About the shores and on the rocks were found some species of the tern, the common gull, sea pigeon of Newfoundland, curlews, sand-larks, shags, and the black sea-pye, like those in New Holland and New Zealand; but not in great abundance. In the woods they saw two or three spruce-partridges; few small birds were discovered, and of these the humming birds were the most numerous. At the outskirts of the woods, and about the water side, they saw a great number of the white-headed and brown eagle, ravens, carrion crows, American king-fisher, and a very

handsome wood-pecker, and also a bird unknown to them, which they considered as a species of crane or heron, the eggs of which were of a bluish cast, larger than those of a turkey, and well tasted, with long legs and necks, of the size of the largest turkey, and with a light brown plumage. Some blue, and some nearly white herons of the common size were also seen. The supply of fish was scanty, and consisted in general of the common sorts of small flat-fish, elephant fish, sea bream, sea perch, a large sort of sculpin, weighing six or eight pounds, with a greenish colour about their throat, belly and gills, and affording coarse, but not unwholesome food, a few trout, and a small eel of a yellowish green colour and well tasted. Of the reptile tribe they found a small common black snake, a few lizards and frogs, together with a great variety of common insects.

The country, in an agricultural view, seemed capable of improvement, though the soil was light and sandy. The spontaneous productions are nearly the same, and grow in equal luxuriance with those under the same parallel in Europe. The climate is mild, and every species of plants forward in its growth. Fresh water is very scarce; but sufficient for common domestic purposes. As for the inhabitants, they are thinly scattered along the shores. From New Dungeness to Port Discovery, our voyagers traversed near 150 miles of these shores without seeing as many inhabitants. Those whom they observed, nearly resembled the people of Nootka; but were not so stout in stature, nor so filthy in their habits. Their weapons, implements, canoes, and dress nearly the same. Their native woollen garment was most fashionable, and next to this the skins of deer, bear, &c.; and some few wore dresses manufactured from bark, which, like their woollen ones, were very neatly wrought. Their spears, arrows, fish-gigs, and other weapons, were shaped like those of Nootka; but none of them were pointed with copper or muscle-shell. The three former were generally barbed, and those of their own manufacture were pointed with common flint, agate, and bone. Their arrows were pointed with thin flat iron; and their bows were of a superior construction, and made of yew, and the bow-string of the sinew of some marine animal. From the form and structure of their habitations, they seemed frequently to change them; and their deserted villages indicated their being migratory in their disposition and habits. Mr. V. supposes, however, that though the country seems to be thinly inhabited, it was once much more populous. In different excursions, they found the skulls, limbs, ribs, and back-bones, or other vestiges of the human body, scattered about in great abundance; and hence it is inferred that there has been occasionally, and not at any very remote period, a great waste of human life. Several skeletons were found deposited in caves, and suspended on the branches of trees about 12 feet from the ground; these were probably the remains of the chiefs, priests, and leaders of particular tribes, to whom they paid particular respect. Baskets, containing the skeletons of young children, were also found in the same situation; and in other places, dead bodies were discovered in holes, which were slightly covered over, and in different states of decay. But the skeletons found in canoes and baskets bore a very small proportion to the skull and other human bones indiscriminately scattered about the shores. Whether these were the result of epidemic disease, or of recent wars, our navigator does not determine. From the character of the people, he thinks the latter cause not to be probable; for he represents them as uniformly civil and friendly, without manifesting the least sign of fear or suspicion at the approach of strangers, or any indication of their having been injured to hostility. The

small-pox seemed to have been very fatal amongst them. The present depopulation, it is apprehended, may have arisen, in some measure, from the inhabitants of this interior part having been induced to quit their former abode, and to move nearer the exterior coast, for the convenience of trading in the immediate market, with more ease and at a cheaper rate, some valuable articles of commerce that within the last few years have been brought to the seacoast of the continent by Europeans and the citizens of America, and which are in great estimation among these people, and valued by all in a greater or less degree."

From Port Discovery, our navigators pursued their route up the inlet, viewing in their progress a very picturesque and fertile country, and seeming to require only inhabitants and labour; having, however, found a convenient roadstead, they anchored in a village in which the inhabitants were employed, in their temporary huts, in curing, by the smoke of the fish, clams, mussels, and a few other kinds of fish, which seemed to be intended for their winter's subsistence. Several of them were busily engaged, like swine, in rooting up a certain sort of marrow, in quest of a species of wild onion and other roots, for the sake of which they appeared to be attached to this spot. One of these roots resembled the Narcissus, and was gathered with great industry and avidity, for the purpose of making a paste with which they filled small boxes, placed in the baskets containing the skeletons of their children. In their manner, these people were friendly and hospitable, and very thankfully received the presents that were given them. They also bartered for any articles that were offered them; but they chiefly preferred copper. Bows and arrows, woollen and skin garments, and a few indolent otter skins, composed the whole of their assortment for trading; and these they exchanged, in a very fair and honest manner, for copper, hawk's bells, and buttons, articles that greatly attracted their attention.

The dogs belonging to this tribe of Indians were numerous, and resembled those of Pomerania, but were larger in size. They were all shorn close to the skin, like our sheep; their fleeces were compact, and composed of a mixture of a coarse kind of wool, with very fine long hair, capable of being spun into yarn. It was conjectured, that their woollen clothing might be formed partly of this material, mixed with a finer kind of wool from some other animal, which, though it must have been very common, was not discovered.

Here was discovered a narrow passage, which seemed to communicate with an opening of some extent, and to this harbour was given the name of *Port Orchard*. In their present situation, they were presented by some of their Indian friends with a whole deer, in the chase of which and another they and their dogs had been busily engaged for almost a whole day. It was found that these people had a great aversion for human flesh; for conceiving that some pieces of the deer that were offered them were of this kind, they threw them away with gestures of great displeasure. Hence it was inferred, that the character given of North-west America does not attach to every tribe: but though these people were not in this respect savages, they were not wholly exempt from the general failing attendant on a savage life; for one of them secreted a knife and fork under his garment, and when detected gave them up with the utmost good humour and unconcern.

Our navigators, having advanced into an opening, situate in lat. $47^{\circ} 19\frac{1}{2}'$. and long. $237^{\circ} 42'$. halted on an island about a mile from the eastern shore, which was one of the most extensive islands discovered in the examination of this coast, and which they called *Vashon's Island*. In one inlet

which they examined, they found a tribe of Indians, who manifested hostile dispositions, and prepared their bows and arrows for an attack. Upon the firing of a gun, though they expressed no astonishment or concern, they unsprung their bows, and commenced a friendly traffic. The village point near their present station, situate in lat. $47^{\circ} 30'$. long. $237^{\circ} 46'$. was called *Reflection Point*. Their next anchorage was in an excellent harbour, sheltered from all winds, in lat. $48^{\circ} 2\frac{1}{2}'$. long. $237^{\circ} 57\frac{1}{2}'$. The inlet, which they had spent a fortnight in examining, they denominated *ADMIRALTY Inlet*. On the 5th of June, they quitted this inlet, sailing down *Possession Sound*, and proceeded northward; the north point of this inlet, lat. $48^{\circ} 16'$. long. $237^{\circ} 31'$. they called *Point Partridge*; and the west point, lat. $48^{\circ} 10'$. long. $237^{\circ} 31'$. they denominated *Port Wilton*. On the west side of *Strawberry Bay*, where they anchored, there was an island, which producing abundance of upright cypresses, they called *Cypress Island*, lat. $48^{\circ} 36\frac{1}{2}'$. long. $237^{\circ} 34'$. It was also found, that the eastern shore of the gulphs, from the passage into *Port Gardner*, called *Deception Passage*, in lat. $48^{\circ} 27'$. long. $237^{\circ} 27'$. to the north point of the entrance into *Possession Sound*, in lat. $47^{\circ} 53'$. long. $237^{\circ} 47'$. was an island about 10 miles wide in its broadest part; and it was distinguished by the name of *Whidbey's Island*. In pursuing their investigation, they denominated a point, in lat. $48^{\circ} 57'$. long. $237^{\circ} 20'$. *Point Roberts*; another, in lat. $49^{\circ} 19'$. long. $237^{\circ} 6'$. *Point Grey*; a third, about a league distant, *Point Atkinson*; an island which they passed, *Passage Island*; and a canal near it, *Burrard's Canal*; and another island, in lat. $49^{\circ} 30'$. long. $237^{\circ} 3'$. *Anvil Island*, from the shape of the mountain that composes it; a sound to the southward, *Howe's Sound*; and a point in lat. $49^{\circ} 23'$. long. $236^{\circ} 51'$. *Point Gower*, near which is an extensive group of islands of various sizes. In their return to their ships, they reached the north point of the inlet, which producing the first Scotch firs that had been seen, was called *Scotch-fir Point*, in lat. $49^{\circ} 42'$. long. $236^{\circ} 17'$; and to the arm of the sea they gave the name of *Fervis's Canal*. The south point of the land which they passed in lat. $49^{\circ} 28\frac{1}{2}'$. long. $236^{\circ} 24'$. was called *Point Upwood*; and a shoal, near which they purchased of the natives some excellent sturgeon, weighing from 14 to 200 lb. each, they called *Sturgeon Bank*. Near a cluster of islands, in lat. $48^{\circ} 36'$. to $48^{\circ} 48'$. and long. $237^{\circ} 50'$. at its eastern extremity, they found an extensive bay, which was distinguished as *Bellingham's Bay*. In their progress northward, the forests were composed of a much less variety of trees, and their growth was less luxuriant. Those most common were pines of different sorts, the arbutus, the oriental arbutus, and some species of cypresses. On the islands were seen some few small oaks, with the Virginian juniper; and at the place where their ships were last stationed, the Weymouth pine, Canadian elder, and black birch, which gave it the name of *Birch Bay*, situate in lat. $48^{\circ} 53\frac{1}{2}'$. long. $237^{\circ} 33'$. From this bay they sailed northward, June 24th, directing their course through the canal del Neutra Signora del Rosario, in extent about ten leagues from *Point Upwood* to *Point Marshall*, the north-west point of the island of Feveda, in lat. $49^{\circ} 48'$. long. $235^{\circ} 47\frac{1}{2}'$; near which is another island, called *HARWOOD Island*, and not far off, in lat. $49^{\circ} 57\frac{1}{2}'$. long. $235^{\circ} 54\frac{1}{2}'$. *Savary's Island*. In lat. $50^{\circ} 4\frac{1}{2}'$. long. $235^{\circ} 25\frac{1}{2}'$. was a point which they called *Point Sarah*; and the opposite point, about half a league distant, they called *Point Mary*. In a canal, denominated *Bute's Canal*, they found an Indian village on the face of a steep rock, lat. $50^{\circ} 24'$. long. $235^{\circ} 8'$. containing about 150 of the natives, who plentifully supplied them with fresh herrings and other fish

in barter for nails. Before the entrance into this canal was a round island, three or four miles in circuit, which obtained the name of *Suair's Island*. Quitting *Desolation Sound*, in lat. $50^{\circ} 11'$ long. $235^{\circ} 21'$ they passed through an assemblage of islands and rocks, and in the midst of whales and seals, to more pleasant shores, from which the friendly Indians came to visit them, with young birds, mostly sea-fowl, fish, and some berries, which they bartered for tinkets; and they anchored about half a mile to the northward of *Point Mudge*, in lat. 50° long. $235^{\circ} 9'$, where was a large village of the natives, who conducted themselves with great civility and respect, and who were not fewer in number than 300 persons. Near *Johnstone's Straits* was a point, called *Point Chatham*, in lat. $50^{\circ} 19'$ long. $234^{\circ} 45'$. About ten miles from this point they anchored under a narrow island, distinguished by the name of *Thurston's Island*. To a large and commodious port, to which they afterwards arrived, they gave the name of *Port Neville*; near which was a large village, the inhabitants of which understood the language of Nootka, and who bartered with the skins of the sea-otter of excellent quality, for sheet-copper and blue cloth. Here they found the fabrication of mats for various purposes, and a kind of basket, wrought so closely as to contain water without the least leakage; and in this manufacture the women were chiefly employed. They next proceeded by *Call's Canal*, in lat. $50^{\circ} 42'$ long. $234^{\circ} 3\frac{1}{2}'$. *Knight's Canal*, in lat. $51^{\circ} 1'$ long. $234^{\circ} 13'$. and *Deep-sea Bluff*, a point of land in lat. $50^{\circ} 52'$ long. 232° , through an extensive cluster of islands, rocky inlets and rocks, called *Broughton's Archipelago*, to a station in lat. $50^{\circ} 35'$ long. $233^{\circ} 19'$. Afterwards they entered a channel called *Fife's Passage*, and found its eastern point, named *Point Duff*, to be in lat. $50^{\circ} 48'$ long. $233^{\circ} 10'$. Passing *Point Philip*, at the distance of eight miles from Deep Sea Bluff, they reached the base of a remarkable mountain, in lat. $51^{\circ} 1'$ long. $233^{\circ} 20'$, called *Mount Stephens*, which is thus marked in the author's chart, and may seem as an excellent guide to the entrance of the various channels with which this country abounds. The next place of their meeting was named *Point Beyles*, in lat. $50^{\circ} 51'$ long. $232^{\circ} 52'$. near the west point of a channel called *Wells's Passage*. Having pursued their course through a channel not more than half a mile wide, bounded on one side by islands, rocks, and breakers, which appeared almost to meet the continental shore on the other, they anchored in lat. $51^{\circ} 2'$ long. $232^{\circ} 25'$. They afterwards proceeded through a channel about two miles wide, between rocks and rocky isles, which seemed to be connected with the southern broken shore, and reached that part of the coast that had been visited and named by several of the traders from Europe and India. The inlet through which they had lately passed was *Queen Charlotte's Sound*, so called by Mr. S. Wedgborough, in August 1786; an opening on the continental shore had in the same year been named *Smith's Inlet*, by Mr. J. Hanna; a high distant mountain that appeared to be separated from the main land, formed part of a cluster denominated by Mr. Duncan, *Calvert's Islands*; and the channel between them and the main land had been called by Mr. Hanna, *Fitzhugh's Sound*. Their estimated latitude in this situation was $51^{\circ} 4'$ and long. $232^{\circ} 8'$. They next stood across Charlotte's Sound for the entrance of Smith's inlet; afterwards steering along the eastern side of Calvert's island, they sought for *Port Safety*, laid down in Mr. Duncan's chart, or some other convenient anchorage. A cove within the south entrance of Fitzhugh's Sound, afforded them a secure and comfortable retreat from the dangers to which they had been exposed, and they called it *Safety Cove*. Determining to

abandon the northern survey of the continental shore for this season, they made the best of their way towards Nootka Sound, at which port they anchored on the 20th of August 1792. In this survey, they had traced the western continental shore of America, with all its various turnings, windings, numerous arms, inlets, creeks, bays, &c. from the lat. of $39^{\circ} 5'$ long. $236^{\circ} 36'$ to point Menzies, in lat. $52^{\circ} 18'$ long. $232^{\circ} 55'$; and they found that none of the channels which they explored extended more than 100 miles to the eastward of the entrance into the strait of Juan de Fuca: they also found that the land forming the north side of that strait is part of an island, or rather of an Archipelago, extending nearly 100 leagues in length from south-east to north-west; and on the side of this land most distant from the continent is Nootka Sound. In October 1792, our navigators left Nootka Sound, and proceeded to re-examine the coast of New Albion to the southward, and particularly a river and a harbour discovered by Mr. Gray, commander of the *Columbia*, between the 46th and 47th degrees of north latitude. They directed their course towards Cape Classet, to which they restored Captain Cook's original appellation of Cape Flattery. One of the most conspicuous promontories southward from this cape was *Point de los Reyes*, as it is called by the Spaniards, in lat. $38^{\circ} 0'$ long. $237^{\circ} 24'$. Southward of this point, the shore forms the north point of a bay, in which, according to the Spaniards, Sir Francis Drake anchored, in the vicinity of which is a port called by the Spaniards *Bodega*. They next proceeded to port St. FRANCISCO, a Spanish settlement, in lat. $37^{\circ} 48' 30''$ and long. $237^{\circ} 52' 30''$. The mean variation of the compass was $12^{\circ} 48'$ east. Leaving this port, they sailed to MONTERREY, another Spanish settlement. From hence they steered towards the Sandwich islands.

In April 1793 our navigators again visited the coast of New Albion; they first saw the coast at Cape Mendocino, and anchored, on the 2d of May, in *Porto de la Trinidad*, so called by the Spaniards, who discovered it in 1775; but they found it a less convenient harbour than they had been led to expect from the description given of it in the journal of Don Francisco Maurelli, translated by the Honourable Daines Barrington. The inhabitants of an Indian village in this neighbourhood, who visited the ships in their canoes, singing like the other Indians as they drew near, and trafficked in bows and arrows, inferior sea-otter skins, small herrings, and flat fish. They were stoutly made, but of a lower stature than any other Indians on this coast. Their persons were mutilated or disfigured, either for ornament or from a regard to some religious institution, or for some other unknown purpose. All the teeth of both sexes were, by some process, ground uniformly down, horizontally, to the gums; the women especially, carrying the fashion to an extreme, had their teeth reduced even below this level; and ornamented their lower lip with three perpendicular columns of punctuation, one from each corner of the mouth, and one in the middle, occupying three-fifths of the lip, and chin. The latitude of the ship's station was $41^{\circ} 3'$ and that of *Rocky Point*, five miles to the north, $41^{\circ} 8'$ and the longitude of Trinidad bay $236^{\circ} 6'$. From Trinidad, pursuing their course to latitude $47^{\circ} 53'$ longitude $233^{\circ} 17'$ they saw the coast of the island of *Quadra* and *Vancouver*, and were within a league of *Punta de Ferron*; and passing along the shore of the Isle de Ferron, they proceeded to Nootka, and anchored in Friendly Cove. From hence they sailed to Fitzhugh's Sound, and recommenced their examination at the part where it had been discontinued in the preceding year. The survey now made, in most of its circumstances, resembled the former. They found the same kind

kind of broken coast, with inlets and channels almost innumerable, and the same extraordinary depth of water close to the shore, and in places inclosed within the land. In the space of four months, devoted to the northern survey, they advanced little more than four degrees northward, leaving off between the 50th and 51st degrees of north latitude. In a place near *Tyler's Canal*, in lat. $52^{\circ} 20'$ long. $231^{\circ} 51'$, the natives offered for sale the skins of the animals whose wool is manufactured into the garments worn by the inhabitants of north-west America. They were too large to belong to any of the canine race, as our navigators had formerly supposed. Exclusively of the head or tail, they were 50 inches long, and 36 inches broad, exclusively of the legs. The skin afforded but little wool in proportion to its size; and it is chiefly produced on the back and towards the shoulders, where a kind of crest is formed by long hoary hair, protruding themselves through the wool, and the same sort of hair forms an outer covering to the whole animal, and intirely hides the wool, which is short and of a very fine quality. The skins were cream-coloured, the pelt was thick, and appeared to be of a strong texture; but they were too much mutilated for ascertaining the animal to which they belonged. The females of this part adopted a singular ornament. An horizontal incision was made about three-tenths of an inch below the upper part of the under lip, extending from one corner of the mouth to the other, intirely through the flesh: this orifice was then stretched sufficiently for admitting an ornament of wood, of an oval form, and hollow on both sides; which was confined closely to the gums of the lower jaws, and whose external surface projected horizontally. The clothing of the natives was formed either of oxer skins or of the pine bark, and ornamented with woollen yarn, very fine, well spun, and dyed with a very lively and beautiful, yellow. As to their dispositions and manners, they seemed to be civil, good-humoured and friendly; and they manifested a considerable degree of vivacity and humour. They approached and left the ships with songs; they appeared to be happy and cheerful, and to live in the strictest harmony and good fellowship with one another. They were well versed in commerce. In examining some of the openings, which presented themselves in the continental shore, and which Mr. V. traversed in boats for 23 days, through a distance of 700 geographical miles, he was attacked by a party of Indians, under the direction of an old woman, who seemed to be their leader. In this survey they discovered a river, in 55° N. lat. on a bay, in the eastern side of the entrance of an arm of the sea, named by Captain V., *Observatory Inlet*. This small river, and another in Port Effington, were the only two streams that had yet been discovered to the north of the river *Columbia*. In September our navigators returned from between 56° and 57° , the highest latitude to which they advanced in this voyage, towards the south, keeping at a distance from the continent, and to the westward of Queen Charlotte's islands. Having finished their survey of the coast of north-west America, from the 30th to the 56th degree of north latitude, they concluded that no navigable communication exists between the north Pacific, and north Atlantic oceans; nor between the waters of the Pacific, nor any of the lakes or rivers in the interior part of the continent of North America.

In a third voyage, in 1794, Capt. Vancouver and his associates surveyed the higher latitudes of the north-western coast of America. Their first object was *COOK'S Inlet*; hence they proceeded to examine *PRINCE WILLIAM'S Sound*; passing some points and capes of less note, they steered southward from *Cape Fairweather*, in N. lat. 58°

$51'$, to *Cape Spencer*, in N. lat. $58^{\circ} 13'$; but they do not mention *Port des Français* of M. de la Pérouse, which he places in $58^{\circ} 37'$ N. latitude. In examining the upper part of an arm of the sea within *Crofs Sound*, they found that it approached nearer to those interior waters of the continent, which are said to be known to the traders and travellers from the opposite side of America, than any of the waters of the north Pacific in any other instance. It was called *LYNN Canal*. On the 19th of August, the voyagers had completed their survey from Cook's inlet to the part of the coast at which they broke off in the preceding year. To the harbour in which the ships lay, they gave the name of *Port Conclusion*, in latitude $56^{\circ} 14' 55''$ longitude $225^{\circ} 37' 30''$.

Although we have given a brief abstract of the principal observations that occurred in the three voyages of Vancouver, on the American coast; yet it is necessary to observe, that the appellation of *New Albion*, though, generally speaking, applied to the north-west coast of America, is in reality of a much more limited extent. In Vancouver's chart, its southern limit is the 30th degree of north latitude, and its northern termination is about 45° . The more northerly parts of this coast are *New Georgia*, *New Hanover*, *New Cornwall*, and *New Norfolk*.

The mission of St. Domingo is the southernmost of the Spanish settlements, in New Albion; or of those new establishments that were formed after the year 1769, when sea and land expeditions were undertaken to settle Monterrey and St. Diego. At this period, their north-westernmost possession on this coast was Velicata, and Santa Maria on the coast of the peninsula, in the gulf of California. These two missions had, till that time, formed a kind of north-western barrier, or frontier to the Spanish Mexican colonies. But Russia, by its rapid strides, roused the apprehensions and jealousy of the Spanish court, and gave occasion to these expeditions. Since that time, all the new establishments have been formed; and the mission of Velicata is removed some leagues to the north-westward, nearer the exterior coast of California. The new settlements are committed to four jurisdictions, the principal of which is Monterrey; as it is also the residence of the governor, who is captain-general of the province, and of the father president of the Franciscan order of missionaries. In each of the divisions is fixed one military post, called the Presidio, governed by a lieutenant, who has under him an ensign, with serjeants, corporals, &c. The most northern Presidio is that of St. Francisco, which has under its protection the missions of St. Francisco and Santa Clara, the pueblo of St. Joseph, about three or four miles from Santa Clara, and an establishment in the southern opening of port Bodega, to which they have given the name of *Port Juan Francisco*. The next in succession southward, is that of Monterrey, the capital of the province, under which are the mission of Santa Cruz, near *Point Anno Nuevo*, established in the year 1789 or 1790, and some others of less note. South and east from Monterrey are the missions of St. Carlos, St. Antonio, St. Luis, and Santa Rosa la Purissima, near the entrance of the canal of Santa Barbara. The next and smallest division is that of Santa Barbara, established in 1786, to which belong that of Buena Ventura, founded in 1784, and the pueblo de los Angeles, formed in 1781; which latter is said to be subject to the controul of the presidio at St. Diego, which is the fourth or southernmost of these new settlements. The climate of the country between the bay and port of St. Francisco, or from the 38th to the 30th degree of north latitude, is subject to much drought.

drought. The rainy season is from the month of December to March; the autumn in general being very dry. However the absence of rain is compensated by dews, which serve to supply, in some measure, the want of moisture from running streams, which are few. The climate at the settlements is, upon the whole, healthy; the soil is of a light and sandy nature, generally fertile, and capable of improvement; but in some places it is so barren and unproductive, that good mould has been brought from a distance, to places where they wished to establish missions. The Spaniards have not turned to any solid advantage even the most fertile part. They have excellent sheep and poultry in the vicinity of Santa Barbara, which is the most barren part; and the sea affords an ample supply of good fish. The neighbourhood of Buena Ventura furnishes fruit in great abundance, and of excellent quality. The fruit consists chiefly of apples, pears, plums, figs, oranges, grapes, peaches and pomegranates, together with the plantain, banana, cocoa-nut, sugar-cane, indigo, and a great variety of the most useful kitchen herbs, plants, and roots. The pueblos differ from the missions and presidios, and may be better expressed by the term villages. They are composed of about 30 or 40 old Spanish soldiers, or creoles, who, having served in the missions or presidios, are exempted from any farther military duty; and they plant colonies in some of the most fertile spots of the country. The number of the natives, at this period, who have embraced the Roman Catholic religion, under the Franciscan and Dominican missionaries in New Albion, and through the peninsula of California, amounts to about 20,000, and they are estimated at about an eighth or tenth of the whole native population; and their progress towards civilization is very slow. The number of the military does not exceed 400 men. Mr. Vancouver says, that the natives neither are, nor can be tributary; because they possess no tribute to offer. But this declaration seems to undervalue a country, which has, in many parts of it, a peculiarly fertile soil, and the coast of which abounds with sea-otters. The labour of the natives is subject to the direction and controul of the Spanish missionaries, who are absolutely under the authority of the Spanish government; and we learn from the unfortunate navigator M. de la Pérouse, that it was the plan of the viceroy of Mexico, to reserve for government the exclusive trade of sea-otter skins; and that the Spanish settlements furnish 10,000 annually, and are capable, if duly collected, of supplying 50,000 annually. Vancouver's Voyage of Discovery to the north Pacific Ocean, &c.—three vols. 4to. 1798.

ALBIREO, in *Astronomy*, a star of the third or fourth magnitude, in the constellation of Cygnus.

ALBIS, in *Ancient Geography*, now the *Elbe*, ran through the middle of Germany, and marked the limit of the knowledge of the Romans, with regard to this country. The only Roman, who passed this river with his army was L. Domitius Ahenobarbus, A. U. C. 744; and though he made no further progress, the passage of the Albis was deemed worthy of a triumph. See Tacitus, *Annal.* iv. c. 44. Drusus and Tiberius were the only Romans who had advanced to this river. In the latter period of the Roman state, the Albis became the boundary of Germany to the north; the Sarmatæ having possessed themselves of that part which lay beyond it, called Transalbin Germany. See ELBE.

ALBIS, in *Geography*, a town of Switzerland, in the canton of Zurich, three miles south-west of Zurich. It is also the name of a mountain in the same canton.

ALBISOLA, a town of Italy, in the state of Genoa, having in its vicinity the country houses of the Genoese nobility, and also a manufacture of porcelain. This town was bombarded by the English in 1745. N. lat. 44° 15' E. long. 8° 20'.

ALBISTRUM, or ABISTRUM, in *Ancient Geography*, a town placed by Ptolemy, in Magna Grecia.

ALBIUM INGAUNUM and INTEMELIUM. See ALBINGAUNUM and ALBITEMELIUM.

ALBIUS MONS, was the name given to one of the mountains of the Alps, on the side of Rætia and Carnia.

ALBIZI, or BARTHELEMI of Pisa, in *Biography*, a Franciscan of the 14th century, who, in a book intitled, "The Conformities of St. Francis with Jesus Christ," attempts to exalt his favourite saint not only above all the other saints, but to an equality with Jesus Christ. It has been often printed, and much sought after as a curiosity. It was printed at Cologne, in 1632, with alterations, under the title of "Antiquitates Franciscanæ." Another calligraphed edition was printed by Maræus, at Liege, in 1658.

ALBO, in *Geography*, a river on the eastern boundary of the Gold Coast of Africa.

ALBOCELLA, in *Ancient Geography*, a town of Spain, which, according to Ptolemy, belonged to the Vaccæi.

ALBOCENSIS, a town of Dacia, the inhabitants of which were denominated Albocensii.

ALBOGALERUS, in *Roman Antiquity*, a sacerdotal cap, or ornament worn by the flamen dialis; otherwise called galerus.

ALBOIN, in *Biography and History*, king of the Lombards, was the son of Audois, under whose conduct they obtained leave of the emperor Justinian to settle in Pannonia, and succeeded his father in the kingdom. Whilst he was fighting under his father's standard, he encountered and slew the son of Turisfund, king of the Gepidæ; and in consequence of this act of youthful heroism, the Lombards unanimously solicited that his father would admit him to take his seat at the royal feast which was kept in celebration of the victory. But according to the custom of the country, no prince was permitted to sit at table with his father, till he had been invested with arms by a foreign sovereign. For this purpose Alboin, with 40 select companions, visited the court of Turisfund, who, according to the usual laws of hospitality, entertained even the murderer of his son. At the banquet, when Alboin occupied the seat of the youth whom he had slain, Turisfund, the father, could not dissemble his agitation; Cunimund, his surviving son, and the Gepidæ who were present perceived it; and determined to be revenged. They prepared for the assault by contemptuous and reproachful language: "the Lombards," said they, "resemble, in figure and in smell, the mares of our Sarmatian plains;" referring by this coarse allusion, to the white bands which envelopes their legs. As soon as these insulting words were pronounced, the Gepidæ started from their seats, and Alboin, with his 40 companions, laid their hands on their swords. Turisfund, however, appeased the tumult, saved the life of Alboin, and dismissed him with the bloody arms of his murdered son. On his succession to the crown, Alboin, though previously contracted to the grand-daughter of Cloris, asked in marriage the beautiful Rosamond, the daughter of Curimund, who, upon his father's death, ascended the throne of the Gepidæ. His request was refused, and he prepared to obtain by force of arms the object of his wishes. With this view he engaged the support of the Avars on very lucrative conditions, and with their assistance he utterly destroyed the kingdom of the Gepidæ.

Cap. 17. A. D. 568. The skull of Cunimund, who fell in battle, was formed into a drinking cup, either to satiate the thirst of the conqueror, or to comply with the savage custom of the country; a custom which was common, as was afterwards proved by Sclerus, Phryx, and Anacletus Marcellinus, among the Scythian tribes. In consequence of the war, the nation of the Gepidae was dissolved; the Avars took possession of that country, comprehending Western, Middle, and Transylvania; and the parts of Hungary beyond the Danube; and Alboin, besides his mastery of the Alps, persuaded or compelled the fair Rosamond to acknowledge the rights of her victorious lover. The fame of Alboin being thus established, he extended his views to the conquest of Italy, and he contrived by various artifices to gain an accession of strength from the adventurous youth of Germany and Scythia. The Lombards retained only that portion of their wealth, which was portable, and which would serve the occasions of their expedition; but they relinquished their lands to the Avars, who promised to restore them if they failed in the conquest of Italy. Narfes, who had been offended by the Byzantine court, which had recalled him from Italy, contributed to excite and encourage the Lombards in their present undertaking; but he did not live to witness its termination. In 568 Alboin crossed the Alps, and without a battle or a siege, the inland regions of Italy, from the hills of Trent to the gates of Ravenna and Rome, became the lasting patrimony of the Romans. Before Pavia, however, the royal camp was stationed for three years; famine at length compelled the besieged to surrender; and the conqueror, more influenced by superstition than by humanity and honour, was prevented from fulfilling his vow of massacring the inhabitants without distinction of age, sex or dignity, by a regard to the omen of his horse's fall as he entered the gates. This circumstance induced Alboin to pause and relent; and to proclaim to the trembling multitude, that they should live and obey. In this city he fixed his seat of empire, and Pavia, during some ages, was respected as the capital of the kingdom of Italy. "The reign of the founder," says an elegant historian, "was splendid and transient; and before he could regulate his new conquests, Alboin fell a sacrifice to domestic treason and female revenge. "In a feast prepared at Verona for his companions in arms, the cup formed of the skull of Cunimund was introduced, and it was sent by the brutal savage to Rosamond. She touched it with her lips, and at the same time formed the solemn purpose, that the insult should be washed away in the blood of Alboin. With a view to the accomplishment of her purpose she engaged Helmichris, the king's armour-bearer, with whom she had a criminal correspondence, to be the minister of her vengeance. But Helmichris trembled in the prospect of perpetrating such a deed; and Rosamond was under the necessity of procuring the assistance of a less timid and more daring accomplice. Perekus, one of the bravest champions of the Lombards, was selected; but he had scruples, which it required some art to remove. The licentious and revengeful queen secured Perekus by a stratagem. Supplying the place of one of her female attendants to whom he was attached, and contriving some excuse for darkness and silence till her intention was accomplished, she then told her deluded companion, that, as he had indulged in criminal intercourse with the queen of the Lombards, his own death, or the death of Alboin, must be the consequence of such treasonable adultery. In this alternative he chose rather to be the accomplice than the victim of Rosamond, who, availing herself of Alboin's afternoon slumbers, when he retired from the table for

repose, introduced the conspirators, and urged them to the execution of the deed. Upon the first alarm Alboin started from his couch and attempted to draw his sword, but Rosamond had taken care previously to fasten it to the scabbard. He for some time defended himself with a bow, the only instrument of hostility or of defence to which he had recour; he was soon, however, overpowered and dispatched by the furies of the assassins. "The daughter of Cunimund buried in his fall; his body was buried under the stair-case of the palace; and the grateful posterity of the Lombards revered the tomb and the memory of their victorious leader." The ambitious Rosamond, having procured the death of the king, A. D. 573, aspired to succeed him; but neither she nor her daughter occupied the throne, which was filled by Clepho, one of the noblest chiefs, in consequence of the free suffrage of the nation. Having poisoned Helmichris by a cup of liquor which she presented to him, she was compelled to drink of the same cup by her discarded lover, as soon as he perceived its fatal operation on himself; and the death of the one was in a few minutes succeeded by that of the other. In the character and exploits of Alboin we see savage valour combined with military talents, and a considerable degree of proficiency in the art of government. He is said to have been the inventor of several instruments of war, that were in use long after his time. Un. Hist. vol. xvii. p. 337—342. Gibbon's Hist. vol. viii. p. 117—132.

ALBOLODUY, in *Geography*, a small town of Murcia, in Spain, situate at the confluence of two rivers, which flow from the mountains called *Los Alpuxarras*, between Almeria and Guadix. N. lat. 35° 54'. W. long. 2° 16'.

ALBON, JAMES D', in *Biography*, Marquis of Fronsac, was one of the greatest generals of the 16th century; and rose to high military eminence, in the reigns of Henry II. and Charles IX. of France. By the former he was made Marshal of France in 1547, and he was chosen to carry the collar of his order to Henry VIII. of England, who decorated him with that of the garter. He acquired great reputation in the wars of 1552 and 1554, and in 1557 he was made prisoner at the battle of St. Quintin. After the death of Henry II. he was one of the triumvirate who governed the kingdom four or five years in spite of Catharine of Medicis. He was killed in 1562, at the battle of Dreux, by a person whose confiscated estate he possessed. The Huguenots, who did not love him, used to call him "the Harquebuseer of the west." He had the qualities of a soldier and a courtier; was addicted to every kind of pleasure and luxury, excelled in politeness and the amiable accomplishments, and on the day of battle was distinguished by his prudence and his courage. His daughter and heiress is said to have been poisoned by her own mother for her property. Gen. Biog.

ALBONA, in *Geography*, a town of Istria, belonging to Venice, situate at the foot of a mountain, near the gulph of Carnero; 16 miles east of Rovigno.

ALBONA is also a river of Italy, which runs into the Po, nine miles east-south-east of Lumello.

ALBONNAL, a town of Spain, in the province of Grenada, six leagues east-north-east of Motril.

ALBOR, or ALVOR, a mountain of Portugal, in the province of Algarva, one league west of Lagos. In a castle on this mountain, John II. king of Portugal, died in 1495.

ALBORAK, in the Mahometan *Theology*, the beast on which the prophet is said to have rode in his extraordinary aerial journeys. It is represented as of an intermediate shape and size between an ass and a mule; and many
fabulous

fabulous accounts are given of it by the Arabian commentators.

ALBORAN, an island in the Mediterranean, near the coast of Fez. N. lat. 36° . W. long. $2^{\circ} 32'$.

ALBORNOS, GILLES ALVAREZ CARILLO, in *Biography*, cardinal and archbishop of Toledo, and one of the most celebrated statesmen of the 14th century. He was born of noble parentage at Cuenca, in New Castile; having studied canon law at Toulouse, he took orders and became almoner to Alfonso XI., king of Castile, and gradually rose to the primacy of Spain. As soon as he was created cardinal by pope Clement VI., who resided at Avignon, he resigned his archbishopric. Having been sent to Italy as legate by pope Innocent VI., he brought all the revolted states to submission to the holy see. Upon his return to the succeeding pope, Urban V., and upon being questioned with regard to the disposal of the large sums of money with which he had been entrusted, he caused a carriage, laden with locks and keys, to be brought under the windows. "There," said he to the pope, "is my account of the money. I have made you master of all the towns, the keys and locks of which you see in that carriage." The pope embraced him, and warmly expressed his obligations. Albornos retired to Viterbo, and spent his remaining days in acts of piety. He died in 1367, and was buried at Toledo. He founded a magnificent college at Bologna. Gen. Biog.

ALBORO, in *Ichthyology*, a name by which the ERYTHRINUS, a small red fish, caught in the Mediterranean, is commonly known in the markets of Rome and Venice.

ALBOURG, in *Geography*. See AALBURG.

ALBOURS, a volcanic mountain, near mount Taurus, eight leagues from Herat.

ALBOUZEME, in *Geography*, a town of Africa, on the coast of Barbary. Before it is a bay formed by Cape Mourou, or Befancour on the west, and Cape Quilate on the east. It is otherwise called Buzemar, or the bay of Burema.

ALBRECHT, JOHN WILLIAM, in *Biography*, born at Erfurt, in Upper Saxony, the 11th of August, 1703, was several years professor of anatomy, surgery, and botany, at Gottingen. The late Baron Haller, who succeeded him in those offices, in January 1736, speaks very favourably of his talents, and gives the following list of his works: "Observationes anatomicæ circa duo cadavera masculina," Erford, 1730, 4to. "De effectibus mufices in corpus animatum," ibid. 1735, 8vo. "Parænesis ad artis medicæ cultores," Gottig. 1735, 4to. "De vitandis erroribus in medicina mechanica," Vide Bib. Anatom. vol. ii. p. 238. Haller.

ALBRECHTSPERG, in *Geography*, a town of Germany, in the archduchy of Austria, nine miles west from S. Polten.

ALBRED, a town of Africa, in the country of Senegal.

ALBRET, or LABRIT, a small town of France, in the late province of Gasconne, and duchy of Albret. It is situate in the department of Landes, in a sandy territory, 15 leagues south from Bourdeaux. N. lat. $44^{\circ} 10'$. W. long. $16'$.

ALBRICIUS, in *Biography*, an English philosopher and physician of the 11th century, studied in the Universities of Oxford and Cambridge, and travelled for further improvement. He excelled in polite literature, and was eminently distinguished by his natural genius and acquired knowledge. Bale mentions the following works, viz. "De origine Deorum;" "De ratione Veneni;" "Virtutes Antiquorum;" and "Canones Speculativi." He wrote other books

of philosophy and physic, which are dispersed in several libraries of England. Gen. Diet.

ALBUCA, formed from *alluc*, white, in *Botany*, a genus of the *hexandria monogynia* class and order, of the natural order of *lili* or *lilacæ*, the *convallariæ* of Linnæus, and the *apophylli* of Jussieu; the characters of which are, that it has no calyx; the corolla has six oblong-oval permanent petals, the three outer spreading, and the three inner converging; the stamina have filaments shorter than the corolla; three opposite to the inner petals, linear-subulate, complicate a little above the base, then flat, three opposite to the outer petals, thicker; anthers on the former oblong, fixed to the inflex tip of the filament below the middle, uprightly on the latter, similar but effete, or none; the pistillum has an oblong, triangular germ, style three-sided, stigma a triangular pyramid; the pericarpium an oblong, obtuse, triangular, three-celled, three-valved capsule; the seeds numerous, flat, lying over each other, and widening outwards. There are eight species, of which the first five have only three stamens fertile, and the others have all the stamens fertile. 1. *A. altissima* or tall, with interior petals glandulose and bent in at the tip, leaves subulate, channelled, convolute: flowers in April and May, and was introduced about 1780, by Messrs. Kennedy and Lee. 2. *A. major*, with interior petals, glandulose and bent in at the tip, leaves linear-lanceolate, flattish, flowers in May, and was introduced about 1767, by Mr. W. Malcolm. 3. *A. minor*, with interior petals, glandulose and bent in at the tip, leaves linear-subulate, channelled, flowers in May and June, and was cultivated by Mr. Miller in 1768. 4. *A. coarctata*, or channel-leaved, with interior petals vaulted at the tip; leaves smooth, linear-subulate, channelled, peduncles the length of the bractes; flowers in May, and was introduced in 1774. 5. *A. spiralis*, or spiral-leaved, with interior petals vaulted at the tip, and leaves spiral. 6. *A. fastigiata*, or upright-flowered, with interior petals vaulted at the tip, leaves smooth, peduncles very long, flowers in May, and was introduced in 1774. 7. *A. villosa*, with interior petals vaulted at the tip, leaves hairy-glandulose, flowers in May and June, and was introduced about 1779, by Dr. J. Fothergill. 8. *A. abyssinica*, *A. alba* of Lamarck, with leaves linear, channelled, and smooth. To the above species Willdenow has added *A. flaccida*, with interior petals glandulose, and bent in at the tip; peduncles spreading at right angles, leaves lanceolate-linear, and obliquely bent. *A. viridiflora*, with interior petals like the former, scape erect flexuous, flowers hanging downwards, leaves linear-subulate canaliculate, and externally hairy. *A. caudata*, with petals like the last, leaves linear-lanceolate, convolute at the margin, shorter than double the scape, peduncles very long and spreading at right angles, and straight flowers. *A. filicifolia*, with petals as before, leaves linear-lanceolate and smooth, peduncles rectangularly patent and erect flowers. *A. avara*, with petals and leaves like the last, peduncles very long, erect and spreading, and erect flowers. *A. fragrans*, with interior petals vaulted at the apex, leaves linear-lanceolated, channelled, panicles spreading of the length of the nodding flower, and very short bractes. All the species are brought from the Cape of Good Hope. They may be cultivated by keeping the roots in pots, filled with light earth, and sheltered under a hot-bed frame in winter, in which case they will thrive and produce flowers; but the best method is to have a border in the front of a green-house or stove, where the roots of most of the bulbous flowers may be planted in the full ground, and removed in winter from frost; in such situations they thrive much

better, and flower stronger, than when kept in pots. *Martyn's Miller*.

ALBUCAZIS, in *Biography*, an Arabian physician and surgeon of singular merit. At what time he lived is not precisely known; but as he discovers the art of surgery, as greatly improved in his time, and gives proofs of the ignorance of his own contemporaries, it is thought he could not be earlier than the middle of the 12th century; that is, about an hundred years after Avicenna, when surgery was first fully cultivated. It appears by a MS. in the Imperial library, (Lib. An. Hist. tom. ii. p. 136.) that he died in 1165. Much of what he has left on the progress of his art, is copied from Rhazes, from Paulus Aegineta, and other preceding writers; but there are also many original observations; and although in the present improved state of surgery, little can be learned from him, yet by those who love to see the first dawnings of improvement in science, his works will be still turned over with pleasure. He insisted on the necessity of a surgeon's being skilled in anatomy, to enable him to operate with success; he also held it to be equally necessary that he should be acquainted with the *Materna Medica*, or the properties of the medicines employed in curing diseases; and inveighs against those who undertake for gain the cure of diseases, of the nature and causes of which they are unacquainted. It appears from his writings, that he extracted polypi from the nostrils, performed the operation of bronchotomy, and used a preparation similar to the lapis infernalis, as a caustic. He made great use of the actual cautery, and is extravagant in his elogia on its properties. He is the first writer who left distinct descriptions and delineations of the instruments used in surgery, and of the manner of employing them. His works, which have been translated into Latin, at *fatis barbaræ*, Haller says, have passed through several editions; the most esteemed is that published 1541, under the following title:—"Medendi Methodus certa, clara, et brevis, pleaque quæ ad Medicinæ partes omnes, præcipuè quæ ad Chirurgiam requiruntur, libris tribus exponens." Basilee, 1541, folio, "Cum Chirurgia Guidonis de Chauliaco." Haller has given a detailed, and pretty extended account of the subjects treated of in the volume. Vid. *Bibliotheca Chirurgica*, vol. i. p. 137.

Mr. Channing has published an edition of *Albucasis*, in Arabic and Latin, from the Clarendon press: "*Albucasis de Chirurgia, Arab. and Lat. curâ. J. Channing.*" Oxon. 1778.

ALBUGINEA Tunica Oculi, in *Anatomy*, has been said to be the expansion of the tendons of the four straight muscles of the eye, on the front of the sclerotica. Modern anatomists, however, do not speak of a tunica albuginea; the whiteness of part of the eye-ball being owing to the colour of the tunica conjunctiva, where it covers the front of the sclerotica. See *CONJUNCTIVA*.

ALBUGINEA Tunica Testis, one of the coats of the testis, which is white and strong, and closely invests its glandular structure.

ALBUGINEUS is applied by some, to denote the aqueous humour of the eye.

ALBUGO, or **ALBUM oculi**, the same with *albuginea*, or the *robits of the eye*.

ALBUGO, in *Surgery*, otherwise called **LEUCOMA**, is a whitish opaque speck, on the transparent part of the eye. It is denominated by popular writers, a *scar*, *film*, *haw*, *pearl*, *dragon*, &c. The transmission of the rays of light through the cornea being obstructed by this density of its coats, is followed by a partial or total blindness, according to the extent of the disease. There are different stages and causes of the *albugo*, accompanied with more or less inflam-

mation. The cure will be difficult in proportion to the degree of opacity, and the concomitant circumstances. Sometimes it entirely baffles the skill of the surgeon; and at other times, it disappears without any attention.

When the disease is accompanied with much active inflammation, leeches should be applied on the temples or under the eye. If a bifurcated torpid blood-vessel be observed going into the affected part, and keeping up the disorder, it may be safely divided by the point of a lancet. But when there is no inflammation, and especially, if there be a fluid interposed between the anterior membranes of the cornea, lightly stimulating applications should be employed; such as a stream of electric effluvia, drawn from a wooden point; or the vapour of warm camphorated spirits, or oil of turpentine; or a composition of pulverised sugar, aloes, and finely levigated glass, blown through a quill. Great caution, however, should be observed in the use of these remedies; for, by injudicious management, the case may be much aggravated, and even rendered incurable.

Some persons advise us to excite the absorbents of the eye by collyria of alum, nitrated silver, vitriolated zinc, vitriolated copper, or a very weak solution of muriated mercury; accompanied with repeated small doses of calomel and cinchona; but it too frequently happens that more harm than good is done by strong irritating applications to so tender an organ. The cutting of an issue in the arms, or a seton in the neck of the patient, has been also recommended in *albugo*; although we think their efficacy is very problematical.

It has been supposed that **TOBIT'S** blindness, mentioned in the second chapter of that apocryphal book, was the disease of which we have here treated. Vide *Tobitæ Leucemata* Dissert. med. dilucid. Prof. Mauchardt, &c. Tübing. 1748; in Haller, *Disp. Chirurg.* vol. i. p. 366, 4to.

ALBUHAZAN-IBUN-HAIDOR, philosopher, physician, and astrologer, at Fez, in Barbary, physician to several of their kings, died of the plague in 1415, and left a treatise on the cure of that disease. *Eloy. Dict. Hist.* vol. i. p. 73.

ALBULA, in *Ancient Geography*, a town of Mauritania, in Africa.

ALBULA, in the Linnæan system of *Ichthyology*, a species of **SALMO**. It is also the name of a species of **MUGIL**, with the anterior dorsal-fin quadriradiated, the *albula Bahamensis* of Catesby, and the lesser silvery mugil of Brown (Jam.), with the anterior dorsal-fin composed of four rays. It is found in America.

ALBULA Indica, the name of a small fish, resembling a herring, caught about the shores of the East-Indies, and called by the Dutch, the *Wit-fish*. Ray.

ALBULA nobilis, of Willughby and Ray, the *Lavaretus SALMO* of the Linnæan system, and the **GWINIAD** of the British Zoology.

ALBULA, is also the name given by some writers to the *Leuciscus CYPRINUS* of the Linnæan system, and the **DACE** of English writers.

ALBULA is also the name of a species of **NERITA**, called *mammilla*, in the Linnæan system of Zoology.

ALBULA, is also a name given by some naturalists, to mineral waters of the luminous kind, endued with an astringent quality, and of use in wounds.

ALBULUS, in the Linnæan system of *Zoology*, a species of **TURBO**, with an imperforate smooth shell, and spines rotundated and striated; found, rarely, in the deep seas of Greenland.

ALBUM, in *Antiquity*, denotes a white table, or register, in which the names of magistrates, public transactions, &c. were to be inscribed or entered.

Hence we meet with *album pratoris*, *album decurionum*, *album judicum*, &c.

Album Decurionum was the register of the Decuriones, called also *matriculatio Decurionum*.

Album Indicum, contained the names of those persons of the decurie who at certain times performed the office of judges.

Album Pratoris, was a register of the formula of all actions, and the names of such judges as were appointed by the prætor for certain causes.

Album Senatorum contained a list of the names of senators, first introduced by Augustus, and renewed yearly.

The high-priest entered the chief transactions of each year into an album, or table, which was hung up in his house for the public use.

ALBUM, among *Chemists*, is used for white lead, popularly called *ceruse*.

ALBUM is also used, among *Alchemists*, for a tincture pretended to transmute metals.

ALBUM, in *Ancient Geography*, a promontory of Palestine, to the north-west of Upper Galilee, south of Tyre, and near Alexandria.

ALBUM was also the epithet of a promontory of Africa, situate in the straits of Hercules or Gibraltar, east of Ampelusia, west of mount Abyla, and opposite to Mellaria, on the coast of Spain.

ALBUM, in *Literary History*, is used to denote a kind of table, or pocket-book, wherein the men of letters with whom a person has conversed, inscribe their names, with some sentence or motto.

This is called by divers names and titles, as *album amicorum*, *repositorium amicorum*, &c.

The famous Algernon Sydney, being in Denmark, was by the university of Copenhagen presented with their *album*, whereupon he wrote these words:

“ ——— Manus hæc inimica tyrannis
Ense petit placidam sub libertate quietem.”

ALBUM is also applied, in *Pharmacy*, as a title, or epithet, of divers compound medicines. Thus we meet with *unguentum album cum camphora*, &c.

ALBUM *Græcum*, dogs white dung, a medicinal drug, formerly used with honey, to cleanse and deterge, chiefly in inflammations of the throat; and for the most part outwardly, as a plaster; but, as Dr. Quincy observes, seldom to any great purpose. See Neumann's Works, p. 585.

Some speak of its use internally, in the *angina*, and other inflammations; as also in the dysentery, colic, &c. and to prevent burns from rising into blisters.

Medicines of this kind have long since sunk into disuse.

Album *græcum* is in much request among the leather-dressers, for softening down the leather after the application of lime.

ALBUM *nigrum* is used, among *Medical Writers*, for micedung, by some also called *muscarda*.

ALBUM *oculi*, among *Anatomists*, denotes the *tunica adnata*; sometimes also called *albugo*; popularly the white of the eye.

ALBUMAZAR, or ALBUASSAR, Al Abu Mafhar, the father of Maafhar, in *Biography*, a celebrated Arabian philosopher and astrologer, who lived, according to some writers, in the 9th or 10th century; but, according to others, at a much earlier period. The time of his death is not mentioned in the *Escorial catalogue*, but he is said to have lived to the age of 100 years; and if he died, as it is supposed, in the year 885, his birth must have been 15 years prior to the date assigned by Herbelot. Some have represented him as one of the most learned astronomers of

his age. He wrote an astrological work, intitled, “*De magnis conjunctionibus annorum revolutionibus, ac eorum perfectionibus*,” printed at Venice in 1515; and “*Introductio in Astronomiam*,” printed in 1489. It is said, that he observed a comet above the orb of Venus. Hutton's *Math. Dict.* Russell's *Akppo*, vol. ii. p. 100.

ALBUMEN, in the Linnæan system of *Zoology*, a species of *NUTRA*, with a convex shell, subcordated umbilicus, and a distinct lobe. It is found very rarely at the Cape of Good Hope, and on the shores of the islands of Nicobar and the Moluccas.

ALBUMEN, *Albuminous matter*. *Albumine*. Fr.—This word, which in the Latin language whence it is borrowed, signifies the white of an egg, is at present introduced into the modern chemical nomenclature, as the name of a peculiar substance, which, though existing in the greatest purity and abundance in the white of eggs, is to be found in various natural compounds, both of animal and vegetable origin.

Pure albumen is a fluid of a somewhat viscous consistence, perfectly soluble in pure water at the common temperature; but when exposed to a heat above 134° Fahr. it coagulates, and is then no longer soluble in water.

Animal albumen, in its purest natural state, constitutes the white of all birds' eggs, and the serum of blood: the vitreous and crystalline humours of the eye, the liquor that fills the abdominal cavity in cases of dropsy, and the fluid contents of the lymphatic vessels also contain a considerable portion of this substance. In the vegetable kingdom, it is found principally in the tetradynamious or cruciform plants, in the farinaceous seeds, and in the young succulent shoots of trees and shrubs.

ALBUMEN, ANIMAL, has a slight subsaline taste, and never fails to turn the blue colour of syrup of violets green, thus indicating the presence of disengaged or carbonated alkali. When heated to about 133° Fahr. a number of white fibres begin to make their appearance, and these rapidly increasing, the whole mass is in a short time converted into a white opaque concrete solid, considerably elastic, and of a smooth compact fracture. By exposure to a dry heat, not exceeding that of boiling water, the coagulated albumen loses the greatest part of its moisture, shrinks in consequence in its volume, becomes hard, transparent, and very similar to horn; and when broken, exhibits a bright polished surface, and vitreous fracture. The application of a stronger heat destroys the equilibrium of its elementary parts, and produces the disengagement of ammoniacal gas, of carbonated ammonia, of a fetid empyreumatic oil, and sulphurated hydrogen; there remains behind in the retort a spongy coal, from which may be obtained by lixiviation, muriat, phosphat, and carbonat of soda.

Liquid albumen is completely soluble in fresh distilled water, but if this last is charged with atmospheric air, the mass upon mixture becomes in some measure turbid, and a flocculent precipitate is by degrees deposited. The action of acids, more especially of the three mineral ones, causes an immediate coagulation, and the same effect is produced by all the metallic salts. Caustic alkalies, on the contrary, hold albumen, whether liquid or coagulated, in permanent solution. The addition of lime water occasions a precipitation, but the substance thus deposited, being phosphat of lime, shews that this is not so much a chemical action on the albumen itself, as a decomposition of the phosphated soda which it contains.

There has been a considerable diversity of opinion among chemists respecting the cause of the coagulation which is observed to take place in liquid albumen. Scheele, in his admirable essay on milk, attributes it to a combination with caloric; this is effected in the simplest way by the direct

addition of heat; and during the process, there does not appear to be any notable diminution of weight. In fact, the result of this method of accounting for the fact, and following ingenious experiments were inserted by the French chemist. Having mixed one part of white of egg with four parts of water, he divided the mass into two equal parts, and added to one a solution of caustic alkali, and to the other the same quantity of carbonated alkali; the liquor, in both cases, remained perfectly clear; then, upon dropping into the first a little nitric acid, ammoniacal coagulation took place, while a like quantity of acid produced no effect on the latter solution. This is accounted for by Scheele in the following manner. By the combination of acid with caustic alkali, the heat given out is absorbed by the albumen which thus coagulates; but when the acid is added to the carbonated alkali, the whole of the caloric is taken up by the disengaged carbonic acid, and in consequence no coagulation is the result.

According to Fourcroy, the coagulation of albumen is owing to an absorption of oxygen, and the facts which appear to him to prove this are the following: If the red oxyd of mercury is triturated with albumen, it is reduced to the state of black oxyd, at the same time that the albumen becomes opaque, thick, and in some degree coagulated. The white of a fresh laid egg is incapable of being reduced by boiling to so firm a consistence as that of an egg which has been kept several days.

On the other hand, Carradori has shewn that albumen is coagulable by heat without the access of air, and even that when this effect takes place in oxygen gas, there is not the smallest portion of air absorbed.

It was the opinion of Buequet, that albumen is a kind of natural soap, and that its coagulation by acids was merely owing to their combination with the soda which it contains.

These differences between chemists of acknowledged ability, founded also upon undisputed facts, appear to arise from a mistaken relevancy of considering coagulation as the constant effect of some one uniform cause, when a little consideration cannot fail of convincing us of the very equivocal nature of this phenomenon. Albumen certainly concretes by the mere action of heat unassisted by any other substance; and this is probably owing in part to the fixation of caloric, and in part to the disengagement of sulphurated hydrogen, as is manifest from the tarnishing of silver, and the blackening of acetated lead, by the white of a newly boiled egg; that the extrication of sulphurated hydrogen is a necessary concomitant in most cases of the coagulation of albumen, is obvious also from certain other facts; thus coagulated albumen is soluble in a very dilute acid, and upon the addition of a few drops of a more concentrated one, is immediately precipitated, at the same time that a strong smell of sulphurated hydrogen is manifested. Again, nitrated silver instantly coagulates albumen, and black streaks at the same time begin to appear, owing to the formation of hydrosulphuret of silver. The coagulation produced by the red oxyd of mercury may be occasioned by the absorption of oxygen, if indeed the blackening of the mercury is not rather produced by combination with sulphurated hydrogen; and this is the more probable, as even metallic mercury undergoes a similar change. The thickening produced by metallic salts is neither caused by the mere communication of heat nor of oxygen, since the coagulum is an indisoluble combination of the albumen with the metallic oxyd. In like manner a coagulation is formed by the combination of albumen with TANNIN, which has also a specific chemical action. Lastly, pure alcohol will coagulate albumen, probably by the mere abstraction of the water necessary to its liquidity, since the curd thus

obtained is resolvable in water, without any remarkable change of properties.

Besides the general effect of acids on albumen, some of them produce peculiar changes which require notice. By concentrated sulphuric acid it is blackened and charred, exhaling at the same time a nauseous odour; while, by the same acid diluted, it is merely coagulated and preserved from further change. Strong muriatic acid gives a violet tinge to the coagulum, and by long contact effects a partial decomposition, so far as to become saturated with ammonia. Nitrous acid, at the temperature of about 70° Fahr., causes a plentiful disengagement of azotic gas; if further heated, a quantity of prussic acid is formed; and this change is immediately rendered sensible, by the peculiar odour of this acid, similar to that of bitter almonds; this is succeeded by the separation of carbonic acid and carbonated hydrogen; and as soon as this change comes on, the residue in the retort is found to consist of little else than water, covered with a lemon-coloured fat oil, and holding in solution oxalic acid, which may be afterwards separated by crystallization. If dry caustic potash or soda be triturated with albumen, either liquid or solid, ammoniacal gas is set at liberty; and the calcination of the residue yields a prussiated alkali, capable of producing a blue precipitate with the salts of iron.

The neutral salts appear to have little or no action, except that of preserving the albumen from putrefaction.

By spontaneous decomposition in the open air, albumen passes rapidly, and probably without first becoming acid; into the putrid fermentation; in this state it exhales a fetid odour, assumes a brown colour, gives out ammonia, and remains a considerable time before the decomposition is completed.

Animal albumen, as contained in milk, blood, and eggs, forms a considerable part of the food of man. Advantage is taken of its property, of coagulating by heat, to clarify liquors of various kinds: it is largely used in the arts of leather dressing and sugar refining, and the more transparent kinds are employed for varnishes. Dict. Method. Art. Albumine. Fourcroy Syst. des Connais. Chimiq. vol. ix. Scheele's Essays. Annales de Chimie, vol. xxix.

ALBUMEN, VEGETABLE. The discovery of albumen in vegetables is due to Fourcroy. This chemist having observed that the clarification of the expressed juices of the antiscorbutic plants was effected by the spontaneous coagulation of their colouring matter, at the temperature of boiling water, was induced to examine whether this property did not depend on the presence of albumen. For this purpose, having obtained the juice of two pounds of young cress, he filtered it while cold, through blotting paper, and by this means separated the grosser parts of the colouring fecula: the liquor was, however, still of a bright green, but upon being exposed in a broad shallow vessel to the air, at a temperature of about 80° Fahr., in two hours it became turbid and deposited a greenish matter, becoming itself almost colourless; in this state it was exposed to the heat of boiling water, and in a few minutes there separated a large quantity of whitish flocculent matter. Another portion of the same clarified liquor being exposed to the air, deposited at the end of two days a similar coagulum; and the same effect was produced on a third portion by the addition of sulphuric acid. The substance thus obtained being first repeatedly washed in cold water, exhibited all the properties of animal albumen. It was easily and quickly dissolved by any of the alkalies; it experienced no change in boiling water, except that of becoming more solid; it converted the purple juice of mallows to green, and by distillation, yielded a notable quantity of ammonia: when

when exposed with a little water to a warm air, it swelled considerably, exhaled a fetid ammoniacal odour, and gave all the usual signs of active putrefaction; hence explaining the reason of the rank disagreeable smell that characterises the spontaneous decomposition of all the cruciform plants. When dried, by pressure between two pieces of paper, it exhibited a considerable degree of ductility and transparency, like glue.

Albumen was afterwards found in the roots of various vegetables, especially of the *rumex-patiencia*; also in wheat and the farinaceous seeds; and in general in all the green and succulent parts of plants. The acid pulps of fruits are totally destitute of this substance, but abound with jelly; and it is the opinion of Fourcroy, that in all these cases there is a conversion of albumen into jelly, by the gradual evolution of the acid, and consequent fixation of oxygen. *Dict. Method. Art. Albumine Vegetal. Fourcroy Syll. des Conn. Chimiq. vol. viii.*

ALBUNEA FONS, or *Albula aqua*, in *Ancient Geography*, a fountain and small river in the country of the Sabines, west of the Tiber. It was famous for its sulphureous waters, which occasioned baths to be erected near them, mentioned by Suetonius, and Hygeia the goddess of health to be worshipped there.

ALBÚNUELAS, in *Geography*, a town of Spain, in the province of Grenada, four leagues east of Alhama.

ALBUOLA, a town of the kingdom of Naples, in the province of Basilicata, eight miles south of Potenza.

ALBUQUERQUE, a town of Spain, in the province of Estremadura, on the frontiers of Portugal, situate on an eminence, and defended by a strong castle. It has a considerable trade of wool and woollen manufactures. N. lat. $38^{\circ} 52'$. W. long. $6^{\circ} 6'$.

ALBUQUERQUE, ALPHONSO DE, in *Biography*, a Portuguese governor of the Indies, contributed more than any other to extend the territories and to establish the power of the court of Portugal in that country. The first exploit which he performed, after being appointed governor, was the reduction of Calicut; which he attacked at once by land and sea, with such fury, that he soon became master of the town, which he burnt; and of the fortrefs, which he demolished. As soon as he recovered from an accidental injury which he received on this occasion, he proceeded against Goa, and took it. This city, in 1559, became the residence of the governor, and the see of an archbishop and primate of the Indies. His next object was, Malacca, which he attacked by sea and land, took by storm, and delivered to the pillage of the Portuguese soldiers. The clear fifth reserved for the king, amounted in value to 200,000 pieces of gold. The last enterprise of any moment in which he was engaged, was the siege and capture of Ormuz. He had formed other great projects, which, however, he did not live to execute. One of these regarded the revival of the Indian trade by way of Alexandria, in which he knew the Venetians would have assisted the Turks, or any other persons, for their own emolument. He proposed, therefore, to the emperor of Ethiopia, that for his own security, he should divert the channel of the Nile, by cutting a passage for it into the Arabian sea before it reached Egypt; and by so doing, he would have rendered the greatest part of Egypt uninhabitable; and at the same time made it impracticable to renew the old mode of transporting East-India commodities from the Red Sea to Alexandria, which was the object he had principally in view. Another project was to transport 300 horse from the island of Ormuz to the opposite coast of Arabia, and thus to plunder the tomb of Mahomet at Mecca, which he

conceived would be beneficial in a variety of respects, and chiefly in relieving the trade of the east out of the hands of the Turks and other Mahometan nations. But death prevented the accomplishment of his various projects. After his return to Goa, he was seized with a disorder which in a few days proved fatal; so that he died Dec. 10, 1515, at the age of 63. He was called by the Mahometans, *Albubetque Malandy*, because he was born at Melinda in Africa; but, by the Portuguese, he was justly denominated *Albubetque the Great*. He was the ablest statesman, and the most consummate general they ever had in India, and left their affairs in the best situation; and yet he performed his numerous exploits with a very inconsiderable force. With 30 ships he took Calicut; with 21 he became master of Goa; with 23 he surprized Malacca; and he had no more than 22 in his expedition against Ormuz. His funeral was performed with great solemnity, and his body interred in a chapel built by him at Goa, and dedicated to the blessed Virgin, which chapel was much enlarged by his son, Alphonso Albuquerque, who lived to the age of 80, and wrote a large book of Memoirs, in which he recorded his father's actions.

He studied the disposition of the people among whom he lived, and conformed in outward pomp and magnificence on public days to the habits of the Indians; though in his private mode of living, he was strict and abstemious. In exacting the dues of the crown, he was severe; but as to his personal fortune, he had scarcely any thing which he could call his own. His officers were his children, to whose instruction he was as attentive as the most affectionate parent is to the education of his sons. Whilst he overlooked trivial faults, he punished treachery or neglect of duty with inexorable severity. He was liberal in bestowing recompence and applause on those officers who distinguished themselves by any great actions; at the same time he was not only silent as to his own, but would not permit others to commend them. It was a maxim which he often repeated, "that he was afraid of nothing but flattery;" and it was observed, that he never preferred any who attempted to gain his favour in that way. Some of the Portuguese historians have observed, that the vanity of his predecessor Almeida, made him affect the state of a prince when the Portuguese power was very imperfectly established; whereas the modesty of Albuquerque was most conspicuous when his victories left him nothing to fear, and when the greatest princes of the east sent ambassadors to solicit his friendship. Albuquerque, however, was actuated by boundless ambition; and his extravagant desire of extending the dominions of Portugal, made him regardless of the measures which he adopted for this purpose. In private life, he was a man of the strictest honour; but in his public character, liable to just reproach and censure. After serving his prince and country with singular zeal and success, he had the misfortune to die in disgrace. His ambition, austerity, and strict regard to justice, had raised enemies, who were assiduous in their endeavours to prejudice the king against him; and as he had solicited with a view to the preservation of Goa, the grant of it, together with the title of a duchy, as a reward for his services, this was made a pretence for exciting and increasing the jealousy of the king: and thus, before his death, he was displaced from the office of governor, and another person appointed in his room. When Albuquerque heard of this appointment, he is said to have exclaimed: "I incurred the hatred of men by my love for the king, and am disgraced by him through his prepossession for other men. To the grave, unhappy old man; it is time thou wert there; to the grave!" His letter to the king,

king, recommending his natural son to his favour, closes with these words: "I say nothing of the Indies; they will speak for themselves, and for me." *Mod. Un. Hist.* vol. vi. p. 43—50.

ALBERTO DE COELHO, EDWARD, marquis of Balsa, count of Pernambuco in Brazil, and gentleman of the chamber to Philip IV. king of Portugal, was distinguished by his valour in the Portuguese army, against the Dutch at Bidon. He wrote a "Journal of the War," from the year 1658, which was printed at Madrid, in 4to. in 1654. He died at Madrid, in 1658. *Gen. Biog.*

ALBURN, or AUBURN-colour, a whitish brown, or a mixt colour, partaking of red and white. Skinner derives the word, in that sense, from the Latin, *albus*, white; and the Italian, *burno*, from *bruno*, brown.

ALBURNUM, in *Phytology*, denotes the white, soft substance that lies between the inner bark and the wood of trees, composed of layers of the former, which have not attained the solidity of the latter. In this state, dealers in timber call it the sap.

ALBURNUM, in the Linnæan system of *Zoology*, a species of *ALCYONIUM*, white, very ramose, attenuated, and subdivided, with terminal tubulous pores. It is found in the Indian sea.

ALBURNUS, in *Ichthyology*, a species of the *CYPRINUS* of Linneus, and the BLEAK of Ray and Pennant.

ALBURNUS is also a species of the *PIRCA*.

ALBURNUS *Portus et Mons*, in *Ancient Geography*, lay to the north of Pæstum, in that part of Magna Græcia, called Lucania.

ALBUS *Pagus*, or *Vicus*, a village of Arabia, mentioned by Strabo, and called, according to the Greek idiom, *Αλευον αρον*.

ALBUS *piscis*, in *Ichthyology*, the white fish, a name by which Sylvian has distinguished the fish, more usually called the *capito-lacustris*, and seeming to be the same with the blue chub; or, as it is more generally called, the JENTLING. It is the *CYPRINUS Jeses* of the Linnæan system.

ALBUSEIRA, in *Geography*, a small town of Algarve in Portugal, consisting of two parishes, and containing about 1000 inhabitants. It is situated on the sea-coast, between Lagos on the north, Faro to the east, and Sylves to the north. N. lat. 37°. W. long. 3° 21'.

ALBUSEIRA is also a lake in the island of Majorca, in the Mediterranean.

ALBUTIUS, SILVUS (*Caius*), in *Biography*, an orator of some celebrity at Rome, in the time of Augustus, was born at Novara, and advanced to the office of *Ædile*; but receiving a public insult, by being dragged from the tribunal, in consequence of a judgment he pronounced, he left his native place and settled at Rome. Here he formed a friendship with the orator Munatius Plancus, and afterwards became his rival. In his public pleadings he was too free in the use of rhetorical figures, and sunk into disrepute, so that he renounced the bar. In advanced life he returned to Novara, where he laboured under an asthma, and having delivered a discourse in justification of suicide, he starved himself to death. The elder Seneca commends him as a man of eminent probity, for not knowing how to offer or to bear an injury. From a passage in Quintilian it appears that he was the author of a treatise on rhetoric. *Suetonius de Clar. Orat.* c. vi. *Quint. Inst.* lib. ii. c. v. *Gen. Dict.*

ALBUTIUS, TITUS, a Roman philosopher of the Epicurean sect, flourished about 120 years before Christ. Having been educated at Athens, he became so attached to Grecian manners, that he preferred being regarded as a Greek rather than a Roman. According to Cicero, (*De*

Finibus, lib. i. c. 3. and *De Oratore*, lib. iii. c. 43.), Scævola often rallied him on account of this affection. Thus, he compares his style to a kind of inlaid or mosaic work.

"Quam lepide lexis compositæ, ut tessellæ omnes Arte pavimento, atque emblemate verniculato."

"How neatly are his polish'd words inlaid!

Not meet shall the artist his display'd,

Whose patient hand, on smooth mosaic ground,
Figures that live and speak, has strew'd around."

Whilst he was proprietor of Sardinia, he celebrated a kind of triumph in his province; and this arrogance induced the senate to refuse him a "supplication" or public thanksgiving to the gods in honour of his exploits. On his return from Sardinia he was accused of peculation in his office, and sentenced to exile. He withdrew to Athens, and devoted his remaining days to the study of philosophy. Although he possessed some talents for oratory, they were of the inferior kind; and he had no claim on the character of a statesman or a philosopher. From the sarcastic appellation of "Græcus Homo," bestowed upon him by Cicero (in *Brut.*) he appears to have been an affected trifler. *Gen. Dict.*

ALBUTIUS, ARUNTIVS, CALPETANUS and RABRIUS, four physicians, all lived in the time of Augustus, and acquired considerable wealth by practising medicine at Rome. *Haller, Bibl. Med.* vol. i. p. 166.

ALBUTIUS, JOHN PETER, a celebrated philosopher and physician of the 16th century, taught medicine at the University of Padua, for forty years, where he also practised, we are told, with great reputation and success, particularly in the plague which raged in that city, in the year 1577. He died February 14th, 1583, aged 75 years. His son John Francis, who succeeded him in his practice, procured him to be buried at the church of St. Cuthorga, at Milan, where a handsome monument was raised to his memory, with an inscription, at once celebrating his talents, and virtues, the piety of his son, and the gratitude of his fellow citizens.

ALBUZINSKA, a fortress which the Czarina possessed on the river Amura, in Mongolian Tartary, about 1200 leagues from Moscow.

ALBY. See ALBI.

ALCA, in *Geography*, a small and very fertile island in the Caspian sea, on the coast of Tabritan.

ALCA, *Auk*, in *Ornithology*, a genus of the order of *Anseres*, in the Linnæan system, and of the *Palmipedes*, in the distribution of Latham; the characters of which are, that the bill is without teeth, short, compressed, convex, frequently furrowed transversely; the inferior mandible is gibbous before the base; the nostrils are behind the bill; and the feet have generally three toes. This genus comprehends 12 species, viz. 1. *A. tarda*, with four furrows on the bill, and a white line on each side running from the bill to the eyes. This is the alca of Clusius, Wormius, and Brisson; the plautus tonfor of Klein; the pingouin of Buffon; and the razor-bill, auk, or murre of Pennant, Ray, Willughby, Albinus, Edwards, and Latham; the falk of Martin, and the marrot of Sibbald. This species weighs about 22½ ounces, its length is about 18 inches, and alar breadth 27; the bill is two inches long and black; the grooves of the upper mandible are four, and of the lower three, and the widest of them is white; the inside of the mouth is of a fine pale yellow; the head, throat, and whole upper side of the body are black; the wings are of the same colour, except the tips of the lesser quill-feathers which are white; the tail consists of 12 black feathers, and is sharp pointed; the whole under side of the body is white, the legs are black. The female, says Buffon, wants the white streak between the bill and the eye,

but

but its throat is white. These birds, in company with the guillemot, appear in our seas in the beginning of February; but do not settle in their breeding-places till they begin to lay, about the beginning of May. When they take possession of the ledges of the highest rocks that hang over the sea, they sit close together and in rows one above another, and form a very grotesque appearance. They lay only one egg at a time, which is of a large size, in proportion to that of the bird, being three inches long, either white or of a pale sea-green, irregularly spotted with black; if this egg be destroyed, both the auk and the guillemot will lay another, and if this be taken, a third; as they make no nest, they deposit the egg on the bare rock, positing it in such a manner as no human art can effect, and fixing it by means of the viscous moisture that bedews its surface on its exclusion; and though such multitudes of eggs are contiguous to each other, each bird distinguishes its own. These eggs serve as food to the inhabitants of the coasts which the birds frequent, and are procured with great hazard by persons let down with ropes, held by their companions, and who for want of stable footing, are precipitated down the rocks and perish together. These birds are found in the northern parts of America, Europe, and Asia. They come to breed on the Ferroe islands, along the west of England, and on the isle of Wight, where they add to the multitude of sea-fowl that inhabit the great rocks, called the Needles. Their winter residence is not positively ascertained. As they cannot remain on the sea in that season, and never appear on shore, nor retire to southern climates, Edwards supposes that they pass the winter in the caverns of rocks, which open under water, but rise internally as much above the level of the flood as to admit a reef, and here, as he apprehends, they remain torpid, and live upon their abundant fat. The pace of this bird is heavy and sluggish; and its ordinary posture is that of swimming or floating on the water, or lying stretched on the rocks or on the ice.

2. *A. picta*, *A. minor* of Briff. *mergus* of Bellon. Aldrov. Johnst. Will. and Ray, *alca unifulcata* of Brunn. and Muller, and black-billed auk of Pennant and Latham, has its bill smooth and compressed, the whole under side of the body, and the tips of the posterior wing-quills, white, and its legs red. This species weighs 18 ounces, its length is 15½ inches and breadth 2½ inches; the bill is of the same form with that of the preceding, but is entirely black. The cheeks, chin and throat, are white; in all other respects it agrees with the former species. It has been found on our coasts in winter, when the other sort has left them. It is very common in Greenland, where it breeds on the cliffs, feeds on marine insects and grows very fat. In winter these birds pass the day in the bays, and in the evening retire to the sea. The Greenlanders eat their flesh half putrid, suck their raw fat, and clothe themselves with their skins. When this bird is dressed with its entrails, it is esteemed by those people a great delicacy. Some have doubted whether these birds migrate so far southward as the Mediterranean, whilst others affirm that they have been found on the coast of Candia; and Mr. Latham says, that they are common in the bay of Gibraltar, where they have been particularly noticed on account of the adroitness and activity with which they plunge into the water, and move through it in pursuit of their prey.

The *A. baltica* of Brunnick, with black tail and wings, is a variety of this species.

3. *A. impennis*, *A. major* of Brisson, *mergus americanus* of Cluvius, *choenalopex* of Moehring, *goisfugl* of Cluvius, Nieremb. and Jonst. Penguin of Worm. Will. Ray, Martin, Edwards, &c. *gare* of Sibb. *grand pingouin* of Bufton,

and great auk of Pennant and Latham, has its bill compressed and furrowed on both sides, and has an oval spot on each side before the eyes. Its length to the end of its toes is three feet; the bill to the corner of the mouth is 4½ inches; part of the upper mandible is covered with short, black, velvety feathers; the head, neck, back, tail and wings are of a glossy black, the tips of the lesser quill-feathers white, the whole under side of the body white, and the legs black. The wings are so small as to be useless for flight, their length, from the tip of the longest quill-feathers to the first joint, being only 4½ inches; and these birds are therefore observed by seamen never to wander beyond soundings, and by the sight of them they are able to ascertain the nearness of the land. They can scarcely even walk, and of course continue on the water, except in the time of breeding. According to Mr. Martin, they breed on the isle of St. Kilda, appearing there in the beginning of May and retiring in the middle of June. They lay one egg, six inches long, of a white colour; and if the egg be taken away, no other is laid in the same season. Some eggs are irregularly marked with purplish lines crossing each other, and others are blotched black and ferruginous about the thicker end. Mr. Macaulay, in his history of St. Kilda, p. 156, observes, that this bird does not visit that island annually, but sometimes keeps away for several years together; and that it lays its eggs close to the sea-mark, as it is incapable, by the shortness of its wings, of mounting higher. Birds of this species are said not to be numerous; they seldom appear on the coasts of Norway. They are met with near Newfoundland and Iceland. They do not resort annually to the Ferroe islands, and they rarely descend more to the south in the European seas. They feed on the cyclopterus, and such fish, and on the rose-root and other plants. The skins are used by the Esquimaux for garments. The akpa of the Greenlanders, which is about the size of a duck, with the back black and the belly white, and which can neither run nor fly, is supposed by M. Buffon to be this bird. These birds live in flocks at sea, and never approach the land except in very severe cold; and in this case they are so numerous that they cover the water like a thick dark fog. The Greenlanders drive them on the coast and catch them with the hand, as they can neither run nor fly. At the mouth of the Ball river they afford subsistence to the inhabitants in the months of February and March, and their down serves to line winter garments.

4. *A. arctica*, *anas arctica* of Cluv. Ray, Worm. Will. Olear. Alb. and Sibb. *lunda* of Nieremb. and Jonst. *fratercula* of Brisson, *bowger* of Martin, *puffinus anglicus* of Gesner, *macareux* of Buffon, and *puffin* of Pennant and Latham; has its bill compressed, channelled on each side with four furrows, the orbits and temples white, and its upper eye-lid pointed. For a further account of this species, see PUFFIN.

5. *A. alca*, *uria minor* of Brisson, *mergulus melanoleucus*, with a short sharp bill of Ray, small black and white diver of Will. and Edwards, Greenland dove or sea-turtle of Albin, *rotges* of Martin's Spitzb. and little auk of Pennant and Latham, has a smooth conical bill, the whole under part of the abdomen and the tips of the posterior wing-quills white, and the legs black. The bill is short, strong and black; the cheeks, throat, and under side of the body white, the crown of the head, hind part of the neck, back, tail, and wings black, the inner coverts of the wings grey, the scapular feathers black and white; the legs and feet covered with dirty greenish white scales; the webs black. The size of the bird, from which this description was taken by Pennant, was not superior to that of a blackbird. Mr. Edwards describes another

about the middle of the bill from the eye to the tip of the bill is black; the head and neck are white; the lower mandible of the bill is furnished with a dirty white. One of the most common of the A. with a red bill. This species breeds in America and Europe, especially in the arctic sea, where it is common in the months of June, about nine inches long, and the upper mandible of the bill is soft, food, and is more capable of walking, laying two bluish white eggs, flying swiftly, and being very numerous in the weather, in company of the small fish, they are brought within its reach; when at rest on the water or on ice, it is perpetually dipping its bill in the water. In Greenland it is called the ice-bird.

6. *A. leucorhynchus*, or blunder auk of Pennant and Latham, has a keel-shaped bill, its lower mandible angulated, the linear nostrils covered with an obscure membrane. The bill is narrow, the upper mandible of a dark red colour, the lower whitish, spotted with black, the temples dull white, the throat, wings, and short tail of a dark colour; and the legs red. It is about 12 inches long, and found in the country of Labrador.

7. *A. cristatella*, or crested auk of Pennant and Latham, has its bill somewhat ascending, conoidal, crimson-coloured, white at the tip, with a furrow running on each side of the lower mandible from the throat, and a crested front. It is about the size of the thrush, 12 inches long, and found in the islands adjacent to Japan, and in Bird Island, situate between America and the northern part of Asia, in the day swimming on the sea, and at night in the rabbit holes of the shore and the clefts of rocks.

8. *A. tetracula*, or dusky auk of Pennant and Latham, has an ascending bill conoid, of a dingy brown colour, the lower mandible triangular, and the front somewhat crested. It is 11 inches long, and found in the sea of Kamtschatka, on the sea by day, and in the night concealed in the rabbit holes, caves and fissures of rocks, where it forms its nest; it walks and flies very indifferently, stands erect, swims swiftly on the water, and dives well.

9. *A. ptilacula*, or perroquet auk of Pennant and Latham, has its bill subovate, compressed and crimson-coloured, with a single furrow in each mandible, with a white spot in the middle of the upper eye-lid and below the eye. The head and upper part of the body are dusky, the lower whitish, varied with black edges; from the remote corner of each eye a tuft of white feathers hangs down the neck; the tail is very short, the legs of a dirty yellow, and the membrane connecting the toes brown. This species is about the size of the little auk, is found in the sea that lies between the northern parts of Asia and America, sometimes by day in flocks swimming on the water, though not very far from land, unless driven out by storms, and in the night harbouring in the crevices of rocks. About the middle of June they lay upon the rock or sand a single egg, about the size of that of a hen, of a dirty white or yellowish colour, spotted with brown, which is esteemed good. These birds, like others of the same class, are stupid, and are mostly taken by the natives, who place themselves in the evening among the rocks, dressed in garments of fur with large open sleeves, into which the birds fly for shelter as the night comes on, and thus they become an easy prey. They sometimes at sea mistake a ship for a roosting-place, and thus warn navigators of their being near the land at the access of night, or on the approach of storms.

10. *A. cirrhata*, macareux of Kamtschatka of Buffon, or tufted auk of Pennant and Latham, is entirely black, has four furrows in its bill, the sides of the head, the space

about the eyes, and the corner of the throat white, and a yellowish longitudinal tuft from the eye-brows to the nape. This tuft is white near the head, and afterwards of a buff-yellow; the bill and legs are crimson. It resembles the puffin in its appearance and manners, but is somewhat larger, being about 18 inches long; swimming about for whole days in the sea, where it dives well, and occasionally flies swiftly, but never departing far from the rocks and islands; and feeding on shrimp, crabs, and shell-fish, which it forces from the rocks with its strong bill; in the night it comes to shore, burrows about a yard deep under ground, and makes a nest with feathers and sea-weed, in which it lodges with its mate, being monogamous. It lays one egg in May or June, which is fit to be eaten and used for food, but the flesh of the bird is hard and insipid. This species inhabits the shores of Kamtschatka, the Kurile islands, and those that lie between Kamtschatka and America. The young women of Kamtschatka form an ornament of the glutton's skin, in the shape of a crescent, which they suspend behind each ear, resembling the tufts of this bird; and a present of this kind from a lover to his mistress is in high estimation. The bills mixed with those of the common puffin, and the hairs of the seal, were formerly regarded by these people as a powerful amulet: they are now used as an appendage to their dress, and the skins of the birds are sewed together as garments. This bird is called by the natives, monichagatha, or mitchagatchi, and igilma.

11. *A. antiqua*, or ancient auk of Pennant and Latham, has a black bill white at the base, covered with down, a small whitish crest on each side of the head, and another long white one on the neck. The crown of the head and throat are black; the back, wings, and tail are fuliginous. This species is somewhat larger than the little auk, being almost 11 inches long, and is found near Kamtschatka, and the Kurile islands.

12. *A. pygmaea*, or pygmy auk of Pennant and Latham, has a black bill, the crown of the head, neck, back, wings, tail, and feet of a dusky colour, the throat and breast grey, the abdomen dirty white. The bill is furrowed on the back and slightly bent at the ends. This species is less than the little auk, or seven inches long, is found in large flocks about Bird islands, between the northern parts of Asia and America. See Linnæus by Gmelin, Buffon, Pennant, and Latham.

ALCABENDAS, in *Geography*, a small, but beautiful town of Spain, in New Castile, situate about three or four leagues north of Madrid. N. lat. 40° 35'. W. long. 3° 26'.

ALCACAZON, in *Botany*, the name of a plant, which is produced in the neighbourhood of Colima in Mexico, and which the inhabitants reckon a catholicon in all decayed, enervated, and emaciated constitutions. The natives apply the leaves to the parts chiefly affected, and judge of their efficacy by their sticking or falling off.

ALCACENAS, in *Geography*, a small town of Portugal, south-east of Evora, upon a branch of the river Zadeon. N. lat. 38° 25'. W. long. 6° 21'.

ALCADETE, a small town of Spain in New Castile, on a small river which runs near it into the Tagus. N. lat. 39° 30'. W. long. 3° 56'.

ALCADIN of Syracuse, in *Biography*, a learned philosopher and physician, taught medicine at Salernum, towards the end of the 12th century. He was physician to the emperor, Henry the Sixth, and wrote an account of the virtues of the baths of Puzzoli, in verse, which is inserted in a collection of treatises on baths, printed at Venice, 1553, fol. and again in a work, "De Balneis Putecolorum Bajorum, &c. Naples, 1591. 8vo.

ALCÆUS, in *Classical Biography*, a famous Greek lyric poet, was born at Mitylene in the island of Lesbos, and flourished in the 44th olympiad, about 64 years before Christ, and was contemporary with Sappho, to whom it is said he was affectionately attached. A verse, intimating his passion to Sappho, with her answer, is preserved by Aristotle, (*Rhet. lib. i. c. 9.*), thus translated:

Alcæus.—“ I fain to Sappho would a wish impart,
But fear locks up the secret in my heart.”

Sappho.—“ Thy down-cast looks, respect, and timid air,
Too plain the nature of thy wish declare;
If lawless, wild, inordinate desire,
Did not with thoughts impure thy bosom fire,
Thy tongue and eyes, by innocence made bold,
Ere now the secret of thy soul had told.”

The invention of lyric poetry is by some attributed to Alcæus, and it seems to be implied by Horace (*Od. xxxii. lib. i.*), unless he only intimates that he invented the barbiton, or harp. From him, however, the lyric measure, called “the Alcæic verse,” derived its name. He was no less a votary of Mars than of love and the muses. He strenuously asserted the liberty of his country against the tyrants who usurped dominion, and particularly against Pittacus; and took up arms in its defence. But his courage failed him in the day of battle, and he attempted to save himself by flight, when his party was defeated, but was taken prisoner by Pittacus, who generously granted him both his life and liberty. He was afterwards sentenced to exile; but what was the issue of his conflicts, and how and where his life terminated, history does not inform us. Horace seems to intimate, that he became a corsair. His poetical talents have never been disputed. His poems, of which only a few fragments now remain, collected by Neandrus, H. Stephens, and Ursinus, were written in the Æolian dialect, and in the measure of his own invention. The subjects of them were very various, sometimes amatory and bacchanalian, but more generally grave and political. They are described by Horace in the following verses:

“ Et te sonantem plenius auro,
Alcæe, plectro dura navis,
Dura fugæ mala, dura belli!
Utrumque sacro digna silentio
Mirantur umbrae dicere: sed magis
Pugnas, et exactos tyrannos
Denfum humeris bibit aure vulgus.”

Od. xiii. l. ii.

“ Alcæus strikes the golden strings,
And seas, and war, and exile sings:
Thus while they strike the various lyre,
The ghosts the sacred sounds admire;
But when Alcæus lifts the strain,
To deeds of war and tyrants slain,
In thicker crowds the shadowy throng,
Drink deeper down the martial song.”

FRANCIS.

Quintilian (*Inst. Orat. lib. x. c. 1. tom. ii. p. 896. Ed. Burman.*) says, that his style was concise, sublime, and accurate, and much resembling that of Homer; but that his pieces of the lighter kind were inferior to his other poems. Fabr. Bib. Græc. lib. ii. c. 15. tom. i. p. 565. Rollin's *Anc. Hist. vol. ii. p. 349.* Burney's *Hist. Mus. vol. i. p. 388. Gen. Dict.*

There were other ancient poets of this name (see Fabr. Bib. Græc. *ubi supra.*); such as an Athenian tragic poet, who is said by some to have been the

first composer of tragedies; and who, according to Suidas, is different from Alcæus, the son of Micon, a comic poet, the fifth author of the ancient comedy. One of his pieces, intitled *Pasiphaë*, was produced in his dispute with Aristophanes in the fourth year of the 97th olympiad. Plutarch (*in Flamin. Oper. tom. i. p. 373.*) mentions another Alcæus, who lived in the 145th olympiad, A. U. C. 555. B. C. 170, and who succeeded Philip, king of Macedonia, on account of the battle which Titus Flaminus gained over him in Thessaly. An Alcæus or Messeneus also lived in the time of Vespasian and Titus, of whose epigram some are preserved in the *Anth. log.*. One of these is supposed to have finished a singular kind of death for his lewdness; which was the punishment said to have been inflicted by means of a radical, or the fish called a radlet, on adulterers, and referred to in *Journ. Sat. x. v. 317. p. 295. Id. Catalog.*

—“ quiddam moechos et mugilum intrat:”

and also in the *menace* of Catullus, *epig. 51. ad Aurelium* :—

“ Ah tum te miserum, malique fati
Quem attractis pedibus, patente porta,
Percurrent raphanico, mugilescque.”

“ Ah wretched thou, and born to luckless fate,
Who art discover'd by the unslut gate!
If once, alas! the jealous husband come,
The radish or the sea-fish is thy doom.”

ALCÆUS, in *Mythology*, the son of Perseus and Andromeda, the father of Amphitryon, the supposed father of Hercules; hence called Alcides.

ALCAI, in *Geography*, a high and fertile mountain of Africa, in the kingdom of Fez, about 12 leagues from the capital. It is inhabited by many rich and powerful peasants.

ALCAICS, in *Ancient Poetry*, a name common to several kinds of verses; so called from the poet Alcæus, the inventor of them.

The first species of alcaics consists of five feet, of which the first may be either spondee, or iambic; the second, is an iambic; the third, a long syllable; the fourth a dactyl; and the fifth, a dactyl, or amphimacer: as these of Horace.

“ Omnes eodem cogimur, omnium
Versatur urna, serius, ocus,
Sors exitura.”

The second species of alcaics consists of two dactyls, and two trochees; as,

“ Exsilium impositura cymbæ.”

Besides these two kinds of verses, which are properly called *dactylic alcaics*, there is a third sort, called simply *alcaic*; whereof the first is an *epitrite*, the second and third are *choriambuses*, and the fourth a *bacchius*; as,

“ Cur timet fla | vum Tiberim | tangere? cur | olivum?”

ALCAIC Ode, consists of four strophes, each of which contains four verses: the two first are alcaic verses of the first kind: the third an iambic diameter hypercatalectic, *i. e.* of four feet and a long syllable: as,

“ Sors exitura, et nos in æternum.”

The fourth is an alcaic of the second kind.—The entire alcaic strophe is as follows:

“ Omnes eodem cogimur: omnium
Versatur urna, serius, ocus
Sors exitura, et nos in æternum
Exsilium impositura cymbæ.”

Hor. lib. ii. od. iii.

The following is also of this species which Herace calls *minutus albus amant* :

"Non pollentem multa vocaveris
Rete beatum; restans occupat
Muneribus, qui decorem
Muneribus sapienter uti," &c.—Od. ix. lib. iv.

ALCAID, in matters of *P. Ley*, an officer of justice among the Moors, Spaniards, and Portuguese.

The word is also written *alcade*, *alcalde*, and *alcayd* : sometimes also *alcade*.

It is originally Arabic, compounded of the particle *al*, and the verb *lak*, or *alak*, to rule, govern, administer.

The emperor of Morocco's court consists chiefly of seven or eight *alcades*, his devoted slaves.

The *alcade*, or governor of a city or castle in Barbary, hath sovereign jurisdiction in civil and criminal concerns; and all fines and punishments are inflicted at his pleasure.

In some places the *alcades* are much the same with the emperor's tax-gatherers.

Alcad, among the Spaniards, &c. is a kind of inferior judge, or minister of justice, who takes cognizance of causes in the first instance, and answers in good measure to the French *premier*, and an English justice of peace.

They had also their *alcad* of the whores, who took cognizance of cases of whoredom and adultery. This officer was otherwise called *alcad* of honour. Du-Cange.

ALCALA *de las Carzules*, in *Geography*, a very ancient town of Spain in Seville, situated on a mountain, and surrounded by a fertile plain, 10 miles east-north-east from Medina Sidonia.

ALCALA *de Guadaira*, a small town of Spain in Seville, on the river Guadaira, two leagues south-east from Seville. N. lat. 37° 22'. W. long. 5° 6'.

ALCALA *de Henares*, anciently *Complutum*, a town of Spain, in New Castile, situated on the river Henares, in a beautiful plain, and consisting of well-built houses, which form handsome streets, and which are disposed in a kind of oval figure. N. lat. 40° 35'. W. long. 4° 20'. It is surrounded by piazzas, where the tradesmen keep their shops, which are well supplied with a variety of goods. The adjoining land, watered by the Henares, is fertile and well cultivated, and yields plenty of grain, good muscat wine, and excellent melons. Near the town is a spring, the water of which is preserved, on account of its peculiar purity, for the king's use, and conveyed to Madrid. This town belongs to the archbishop of Toledo. It has a collegiate church, and a celebrated university, which was restored in 1494, by Cardinal Ximenes; and in the church belonging to it this Cardinal was buried. This university possessed a very considerable library, and many curious manuscripts. Gomez says, that they cost 4000 aurei, and that among them were seven of the Hebrew Bible. Here, it is probable, were deposited, the Greek manuscripts used for the Complutensian edition of the Greek testament. Professor Moldenhawer went to Alcala, in 1784, with a view of discovering these manuscripts; but, to his extreme astonishment, he found that about 35 years before that time, a very illiterate librarian, who wanted room for some new books, sold the ancient vellum manuscripts to one Toryo, who dealt in fire-works, as materials for making rockets. Martinez, a Greek scholar, as soon as he heard of this savage act, hastened to save these treasures from destruction; but they were actually destroyed, except a few scattered leaves, which are now preserved in the library. It is added, as a circumstance of

aggravation, that the number of manuscripts was very considerable. However, as rockets are not made of vellum, a learned writer consoles himself with the reflection, that the manuscripts were written on paper, and therefore of no great antiquity. Michaelis's *Introd. to the New Test.* by Marsh, vol. ii. p. 441. vol. iii. p. 844.

ALCALA *real*, a town of Spain in Cordova, lies in a hilly country, but produces fine fruits and good wine. It is 12 leagues south-east from Cordova. N. lat. 37° 18'. W. long. 4° 15'.

ALCALA *del Rio*, a town of Spain in Seville, on the Guadalquivir, two leagues above Seville.

ALKALI and ALCALIZATUM. See ALKALI and ALKALIZATION.

ALCAMENES, in *Biography*, a statuary, the scholar of Phidias. Pliny, xxxvi. 5. Cicero de Nat. D. i. 30.

ALCAMO, in *Geography*, a considerable town of Sicily in the valley of Mazara, about 20 miles south-west from Palermo. It is situated on high ground, in a fine open cultivated country, and well sheltered by large woods of olive trees. The number of inhabitants is about 8,500. It derives its name from Adalcam, the caliph's lieutenant, who, in 827, conquered Sicily, and who erected a fortress in Monte Bonifati; but Frederick of Swabia, having dispossessed the Saracens, destroyed the fort, and erected the burgh of Alcamo at the foot of the mountain. Having passed through several Spanish families, it now belongs to the duke of Ferrandina, heir to the possessions of Toledo duke of Alba. The church is adorned with some good pictures by Pietro Novello, commonly called the Raphael of Sicily; and with alto-relievos of great merit by Gagini. The streets of the town command a superb view: the best land in the vicinity is sown with corn, the next sort is planted with vines, and the worst soil is cultivated with myrtle-leaved fumach, the leaves and flowers of which are dried and pulverized, and exported in bags, for the purpose of tanning fine leather. N. lat. 38° 2'. E. long. 12° 56'. Swinb. Trav. vol. iii. p. 346.

ALCANDRO, a town of Spain in Old Castile, situated on the Ebro; four leagues from Calahorra.

ALCANI, or ALKAN, a town of Africa in Egypt, on the western branch of the Nile, 30 miles N. N. W. of Cairo.

ALCANITZ, or ALCANIS, a town of Spain in Aragon, on the river Guadaloupe, and the frontiers of Catalonia, 15 leagues south-east from Saragossa. It was formerly the capital of the Moors, but now belongs to the order of Calatrava. It has a collegiate church and a fortress, and is surrounded with gardens and fruit-trees. A fountain in this town throws up water through 42 pipes. N. lat. 41° 10'. W. long. 0° 10'.

ALCANIZOS, a town of Spain in Leon, on the frontiers of Portugal, four leagues west from Zamora.

ALCANNA, or ALKANNA, in *Commerce*, by the Turks called *knab*, a dying drug, brought from Egypt and the Levant, being the leaves of a plant called *ligustrum Ægyptium*, the Egyptian privet, or the *LAWSONIA inermis* of the Linnaean system. The tree is also called *elhanna*, *tamarhendi*, *poutaletie* of Rhod, and grows in the East Indies, as Malabar and Ceylon, in Egypt, and also in Cyprus, and in all parts of Syria. The colours drawn from these leaves is either red or yellow, according to the mode of preparing it; yellow, when steeped in common water; and red, when infused in vinegar or alum water. The people of Cairo make a considerable traffic of these leaves, which they reduce to a powder, called *archenda*, much used by the women to dye their nails, hands, hair, and other parts of the body of a golden yellow hue. They apply it also for the same purpose to the manes and tails of their horses. This

custom amongst the oriental nations is very ancient, and has generally prevailed. This powder has been also used as an astringent, for the purpose of drying ulcers of the gums, and for removing the fetid smell of the feet; and many other virtues are ascribed to it by Rumphius. It is seldom met with in the shops, but may be used without injury. The root of the *ANCHUSA tinctoria* is substituted for it, principally for giving a red colour to tinctures, decoctions, and ointments. Murray. Mat. Med. vol. ii. p. 112. 129.

From the berries of Alcanma an oil is extracted of a very agreeable smell, and which has been of some use in physic, as a calmer, called oil of Cyprus, a name which is sometimes also given to the plant. Phil. Trans. abr. vol. x. pt. ii. p. 741.

ALCANTARA, in *Geography*, a small but strongly fortified town of Spain in Estremadura, situated in a fertile country on the banks of the river Tagus. It takes its name, which signifies a stone-bridge, from an old bridge, erected in the time of the emperor Trajan over the Tagus, at the expense of several Lusitanian nations. This bridge was 200 feet high, 670 in length and 28 broad; and on account of the bridge the Moors built the city. A chapel hewn out of a rock at the entrance of the bridge, was dedicated by the ancient Pagans to Trajan, and by the Christians to St. Julian. It was taken from the Moors in 1214, by Alphonso IX. king of Castile, and given to the knights of Calatrava, who afterwards assumed the name of Alcantara. In April 1706, it was taken by the Portuguese and the earl of Galloway, and retaken by the French in the November following. It is 45 leagues west-south-west from Madrid, and 38 west from Toledo. N. lat. $39^{\circ} 32'$. W. long. $7^{\circ} 12'$.

ALCANTARA, or ALCANTARILLA, a town of Spain in Andalusia, near the Guadalquivir, five leagues from Seville.

ALCANTARA, a district of Portugal, about a league from Lisbon. On a hill in this district there is a remarkable mine of saltpetre.

ALCANTARA, one of the most considerable rivers of Sicily, rises on the north side of mount Etna, and marks out the boundary of the mountain for about 60 miles. In many places its course has been interrupted by the eruptions of the volcano; and in others, its current, which is very rapid, has worn down the solid lava to the depth of 50 or 60 feet. Its rise is attributed to the melting of the snows on the mountain; as its waters resemble by their whitish colour those that run from the Glaciers amongst the Alps. Brydone's Tour, vol. i. p. 119.

ALCANTARA, *Order of*, an ancient military order of Spain, which took its name from the city above-mentioned. The precise year of its institution is not settled among antiquaries.

The knights of Alcantara make the same vows as those of Calatrava, and are only distinguished from them by this, that the cross fleur de lis, which they bear over a large white cloak, is of a green colour: they possess 37 commanderies.

By the terms of the surrender of Alcantara to this order, it was stipulated, that there should be a confraternity between the two orders, with the same practice and observances in both; and that the order of Alcantara should be subject to be visited by the grand-master of Calatrava. But the former soon released themselves from this engagement, on pretence that their grand-master had not been called to the election of that of Calatrava, as had been likewise stipulated in the articles.

After the expulsion of the Moors, and the taking of Granada, the sovereign of the order of Alcantara, and that of Calatrava, was settled in the town of Castile, by Ferdinand and Isabella.

In 1518, the knights of Alcantara sued for leave to marry; which was granted them.

The history of this order was chiefly taken up in expeditions against the Moors, and brail with their neighbours. See CALATRAVA.

ALCARAZ, in *Geography*, a town of Spain, in the canton of la Mancha in New Castile, situated on an eminence near the river Guardamena, in a very fertile country, defended by a strong castle, and remarkable for an ancient aqueduct. It is famous for a breed of small horses that are very fleet and strong. It is a league north of the capital of Andalusia, 43 south of Orenza, and 55 south-east of Madrid. N. lat. $38^{\circ} 28'$. W. long. $2^{\circ} 3'$.

ALCARIZ, a town of Spain, in the province of Galicia, on the river Arnoya, eight miles south of Orense.

ALCARRAZAS, in *Portery*, are a kind of vessels used in Spain for cooling water. What distinguishes them essentially from other kinds of earthen ware is their porosity: this is so considerable as to allow the liquor to ooze slowly through, and stand in small drops on the outside; hence there is a constant evaporation from their surface when immersed in a current of warm air, by which means the water remaining in the jar continues at a temperature much lower than that of the atmosphere.

These vessels appear to have been first introduced into Spain by the Saracens; and their use has since been extended into all the Spanish colonies in America and India. They have also been known from time immemorial in China, Hindostan, Persia, Arabia, Egypt, and Syria.

The most celebrated manufactory of this kind in Spain, is at Anduxar in Andalusia, the best earth for the purpose being found in the neighbourhood, on the bank of the little river Tamusoró. This is a kind of white marl, consisting principally of carbonated lime, with about 30 per cent. of silica, and a little alumine, and oxyd of iron.

The process of the manufacture is very simple, and is as follows. The fresh dug earth is first dried in the sun till it becomes pulverizable; and when beaten to powder it is passed through a fine sieve, in order to separate with accuracy all the stones and coarse sand that may be mixed with it: being then put into a wooden or copper vessel with water, it is tempered by hand to the consistence of a soft uniform paste. In this state it continues twelve hours, and is then spread upon bricks, previously covered with wood ashes, till the appearance of cracks upon its surface, owing to the draining off of part of the moisture.

This first preparation being completed, the tempered earth is weighed and put into a broad shallow vessel, where it is trodden with the naked feet, and at the same time mixed with salt, in the proportion of seven pounds for every 150 of earth, to be made into large jars, and of half the above quantity of salt for the manufacture of jugs and other small articles. The reason of this difference is obvious: the greater the vessel is, the thicker must its sides be, to give it the necessary strength; but as its porosity would be diminished in the same proportion, a greater quantity of soluble matter must be mixed with the earth. After this a sufficient mass of the material being put on a potter's wheel, it is shaped in the usual manner into a jar or other vessel; being then gradually dried, it is baked in a common pottery oven for 10 or 12 hours, according to the heat, care being taken that the salt be not so far decomposed as to become insoluble in water.

There is scarcely a house in Spain where Alcarrazas are not in constant use. Being filled with water, and exposed for a few hours to a current of air, a very small portion of the fluid is lost by evaporation, and the remainder will

have acquired a degree of coolness very grateful in that warm climate.

Estremadura possesses a manufacture of large red jars called *Barriles*, which are applied to the same purposes as the terra Alcantaras, but are much inferior, in being less porous, and communicating to the water an unpleasant earthy taste.

Another use to which these vessels are applied in Portugal, is that of moistening fluff or tobacco. For this purpose, the article being filled with fluff is placed in water, which filtering through its sides very slowly, gives in a few hours, to the mixed powder, the requisite humidity. *Journal des Mines*, vol. vi. p. 791.

The author of the *Journal de Physique* is of opinion that the mixture of fine sand with common potter's earth might afford a useful substitute both for the Alcantaras and the filtering stones. The *assil meal* is that earth of which the filtering bricks of Tuscany are made; and which according to the testimony of Pliny and Strabo, was anciently found in great plenty, both in Asia and Spain. To the prepared use, however, of this substitute, the earthy fluff in which it would communicate to the water is a radical objection.

ALCAZAR, Louis de, in *Biography*, a Spanish jesuit, was born at Seville in 1714, and was at first a teacher of philosophy, and afterwards of divinity at Cordova and at Seville for above 20 years. He devoted for many years his chief attention to the study of the book of Revelation, and his work on this subject, entitled, "*Vestigio arcani sensus in Apocalypsi*," is much esteemed among the Catholics, and has been printed several times. Grotius is said to have borrowed many of his ideas from this book. His works, comprehending a commentary on each part of the Old Testament as had in his judgment any relation to the Apocalypse, and including a treatise "*On Sacred Weights and Measures*," and another "*On bad Physicians*," form two folio volumes. Heydegger in his "*Mysterium Babylonis magne*," published at Leyden in 1687, has examined some of his apocalyptic hypotheses. Alcazar died at Seville, June 16, 1613, at the age of 50 years. *Gen. Dict.*

ALCASSAR, or ALCAZAR, in *Geography*, formerly C sar al Cabiris, a city of Africa, on the coast of Barbary, in the kingdom of Fez. It is said to have been built by Jacob Almanzor, about the year 1180, during his war with Spain, and intended as a depot for the immense stores that were collected for this purpose. It was formerly the residence of a governor, and a town of good trade, till the Portuguese made themselves masters of it in 1458; but, though it was not long in their possession, it gradually sunk into decay, and lies now in a ruinous condition. Its situation is so low, that it is overflowed with water in the winter, and molested with heat in summer. The storks of this place are so numerous and so familiar, that they occupy the tops of the houses and mosques without molestation; the inhabitants esteeming them sacred birds, and thinking it sinful to disturb them. The bashaw of Tetuan now appoints a governor for this town, which is the last of his dominions towards Mequinez. In the vicinity of this town, there is a ridge of mountains running towards Tetuan, whose inhabitants are a band of robbers, whom it has not been possible to restrain or extirpate, as they find an inaccessible shelter in their mountainous forests. It was near this town, on the river Elma-hassan, that a famous battle was fought in 1578, when three kings were slain, viz. Abdelemech king of Morocco, Mahomet the usurper, and Sebastian king of Portugal. The Portuguese indulge a fanciful notion, that Sebastian was transported to an enchanted island, and they expect his return to establish their

power, and to render their kingdom the first on the globe. This city, N. lat. 35° 15'. W. long. 12° 35', is called *Alcaassar quibir*, or the great castle, to distinguish it from the alcaassar of the next article.

ALCASSAR Zequir, or *Ceguer*, q. d. the little palace, a town or fortress of Africa, in the kingdom of Fez, between Tangiers and Ceuta. It was taken by Alphonso king of Portugal, in 1458, but soon after abandoned to the Moors. It lies on the south-side of the straits of Gibraltar, and a shallow bay between two points of land, affords anchorage for ships, and on the west of this are two long narrow islands, parallel to the coast. N. lat. 35° 48'. W. long. 5° 36'.

ALCASSAR de Guete, a town of Spain, in New Castile, almost between Cuenza and Guete, with which it forms nearly a triangle. N. lat. 40° 10'. W. long. 2° 16'.

ALCASSAR do Sal, a town of Portugal, in Estremadura, six leagues from the sea, on the confines of Alentejo, guarded by a castle, which is said to be impregnable. The salt-work in this town yields very fine white salt, and gives it its name. Of the rushes that are gathered in the adjoining fields, mats are made for exportation. N. lat. 38° 18'. W. long. 9° 10'.

ALCATIL, a town of India in the Carnatic, west of Madras.

ALCATRASES, an island in the Pacific Ocean, about 21 leagues from Acapulco, and half a league from the continent. N. lat. 15° 50'. W. long. 102° 30'.

ALCATRAZ, in *Ornithology*, a name given by the Spaniards, also by Fernandez, Hernandez, and Nieremberg, to the PELICAN of Mexico; and erroneously by Clusius and others after him, to the Indian horn-bill, or *BUCEROS-Hydro-corax*.

ALCAVALA, in *Politics*, a tax upon transferrable property imposed by the Spanish government. It was at first 10, afterwards 14, and at present it is only 6 per cent. upon the sale of every sort of property, whether moveable or immovable; and it is repeated every time the property is sold. The levying of this tax requires a multitude of revenue-officers, sufficient to guard the transportation of goods, not only from one province to another, but from one shop to another. It subjects not only the dealers in some sorts of goods, but those in all sorts; every farmer, every manufacturer, every merchant and shop-keeper; to the continual visits and examinations of the tax-gatherers. Through the greater part of a country, in which a tax of this kind is established, nothing can be produced for distant sale. The produce of every part of the country must be proportioned to the consumption of the neighbourhood. It is to the Alcavala accordingly, that Ustaritz imputes the ruin of the manufactures of Spain. He might have imputed to it likewise, says a very competent judge, the declension of agriculture; as it is imposed not only upon manufactures, but upon the rude produce of the land.

In the kingdom of Naples, there is a similar tax of three per cent. upon the value of all contracts, and consequently upon that of all contracts for sale. This is both lighter than the Spanish tax, and the greater part of towns and parishes is allowed to pay a composition in lieu of it; which composition is levied in any mode they please, and generally so as to give no interruption to the interior commerce of the place. The Neapolitan tax is therefore not nearly so ruinous as the Spanish one. *Smith's Wealth of Nations*, vol. iii. p. 381.

ALCAUDETE, in *Geography*, a beautiful town of Spain, in the province of Andalusia and district of Cordova, between

between Cordova and Jaen. N. lat. $37^{\circ} 35'$. W. long. $3^{\circ} 26'$.

ALCAZAR, or ALCAÇAR, ANDREW, of Guadalaxara, in New Castile, in *Biography*, a celebrated physician of the 16th century, published in 1575, at Salamanca, "Chirurgie libros sex, in quibus multa antiquorum et recentiorum fubofcure loca haftenus non declarata interpretantur," fol. In the fifth book, he treats, "De pudendagra vel inentagra vel lichenis, vulgo, morbo Gallico." He contends this disease was known to the ancients, and cites Pliny, and various other writers in proof of this position; but admits, that in certain stages of the disease, it is only to be cured by mercurial inunction. See a full account of this work, and a refutation of his opinion of the antiquity of the lues, in Astruc's treatise, *De Morbis Venereis*, vol. ii. p. 792.

ALCE, in *Ancient Geography*, a town of Peloponnesus, mentioned by Plutarch, in his life of Cleomenes. Alce is also, according to Livy, a town of Spain, belonging to the Celtiberians. It is likewise a name given by Pliny to a river of Bithynia.

ALCE, in *Ornithology*, a species of auk or ALCA.

ALCE, in *Zoology*, a species of CERVUS. See ELK.

ALCEA, HOLLYHOCK, *Malva* of Tournefort, in *Botany*, a genus of the *monadelphia polyandria* class and order, of the natural order of *columnifera*, and the *malvaceæ* of Jussieu. Its characters are, that the calyx is double, each one-leaved; the outer cut half way into six parts, permanent and very spreading; the inner cut half-way into five parts, larger and permanent; the corolla consists of five, obcordate emarginate, spreading petals, coalescing at their bases; the stamina are filaments uniting into a sort of five-angled cylinder at bottom, loose at top, and inserted into the corolla; the anthers almost kidney-shaped; the pistillum has a germ orbiculate, style cylindric, short, stigmas about 20, setaceous, of the length of the style; the pericarpium is composed of many jointed arils, in a ring round a columnar flattened receptacle, parting and opening on the inside; the seed is one, flat, kidney shaped in each aril. Schreber and Jussieu join this genus to *Althæa*.

Professor Martyn enumerates three, and Gmelin five species; viz. 1. *A. rosea*, common hollyhock, with leaves sinuate-angular. 2. *A. sinensis*, with cordated, rough, crenated, angular leaves, and stem below ramose. 3. *A. acaulis*, with numerous cordated rotundo-lobated leaves, spicate flowers, and a stem thick and very small. 4. *A. coromandeliana*, with subtriangular crenated obtuse quinque-nerved subtrilobe leaves, and solitary flowers. The *A. Africana* or African H. of Martyn, is described as having leaves three-lobed crenate, flowers solitary axillary, both calyxes six-parted. 5. *A. ficifolia*, fig-leaved H. with inferior palmated seven-lobed crenated leaves, the superior hastated. Linnæus doubts, whether the first and fifth species, above enumerated, are distinct, and seems to think that the last is a variety of the first. But Prof. Martyn observes, that the difference in the form of their leaves always continues. Both these sorts were cultivated by Gerard in 1597. Allione says, that the hollyhock grows wild in the county of Nice. The colour of the flowers is accidental, and the double flowers are only varieties proceeding from culture. The various colours that have been noticed are white, pale, red, deep-red, blackish-red, purple, yellow, and flesh colour. Prof. Martyn informs us, that he has seen some plants with variegated flowers, raised from seeds which were brought from China. Although these varieties of double hollyhocks are not constant, yet the greatest number of plants, produced by seeds carefully saved from the most double flowers, will arise nearly the same with

the plants from which they were taken, provided they are kept separate from single or bad coloured flowers.

The first species grows naturally in China, the fifth in Itria, and has also been brought from Madras. Linnæus refers it to Siberia. A dwarf sort, with beautiful double variegated flowers, has been for some years in great esteem, under the name of Chinese hollyhock. These plants, though natives of warm countries, are sufficiently hardy to thrive in the open air in England, and have contributed much to the ornament of gardens towards the close of summer. In large gardens, they make a fine appearance; a succession of spikes arising on the same stem for two months. The flowers on the lower part of the spike appear in July, and new flowers will be produced till the end of September. In good ground the stalks will often rise to the height of eight or nine feet, and near six feet of each will be garnished with flowers. The African hollyhock is a native of the eastern shore of Africa; and the *alcea indica* of Burm. ind. p. 149, agrees with this in having three-lobed crenate leaves; but differs from it in having the flowers terminating and yellow; with the inner calyx five-cleft. The hollyhocks are propagated by seeds, which should be saved from plants of the best colours and of the most double flowers, and they should be sown in a bed of light earth, about the middle of April, and covered about half an inch deep. When the plants have put out six or eight leaves, they should be transplanted into nursery-beds, at a foot distance from each other, watering them till they have taken root, and afterwards keeping them clean from weeds till October, when they should be removed to the situation where they are to remain.

ALCEA. See HIBISCUS and MALVA.

ALCEA *Floridana*. See GORDONIA.

ALCEÆ, in *Entomology*, a species of *PAPILIO Plebejus*, with divaricated wings, of brown and cinereous colour, the primæ marked with points, and the posterior cinereous underneath; found in the southern parts of Russia.

ALCEDO, *king-fisher*, in *Ornithology*, a genus of the order of PICÆ. The characters are, that the bill is three-fided, thick, straight, long and pointed; the tongue is fleshy, very short, flat and sharp, and the feet are for the most part greffory. The species enumerated by Gmelin, besides several varieties, amount to 41. These birds are dispersed over the whole globe; inhabiting chiefly the water and living upon fish, which they catch with surprising alertness and swallow whole, rejecting afterwards the undigested parts; though their wings are short, they fly swiftly; their prevailing colour is sky-blue; their nostrils are small, and generally covered. 1. *A. cristata*, *A. ambouensis cristata* of Seba, *Isipda philippensis cristata* of Brisson, *Alcedo* of Buffon, and crested king-fisher of Latham, is short tailed, sky-blue above, rufous beneath, and has its crest undulated with black. The bill is black, crest greenish, on each side of the neck is a bluish streak beginning from the eye; the shoulders, the upper coverts of the wings, and the margins of the wing-feathers and tail-feathers, and the whole of the intermediate tail-feathers are violet, the chin rufous, the throat rufous, and white, the wing-feathers, brown, and the legs with the claws reddish. It is about five inches long, and found in Amboyna and the Philippine isles. The *isipda indica cristata*, or *A. cristata elegantissima* picta of Seba is a variety. 2. *A. inda*, spotted king-fisher of Edwards and Latham, is short tailed, greenish, yellow beneath, with a nebulous pectoral fascia. The bill is black, the line above and below the eyes yellow, the wings permeated with white, and the feet red. It is seven inches long, and found in Guiana. 3. *A. isipda*, *isipda* of Gesner, *Ray*, *Oku*,

Old. Alder, and Fish, alcyon of Gess. and Alder, mar-
p. king-fisher of Buffon, king-fisher of Allen, and Will.
king-fisher of Pennant, and common king-fisher of
Latham, is thus called. It is blue above, fulvous below, and
in shape as a swallow. This bird is seven inches long and 11
high, or 12 in its wings, the head and bill being very large,
and the feet proportionately small; the bill is two inches
long, the upper mandible black, and the lower yellow; and
the scales are red; but the colours of its plumage simply
compensate for the inequality of its form. The crown of
the head, and the coverts of the wings are of a deep blue-
black, spotted with bright azure; the scapular feathers and
coverts of the tail are also of a resplendent azure; the whole
under side of the body is orange-coloured, and a broad mark
of the same pinks from the bill beyond the eyes; beyond
that is a long white spot; the tail is short, and consists of
12 feathers of a most deep blue; the feet are of a reddish
yellow; the three lower joints of the outmost toe adhere to
the middle toe, and the inner toe adheres to it by one joint.

The king-fisher frequents the banks of rivers, and feeds
on fish. It takes its prey somewhat in the manner of the
osprey, balancing itself at a certain distance over the water
for some time, and then darting below the surface brings
the prey up in its feet. When it remains suspended in the
air, in a bright day, the plumage exhibits a most beautiful
variety of the most dazzling and brilliant colours. To this
attitude the ancients refer; for Ibycus, quoted by Athenæus
(Deipn. lib. ix. p. 38.) calls these birds *ἀλκυονες πτεροειδής*,
the halcyons with expanded wings. It makes its nest in
holes in the side of the cliffs, which it scoops to the depth
of three feet, and lays from five to nine eggs, of a most
beautiful semi-transparent white. The nest is very foetid, on
account of the refuse of fish with which the young are fed.
It begins to hatch its young early in the season; and ex-
cludes the first brood in the beginning of April. Whilst
the female is thus employed, the male is unintermitting in
his attention, supplying his mate with fish in such abundance
that she is found at this season plump and fat. He ceases
to twitter at this time, and enters the nest as quietly and
privately as possible. The young are hatched in about 20
days, but differ both in size and beauty. The ancients be-
lieved that the halcyons were so amorous, that the male died
in the embrace, and Aristotle asserts (lib. ix. c. 14.) that
they begin to breed when only four months old. The species
now denoted is the *αλκυοναίς*, or mute halcyon of Aris-
totle (Hist. An. 892. 105.) which he describes with a precision,
to which he is not accustomed. His description of the bird
is followed by that of the nest: which, he says, resembled
those concretions that are formed by the sea-water; that it
was like the long-necked gourd, hollow within and having
a narrow entrance, so that if it overset the water could not
enter; that it resisted any violence from iron, but might
be broken with a blow of the hand; and that it was com-
posed of the bones of the *βελων*, or sea-needle. The nest
was called *halcyoneum*, and medical virtues were ascribed to
it. Mr. Pennant inclines to credit part at least of Aristotle's
account, as to the form of the nest, which agrees with the
description given of it by Count Zinanni; and as to the ma-
terials of which it is composed, and the fragments of bones
and scales of fish that were found in it, he adds, that those
who will not allow this to be a bird that frequents the sea
should recollect that Aristotle made his observations in a
milder climate than ours, and yet from Zinanni we learn,
that even in Italy the king-fisher breeds in May on banks of
streams that are near the sea, and the ancient Stagirite
allows, (Hist. An. 1050.) that the halcyon sometimes as-
cended rivers possibly to breed. M. Buffon is of opinion,

that the *halcyonia*, of which Pliny, (lib. xxxii. 8.),
mentions four kinds, and which some have supposed to be the
nest of king-fishers, are only clusters of sea-weed; and
with regard to the nests of *Touquam* and *Chama*, which are
estimated such delicacies, and have also been ascribed to the
halcyon, they are the indisputable productions of the esculent
swallow. On the precarious foundation laid by Aristotle,
very absurd and incredible tales have been formed by sui-
sequent writers; and the poets, indulging the powers of
imagination have added many fictions to the account of the
philosopher. Accordingly the nest has been represented as
a floating one:

"Incubat halcyone pendentibus æquore nidis."

OVID. Met. lib. xi.

It was therefore necessary to place it in a tranquil sea, and
to supply the bird with charms to allay the fury of a tur-
bulent element, during the season of incubation. At
that time it had, therefore, controul over the seas and the
winds:

"Ὅτ' ἄλκυονες ὀρεπτενὶ τὰ κυματὰ τινεὶ θαλάσσης
τὸν τε ἴσον, τὸν τεύρον, ἐς ἐσχάτῃ φυκιᾷ κινεῖ.
Ἀλκυονες, γλαυκαὶ; Νηρησίου ται τε μαλίστα
Οὐρανὸν φιλάδου."—THEOCRIT. Idyll. vii. l. 57.

"May halcyons smoothe the waves, and calm the seas,
And the rough south-east sink into a breeze;
Halcyons of all the birds that haunt the main,
Most lov'd and honour'd by the Nereid train."

FAWKES.

These birds were equally favourites with Thetis, as well as
the Nereids:

"Dilectæ Thetidi Halcyones."

VIRG. Georg. i. 399.

As if to their influence these deities owed a repose in the
midst of the storms of winter, and by their means were se-
cured from those winds that disturb their submarine retreats,
and agitated even the plants at the bottom of the ocean.
Such are the accounts given by the Roman and Sicilian poets.
Aristotle and Pliny tell us, that this bird is most common in
the seas of Sicily; that it fat only a few days, and those in
the depth of winter; and during that period the mariner
might sail in full security; for which reason they were filed
HALCYON-days. By the poets the king-fisher was also made
a bird of song. Virgil ranks it with the linnet:

"Litoraque Alcyonen resonant, Acalanthida dum."

Georg. iii. 338.

And Silius Italicus celebrates its music, and its floating nest:

"Cum sonat halcyones cantu, nidisque natantes
Immotæ gestat, sopitis fluctibus, undâ."

lib. xiv. 275.

But these poets have probably transferred to this species the
powers of song that belonged to the alcedo of the philo-
sopher (Hist. An. 892.), which was vocal and perched upon
reeds; and which, according to his account, was the least
of the two, but that both of them have a cyanean back.
Belon supposes the vocal alcedo to be the greater reed spar-
row, *turdus arundinaceus* of Linnæus, a bird of a fine note
and conversant among reeds; but Mr. Pennant dissents from
his opinion, because the colours of the latter are very plain,
and conceives that the alcedo vocalis of Aristotle is one of
the lost birds of the ancients. Some have even doubted,
whether the king-fisher of the moderns and the alcyon of
the ancients are the same bird. But the description of Aris-
totle sufficiently identifies them. The alcyon, says that
philosopher,

philosopher, (lib. ix. 14) is not much larger than a sparrow; its plumage is painted with blue and green, and lightly tinged with purple; these colours are not distinct, but melted together, and shining variously over the whole body, the wings and the neck; its bill is yellowish, long and slender. The habits of these birds also resemble one another. The alcyon was solitary and pensive; and the king-fisher is almost always seen alone, and the pairing season is of short duration. The former was not only an inhabitant of the sea-shore, but haunted the banks of rivers, and the latter has also been found to seek shell-fish and large worms, that abound on the shore of the sea, and in rivulets that flow into it. Alcyon was seldom seen and rapid in its flight; it wheeled swiftly round ships, and instantly retired into its little grot on the shore. The same character belongs also to the king-fisher. The alcyon and the king-fisher have the same mode of taking their prey, by diving vertically upon it. The king-fisher is the most beautiful bird in our climates, as to the richness and luxuriance of the colours of its plumage. It has, says Buffon, all the shades of the rainbow, the brilliancy of enamel, and the glossy softness of silk; and Gesner compares the glowing yellow red, which colours the breast, to the red glare of a burning coal; and yet the king-fisher has strayed from those climates where its resplendent and glowing colours would appear to the greatest advantage. There is a species that is common in all the islands of the South Sea; and Forster, in his observations in Capt. Cook's second voyage, has remarked, that its plumage is much more brilliant between the tropics than in the regions situated beyond the temperate zone, in New Zealand. In the language of the Society islands, the king-fisher is called *Erooro*, and at Otaheite it is accounted sacred, and not allowed to be taken or killed. King-fishers were found not only at Otaheite, but in Huaheine and Ulietea, and in the islands that are scattered over the South Sea, though they are more than 1500 leagues distant from any continent. These king-fishers are of a dull green, with a collar of the same about their neck. The islanders entertain a superstitious veneration for them. The chief at Ulietea intreated Capt. Cook's companions, in a very serious tone, to spare the king-fishers and herons of his island, giving permission to kill all the other birds. There are 20 species in Africa and Asia, and eight more that are known in the warm parts of America. The European king-fisher is scattered through Asia and Africa; many of those sent from China and Egypt are found to be the same with ours, and Belon has met with them in Greece and in Thrace. This bird, though it derives its origin from the hottest climates, bears the rigour of our seasons. It is seen in the winter along the brooks, diving under the ice, and emerging with its prey. The Germans have called it *eisvogel*, or ice-bird; and it has been found even among the Tartars and Siberians. The Tartars and Ostiaks use the feathers of these birds for many superstitious purposes. The former use them as love-amulets; pretending that those which float on water will induce a woman who is touched with them to fall in love with the person who thus applies it. The Ostiaks take the skin, the bill and the claws of this bird, and enclose them in a purse; and whilst they preserve this amulet, they think they have no ill to fear. Credulity has admitted and reported many other similar tales concerning the extraordinary powers and virtues of this bird; but it is needless to recite them. Its flesh has the odour of bastard musk, and is unpalatable food. Although these birds are found in cold as well as warm climates, they are often found dead under the ice. M. Daubenton has preserved some of them alive for several months, by feeding them every day with young fry, which is their only proper nourishment; for they reject every other

kind of food; and they may be kept in rooms for some time, provided that they are placed near basins of water full of small fish. Olin describes the method of taking them, at day-break, or in the dusk of the evening, by setting a trap at the edge of the water; he adds, that they live four or five years.

4. *A. tritaca*, *ispida bengalensis torquata* of Brisson, martin-pecheur à front jaune of Buffon, Bengal K. of Albin. and red-headed K. of Latham, is short-tailed; its back is blue, its abdomen yellow, its head and rump purple, its throat and nape white. The bill and the feet are red. This bird is about the size of the last species, somewhat more than six inches long, and is found in Bengal. There is a variety called *A. minor*, or red-headed K. with the head and neck of an orange-red colour.

5. *A. madagascariensis*, martin-pecheur de Madagascar of Buffon, rufous K. of Latham; has a shortish tail, rufous body, white throat, blackish tail feathers; the bill and feet are red. It is five inches and a half long, and inhabits Madagascar.

6. *A. superciliosa*, *ispida Americana viridis* of Brisson, martin-pecheur vert and orange of Buffon, little green and orange K. of Edwards, and supercilious K. of Latham; is green above, white below, with a green band, and yellow eyebrows. It is about nine inches long, and found in America. Buffon had it from Cayenne.

7. *A. alcyon*, *ispida cristata carolinensis* of Brisson, alcyon of Ray, king-fisher of Catelby, and belted K. of Pennant and Latham; is long tailed, crested and bluish, with a white abdomen, ferruginous breast, and a white spot before and behind the eyes. There are three varieties, viz. *ispida ludoviciana*, martin-pecheur of Louisiana of Buffon, or crab-eater of Stome; *ispida Dominicensis cristata* of Brisson, martin-pecheur hupé de St. Domingue, and jaquacati of Buffon, or American K. of Edwards; and *ispida Brasilensis cristata* of Brisson, and jaquacati-guacu of Maregrave, Ray and Willughby. This species inhabits America, and seems to migrate from Hudson's Bay to Mexico, where it is eaten, though it has a rank filthy taste. It is about 13 inches long, feeds on fish, nestles in high banks, into which it penetrates in a horizontal direction, lays four white eggs, and hatches in June.

8. *A. torquata*. See ACHALALACTLI.

9. *A. capensis*, *ispida capitis bonæ spei* of Brisson, martin-pecheur à gros bec of Buffon; is short-tailed, ash blue, below fulvous, its breast brick-colour, and bill red. It is 14 inches long, and found at the Cape of Good Hope.

10. *A. Senegalensis*, *ispida Senegalensis major* of Brisson, *A. semiterulea* of Forst., martin-pecheur à tête grise of Buffon; is long-tailed, sky-blue, below white, with a hoary head, and coverts of the wings black. There are three other varieties, viz. *A. bluish green*, and below yellowish, the crab-eating K. of Latham; the *A.*, with the head and neck obscurely white; and *A.* above sky-blue, below rufous-yellow, and white throat. This species inhabits Arabia and Africa, and particularly the banks of the Senegal, where they are numerous; and the name of the K. is, in the language of the country, Baboucard. The second variety is found in St. Jago and Abyssinia.

11. *A. Smyrnenfis*, Smyrna K. of Albinus and Latham; is long-tailed, ferruginous, with green wings, tail and back. It is found near Smyrna. There are two other varieties, viz. the great Gambia K. of Edwards, found in Gambia and Madagascar, 16 inches long; and the great Bengal K. of Albinus, found in Bengal, and on the coast of Malabar; 9 and 10½ inches long.

12. *A. rufus*, *ispida ex albo et atro varia* of Brisson, martin-pecheur piè of Buffon, black and white K. of Edwards and Latham; is short-tailed, black variegated with whitish, and below white. It is 11 inches long, and found in Asia and Africa. This bird is about the size of the Royton crow, and its cry is not unlike that

of the same name. 13. *A. lina*, yellow-green K. of Latham, is of a yellowish green colour, with the two tail-feathers very long, attenuated, and black; the body blackish, and the wings greenish; the head, on account of its beauty, is called the 'Femate' and the 'Fay', that the feathers on the head are black, and the male then to the female. It is found in the forest, and inhabits the island of Ternate. 14. *A. caruleo-cephala*, blue-headed K. of Latham, is of a blue colour, with the head, rump, and tail, are rufous-gold; the back and coverts of the wings bluish-black, the tail-feathers black, and the throat white; the tail and feet are red; a purple line passes from behind the eyes towards the back, terminated by blue. It is about the size of the fourth species, and inhabits India. Of all the kingfishers, M. Buffon says, this is the handsomest and the richest in colours. 19. *A. caruleo-cephala*, blue-headed K. of Latham, is of a blue-colour, rufous below, with a white throat and blackish tail-feathers. The bill and feet are red; and the crown of the head of a bright blue, stained with waves of a lighter blue. It is four inches long and inhabits

Madagascar. 20. *A. Bengalese*, little Indian K. of Edwards, and Indian K. of Latham, is bluish-green, rufous below, with brown tail and tail-feathers, and the head marked transversely with blue streaks; the bill is black. It is four and an half inches long, and inhabits Bengal. The little Indian K. of Edwards is a variety, which instead of the rufous occipital band of the former, has two rufous spots. 21. *A. leucocincta*, *ispida Americana carulea* of Buffon; *A. Americana* or *apudra* of Selva, martin-pecheur à bec blanc of Buffon, and white-billed K. of Latham, is of a bluish-green colour, yellowish below, with the head and neck bay-coloured, the tail-feathers cinereous, the tail above blue, and below cinereous. The bill is whitish. It is scarcely five inches long, and inhabits America. 22. *A. Brasiliensis*, gip-pip of Buffon, and Brazilian K. of Latham, is marked with bay, brown and white; below white, with the greater tail-feathers and tail rufous, marked transversely with white spots. The bill and eyes are black, the lower mandible, feet, and claws are brown. It is about the size of the last, and inhabits Brasil. Its cry, gip-pip, resembles the calling of young turkeys. 23. *A. Americana*, white and green K. of Latham, is blackish green, white below, spotted with green, and the space of the breast and throat white. The bill is black, a white line passes from its base below the eyes to the occiput; the feet are red; the female has a rufous space at the breast and throat, but the throat is white. It is six inches long, and inhabits Cayenne. 24. *A. barbor*, rufous and green K. of Latham, is green, rufous-golden below, with a zone waved with white and black on the breast, distinguishing the male, and wings and tail spotted with white. It is eight inches long, and inhabits Cayenne. 25. *A. maculata*, *ispida Brasilensis nuda* of Buffon, *matuini* of Ray, Willughby, and Buffon, Brazilian spotted K. of Latham; is brown spotted with yellowish, below white spotted with brown, with yellow throat. The bill is red; the feet and claws cinereous. It is of the size of the last, and inhabits Brasil. 26. *A. Cayensis*, taparara of Buffon, Cayenne K. of Latham, is blue, below white, with a transverse black band below the back of the head. The upper mandible is black, the lower red, the rump azure, the tail, and tail-feathers with a blue margin, the feet red. This species is numerous, solitary, lays its eggs in holes on the river-banks, is nine and an half inches long, and inhabits Cayenne and Guiana. The time of its incubation is September, and its cry is, carac, carac. 27. *A. atricapilla*, black-capped K. of Latham, is violet-blue, below white, with the head, neck, shoulders, and tips of the wings black, and reddish abdomen. The bill and feet are red. It is ten inches long, and inhabits China. This bird is one of the most beautiful of the king-fishers. There is a variety, viz. *A. Luzonica*, found in the island of Luzon, black above, white below, with a ferruginous abdomen. 28. *A. tata*, respected K. of Latham, is long-tailed, olive above, white below, with white eye-brows and greenish-black collar. The bill is black, with the inferior mandible white, and the feet are black. It is eight and an half inches long, and inhabits Otaheite, where it is held sacred by the inhabitants. 29. *A. venerata*, venerated K. of Latham, is brown, pale below, with a roundish tail; and the margin of the tail-feathers, wing-coverts, and wing-feathers green. The bill is black, and the feet dusky. It is nine inches long, inhabits the Friendly islands, particularly Apye, and is deemed sacred. 30. *A. sacra*, sacred K. of Latham, is dilute blue-green, below white, with pale ferruginous eye-brows, and the tail and tail-feathers blackish. There are four other varieties, viz. *A.* with white eye-brows, *A.* with head greenish black, pale ferruginous below, and on the nape; *A.* with black head, blue crown, dirty yellow eye-brows, head and abdomen,

and blue wings and tail; and A. with a white collar. This species inhabits the Society Islands; the third variety is found in New Zealand; and the fourth, in the Philippine Islands. It is nine and an half inches long, and reckoned sacred by the inhabitants. 31. *A. chlorocephala*, green-headed K. of Latham, is green, with a white neck and black collar, the wing and tail a sea-green. The bill, under part of the tail, and feet, are blackish. It is nine inches long, and found in Bouru, one of the Molucca islands. 32. *A. cerulea*, white-collared K. of Latham, is blue, rufous below, with white eye-brows and collar. It is almost seven inches long, and inhabits India. 33. *A. fusca*, great brown K. of Latham, is crested, olive-coloured, below whitish obscurely striated, with the temples and back of the head dingy white; the tail roundish, of a rusty fulvous, crossed with black waves, and white at the end. The upper mandible is black; the lower white, and black at the base; the female has no crest. The crown of the female and the sides of the chin and neck of both sexes blackish brown; the collar of the female white, and the back olive; that of the male, at its lower part with the rump, pale sea-colour, with a spot of the same in the middle of the coverts of the wings; the tail-feathers of the female greenish-brown; the exterior margin of those of the male blue, but black within, and at their tip, sometimes white at the base, yellow feet, and black claws. This bird is the largest of the kind, its length being 18 inches, and inhabits New Guinea. 34. *A. maxima*, great African K. of Latham, is sub-crested, lead-black colour, pointed with white, with white throat, black neck, and sanguineous breast and abdomen. The bill is black, with linear nostrils, and the feet are very black. It is about the size of a crow, and inhabits Africa. 35. *A. leucocephala*, white-headed K. of Latham, is blue-green, with its head, neck, and under surface white, and wing-quills brown. It is 12 inches long, and inhabits Java. 36. *A. flavicans*, is yellowish below, with the head and back green; the bill red, and the tail blue. It inhabits the island of Ceylon, where it is called by the natives, ten-rou-joulon. This bird is peculiarly dextrous in catching its prey: when it sees the fish in the river it darts upon it and seizes it with its bill, transports it to its nest, subsists a day or two upon the spoil, and spends the whole time in singing. 37. *A. Nova Guinea*, New Guinea K. of Latham, is black spotted with white. 38. *A. Egyptia*, Egyptian K. of Latham, is brown, with ferruginous spots, and whitish below with cinereous spots. The bill is blackish; the throat ferruginous-white; the upper coverts of the tail wholly white; the tail ashy, the feet greenish, and the claws blackish. It is about the size of a crow, nests in the sycamore and palm-trees, feeds on frogs, fish, and insects, and is found in Egypt. Hasselquist has particularly described this bird. 39. *A. grandis*, great jacamar of Latham, is copper-gold coloured, below ferruginous, with the head and limbs green-gold, and the feet scarlet. 40. *A. tridactyla*, three-toed K. of Latham, is rich and brilliant in its plumage; the upper side of the head and back is of a deep lilac, the feathers of the wings are of a dull indigo, heightened by a border of vivid and shining blue that surrounds each feather; the under side of the body is white; the bill and legs are reddish. It is about four inches long, and inhabits Surinam and India, and the islands of the Indian ocean: Sonnerat found it in the island of Luçon. 41. *A. semicerulea*, is short-tailed, with the hind part of the back; the tail, and the middle of the wings blue, the shoulders black, the head and breast cinereous, and the belly ferruginous. The bill and feet are vermilion. This bird is found near Yemen in Arabia, and is about a span long. Linnæus by Gmelin. Latham, Buffon.

ALCEDO *vocalis*, a name by which Bellonius, Aldrovandus, and some others have called the reed-sparrow. See the preceding article.

ALCES, in *Entomology*, a species of LUCANUS, with exerted mandibles quadridentated at the apex. It inhabits Asia.

ALCES, in *Zoology*, a species of CERVUS. See ELK.

ALCESTER, or ALNCESTER, in *Geography*, an ancient small town of England, in the county of Warwick, situated at the union of the rivers Aln and Arrow; the chief manufacture is needles, and the market-day Tuesday. It is 103 miles north-west of London, and near it is Ragley, a noble seat of the Marquis of Hertford.

ALCHABITUS, in *Biography*, an Arabian astrologer, wrote an introduction to the knowledge of the celestial influences, entitled, "Isagoge ad Magisterium Judiciorum Astorum," "a Treatise on the Conjunction of the Planets," and another "On Optics." His astrological works were translated by J. Hispanensis, and printed at Venice in 1491, with explanations by Joannes de Saxonia, and in 1521 with the correction of Antony De Fantis, physician of Treviso, in Italy. It is not known at what time Alchabitus lived. Gen. Dict.

ALCHABUR, in *Geography*, a town of Asia, in Diarbekir, upon the Euphrates, in a very agreeable situation, south-east of Aleppo and south-west of Mosul. It serves as a resting-place for the caravans from Bassora. N. lat. 34°. E. long. 57° 54'.

ALCHABUR is also a river of Asia, in the same province.

ALCHAMARUM, a town of Arabia, situated on a high mountain, near the river Ormannus. The access to it is so narrow and difficult, that two men can guard it. The summit of the mountain is very fertile, and affords all necessary supplies to the inhabitants. This is the residence of an Arabian king.

ALCHARISI, JUDAH, in *Biography*, a celebrated Jew of the 12th century, was reckoned at the period in which he lived a great poet, and undertook to translate the comments of Maimonides on the Mishna, and his Moreh Nevuchim, at the request of the Marilian doctors, who did not understand Arabic.

ALCHATA, in *Ornithology*, a species of TETRAO.

ALCHEMILLA, LADIES' MANTLE, in *Botany*, a genus of the *tetrandria monogynia* class and order, of the natural order of *senticoase*, and *rosaceae* of Jussieu. Its characters are, that the calyx is a one-leaved, tubulous, permanent perianthium, with edge flat, divided into eight segments; no corolla; the stamina have erect, awl-shaped, very small filaments on the edge of the calyx, the anthers roundish; the pistillum has an ovate germ, style filiform, of the length of the stamina, inserted at the base of the germ, stigma globular; no pericarpium, the neck of the calyx closing and never opening; the seeds are solitary, elliptic and compressed. There are four species, viz. 1. *A. vulgaris*, common ladies' mantle or bearsfoot, with leaves lobed. This species is frequent in meadows and pastures in England. It is perennial, and flowers in June and July. Horses, sheep, and goats eat it. Cows are said not to be fond of it; and yet Haller, in his *Iter Helveticum*, informs us, that the astonishing richness of the milk in the famous dairies of the Alps, described by Scheuchzer, is attributed altogether to the plenty of this plant, and that of the ribwort plantain. The whole plant is astringent. In the province of Smolundia, in Gothland, they make a tincture of the leaves, and give it in spasmodic or convulsive diseases. In an epidemic complaint of this kind, which occurred in 1754, it was found of great use. Before this period the infusion, tincture, and

extract of it had been found effectual in milder cases of a fever, &c. The root is more acutere than the herb, and the virtues are communicated alike to water and spirit of wine. It does not rank among the more powerful astringents, nor does it deserve that high commendation which has been bestowed upon it in hemorrhages, diarrhoeas, the fluxus albus, and the healing of wounds. Murray Mat. Med. vol. iii. p. 150. There is a variety of this species, which is the *A. minor* of Hudson, and the *A. alpina pubescens minor* of Plukenet, in which the leaves are more silky, smaller and whiter; and the flowers less branching, and the flowers in less clusters. 2. *A. alpina*, emaculata or alpine ladies' mantle, with digitate serrate leaves, under silky, grows naturally on the mountains in Yorkshire, Cumberland, Westmorland, North Wales, and the Highlands of Scotland. It is also a native of Sweden, Denmark, the Alps, and other cold parts of Europe; and is admitted into gardens on account of its elegance. It is perennial, and flowers in July. 3. *A. aphanoides*, with many parted leaves and stem erect, is found in New Granada, by Mutis. 4. *A. pentaphylla*, with leaves quinate, multifid, smooth, grows naturally on the high Alps, as Gothard, Furca, &c. and is only found in some few curious botanic gardens in this country. It was cultivated by Mr. Miller in 1748. These species may be propagated by parting their roots, for which the best time is Autumn. They should have a moist soil and a shady situation. When they are propagated by seeds, they should be sown in Autumn, on a shady moist border, and when the plants come up, they will only need to be kept from weeds.—Martyn's Miller. Dr. Smith (Flor. Brit. vol. i. p. 190.) has added to this genus the *APHANES arvensis* of Linnæus.

ALCHEMIST, a person who professes **ALCHEMY**.

ALCHEMY, **ALCHIMIE**, **FR.** The subject of alchemy occupies so large a space in the humiliating history of the misapplication of brilliant talents, and the wanderings of the human understanding, as to justify and indeed demand a particular enquiry into the causes of its origin, the grounds of its continuance, and the reason of its gradual decline, and at length total retirement from public notice. Instead, therefore, of merely quoting the concise and sarcastic definition given of it by Harris, "*Ars sine arte, cujus principium est mentiri, medium laborare, finis mendicare*," (an art without art, originating in falsehood, and proceeding through labour to beggary), we shall treat of it at some length, considering first, the origin of the appellation; secondly, its history; thirdly, the theory and arguments that are alledged in its support; and fourthly, the facts upon which it professes to be established.

I. The word alchemy occurs for the first time in the writings of Julius Firmicus Maternus, who lived in the fourth century, under the reign of Constantine. This, however, is rather the date of the separation between chemistry and alchemy than of the origin of either. The fact seems to be, that a considerable quantity of real chemical knowledge but abundantly mixed, as the custom was, with fable and hypocrisis, was possessed by the priests of Egypt; and by these it was communicated, mostly under a promise of secrecy, to the Alexandrian Greeks. It is probable also that as there were several orders of initiation into their sacred rites to be passed through in succession by the aspirant before he was entrusted with their highest mysteries, so there might be a similar rule observed with regard to the communication of the different subjects of the Hermetic philosophy; thus the lowest secrets might be the preparation of the commoner chemical menstrua; the next in order might be the composition of glass and the art of dying, both of which appear, even in the time of Ptolemy, to have been chiefly practised in

Egypt, and contain at the present day more secrets than any other of our chemical arts; the knowledge of the most efficacious medicines would be esteemed as a proof of still higher confidence; and from the love of mystery inherent in the human mind, the most valuable communications of all would be that mixture of astrology with medical and chemical theories, which, appearing to unfold the secret connection between the great powers of nature, flattered the imagination with the hope of performing things wholly impossible to other mortals. The actual possession and exertion of much lucrative knowledge, and the reputation of still more valuable secrets, would naturally attract the notice of the credulous, the interested, and, if any such existed at that period, of the philosophers, the real disinterested enquirers after science. In process of time, as the influence of the Egyptian priesthood declined by the consequences of the Roman conquest and from other causes, when too the persons entrusted with the secrets of chemistry were considerably increased in number, and were disseminated through all the great cities of the Empire, it would necessarily happen that many from choice or necessity would advance no further in the study than was immediately conducive to their profit, by the refining of metals and the preparation of chemical compounds of general demand and utility, while the more theoretical and mysterious parts of the science would remain in possession of a few. The complicated economy of the Egyptian hierarchy being broken up, and there existing no longer any acknowledged heads of the science, the distinction between chemistry and alchemy would immediately commence. The *chemists*, or artists in chemistry, having no other object in view than pecuniary emolument from the sale of chemical articles, would confine their attention to the improvement of the particular manufactures in which they were engaged. The theoretical chemists or *alchemists*, on the other hand, having in view a certain mysterious unattained and probably unattainable object, would look with contempt on the occupations of the chemist, and would consider themselves as in possession of the only liberal part of the science; their language partly from policy and partly from the want of clear ideas on the subject, would become more and more obscure, and knaves and impostors would creep in among them who would endeavour to indemnify themselves for the ill success of their experiments by frauds and impositions on the unwary. The original difference therefore between chemistry and alchemy seems to have been that the former was a mere art consisting in the preparation of substances by known processes, while the latter proceeding from general principles, either assumed gratuitously or taken up on very inadequate proof, was always aiming through the medium of new and uncertain experiments at the discovery of those powers which were supposed to be characteristic of the sublimer parts of the Hermetic philosophy.

II. It appears certain from the uniformly concurrent testimony of ancient history, that Europe was originally indebted to Egypt for its knowledge of chemical science. This knowledge, however, was but sparingly dealt out to a few of the Greek philosophers, at the expense of much solicitation, and many years of study by the Egyptian priests, as long as that country retained its independence. Afterwards, when by the victorious expedition of Alexander, a race of Greek monarchs was placed on the throne of the Pharaohs, and the foundation of the university of Alexandria had effected a coalition between the arts of Greece and the science of Egypt, chemistry being rendered more accessible, was studied more generally and with increased ardour. The same spirit, however, which pervaded their researches into metaphysics and theology, appears to have animated

animated their enquiries into the various branches of experimental philosophy; a certain mysterious sympathy was imagined between the metallic substances then known, and the heavenly bodies of our solar system; they were designated by the same names and represented by the same characters. The great intrinsic value also of metals and their still greater conventional importance, especially of gold, silver, and copper, by being adopted as the general representatives of property, naturally engaged a great portion of the attention of chemists; they were submitted to the action of all the known menstrua, they were combined with each other in all proportions, and as lead and copper often contain silver, and silver is found naturally alloyed with gold, but in such proportions as not to be rendered sensible without the aid of chemical analysis, there would often happen in the results of processes an unexpected remainder of one or other of the precious metals. Such an occurrence, flattering at the same time to the two dominant passions of the mind, the love of scientific discovery and the desire of gain, would be eagerly received as a proof of the mutual convertibility of the metals, and would at once cause all those entrusted with the secret to confine their attention to this single object. The same circumstance would also induce a still greater obscurity of language and affectation of mysticism in order to conceal their processes from the knowledge of those who were engaged in similar pursuits; and all confidence in each other being thus interdicted, the science would become retrograde, and much valuable knowledge would entirely perish. The first ages of alchemy produced few writers of reputation; their works are for the most part unpublished, and consist of treatises in Greek by Christian ecclesiastics, of which the following are the principal. "Synesius, on the philosopher's stone." "Zosimus of Panapolis, on the sacred and divine art of making gold and silver," in 24 books. "John, the high priest in the holy city, concerning the holy art." "Theophrastus, on the divine art." "Archelaus, on the same." "Hierotheus, the philosopher, on the philosopher's stone." And "Isaac, the monk, on the discovery of the method of making silver."

The golden age of alchemy most ominously commences with the conquests of Arabian fanaticism in Asia and Africa, the destruction of the Alexandrian library, and the subjection of Europe to the basest superstition and the most profound ignorance. The Saracens lively, subtle, credulous, and nurtured in fables of talismans and the celestial influences, admitted with eager faith the wonders of alchemy, and condescended to receive instruction from the slaves whom they had conquered; the rage of making gold spread through the whole Mahometan world, and in the splendid courts of Almanzor, Haroun al Raschid, and Abdalla Almamoun, the professors of the Hermetic art found patronage, disciples and emolument. Geber, Rhazes, Alfarabius and Avicenna, the most celebrated physicians and chemists of the Arabian school, were deeply tinged with the prevailing insanity. From the 10th to the 13th century little is known concerning the state of alchemical studies; the descendants of the Arabian warriors had begun to acquire a taste for science when their thrones were shaken by the Crusades, and finally overthrown by the desolating deluge of the Turkish barbarians. The arts again retreating from Egypt and Syria, rested for a moment in Constantinople, and then withdrew to the western provinces of Europe. In the 13th century Albertus Magnus, Roger Bacon, and Raymond Lull, appeared as the great revivers of alchemy and chemistry; for from this time, although alchemical pursuits were esteemed the noblest and most important, yet they ceased to occupy entirely the attention of experimental philosophy.

The writings of these able men raised the study of alchemy to a degree of credit which it little merited, especially among the ecclesiastics, who possessed at that time almost all the learning of the age; and even a pope John XXII. was weak enough to assert in his treatise on the art of transmutation, that he had himself made two hundred ingots of gold, of the weight of an hundred pounds each. The 15th century exhibits the same combination of chemistry with alchemy, but in which it is pleasing to discover a great diminution of reserve with regard to the processes of common chemistry, which are for the most part told in sufficiently plain language by the very men who, when treating of alchemy, are utterly unintelligible. The great authors during this period are Isaac and John Isaac Hollandus, George Ripley, and Basil Valentine.

Hitherto alchemy had been confined to the single object of changing the baser metals into silver and gold, and, the materia medica consisting wholly of vegetable and animal preparations, there existed little or no connexion between the chemists and physicians. The prevalence, however, of the leprosy and the rise and rapid progress of the venereal disease, rendered it necessary to have recourse to more potent remedies. The Asiatic practice of physic with regard to the use of mercury was introduced with the happiest effects by Carpus; antimony found an able advocate in Basil Valentine, whose "Currus Triumphalis Antimonii," is a curious mixture of enthusiasm and knowledge.—The credit of the Galenists began to be shaken, and chemistry, by thus associating to itself the most philosophical of the three learned professions, acquired an immense accession of abilities.

The unexpected success which attended the first medical use of chemical preparations, awakened a new hope in the minds of the alchemists; and this was no less than the discovery of an universal medicine, which should heal all disorders, and prolong the duration of human existence to an indefinite period. The great authors of this sect were Paracelsus and Van Helmont, who, by their vigorous use of opium and mercury, effected a number of important cures, impossible to the common Galenical practice of the age. About the same time flourished Henry Cornelius Agrippa, and George Agricola, the first of whom, half knave and half enthusiast, belongs decidedly to the alchemical party; but the latter, though bewildered in youth, by the false philosophy of his time, made ample amends to the cause of true science in his maturer years, by his admirable treatises on metallurgy and mineralogy.

From this time we meet with few authors of reputation who wrote professedly on alchemy, though a kind of half belief in the thing still clung about even the most eminent chemists, and may be clearly traced in their writings. A bold attempt to support the falling cause was made, in the beginning of the 17th century by the Rosicrucians, a secret society which originated in Germany, and attracted the attention of the rest of Europe for 25 years. By pretending however to too much, even to more than the ancient chemists, when in the plenitude of their power and influence, ever arrogated to themselves, the fraternity made few converts, and speedily sunk into total obscurity. The first philosophical society, for the express purpose of improving natural and mathematical knowledge, was formed at Naples, by Baptista Porta in 1560; and the noble example was followed by most of the other Italian states. The liberal spirit of free inquiry then passing the Alps, established similar societies in England, France, and Germany; the experimental method of philosophizing was introduced by Bacon; public lectures in chemistry began to be instituted; and the principles and facts of chemistry

not, went a force examination, from the Jesuit Athanasius Kircher, which it has not yet recovered. The most common error of the alchemists, together the refinements of a long and unbroken tradition, as well by its own want of success, as by the fraud and ignorance of the cheats and impostors, has been its failure. Thus, implicitly declining, it is not to be shown by itself to the view of the scientific world, and at present is rarely detected, even by the officers of public justice, to whose care it fell, with its ancient alchemical history, has been commended in all the civilized nations of Europe.

III. According to the present theory, each metal is considered a peculiar chemical element, perfectly undecomposable by any known method, a necessary consequence of which is the utter improbability and hopelessness of all alchemical pursuits; since their object is the composition and decomposition of bodies which are either absolutely simple, or at least as yet incapable of further analysis. This formidable difficulty at the very outset, may well detract from all modern attempts at metallic transmutation; but the great fathers of chemical philosophy ought not, in common candour, to be stigmatized as fools or impostors, for dogmatically maintaining doctrines which are only, in the present advanced state of the science, self-evidently absurd. In the following summary of the leading theories relative to alchemy, the reader will scarcely expect to find a perfect uniformity and consistency of the several parts with each other, especially when it is considered that they are necessarily collected from a variety of authors differing in abilities, in communicativeness, and in the periods at which they lived.

It appears to have been admitted on all hands, that the metals were compounds of metallic earth and sulphur, (by sulphur was merely understood any pure inflammable substance). This earth being supposed to exist in a larger proportion and less mixed with sulphur in mercury than in any other metal, it came in time to be commonly known by the name of mercurial earth. Gold, as being the most fixed and unchangeable of the metals, was considered as an intimate combination of pure sulphur and mercurial earth, while the other metallic bodies were thought to contain, besides these two essential parts, various impurities. Of this opinion, Geber, Roger Bacon, Ripley, Homberg, &c. were strenuous advocates; and it is especially to the latter of these chemists that we owe the development of this theory, together with a memorable experimental argument in its support. Having exposed regulus of antimony to the action of the great burning-glass of the Duke of Orleans, he found that it increased $\frac{1}{10}$ th in weight, and at the same time became more fixed: a similar effect was produced by exposing mercury to a digesting heat for some days: it was converted into a red powder of greater fixity than the original mercury, had gained in weight, and upon exposure to a red heat was almost wholly volatilized and converted into mercury, except a small portion of white hard ponderous metal which remained behind. From this experiment, Homberg deduces the following conclusions: that the pure sulphur of metals is solar light; that it unites with, and increases the weight of all metals that are exposed to its action, except gold; that it gives them a greater fixity; and that, although when loosely combined with mercury it only changes it into a red powder, yet by the further action of heat a part of the mercury becomes saturated with this sulphur, and is converted into a hard fixed metal while the rest is volatilized. To these experiments, important as they were supposed to be at the time of their invention, the superior accuracy of modern

chemistry would object, that the gaseous products were wholly overlooked, and that the fixed metallic residue from the decomposition of the mercurial oxyd, is only a proof of the original impurity of the mercury employed, since no attempt was made by a repetition of the process to effect the fixation of the whole of the mercury. From these and similar experiments, however, the old chemists drew the inferences already mentioned; and by bearing this in mind, it is easy to discover the objects which they had in view, in such of their processes as they condescend to publish in intelligible language. There were supposed to be two methods of making gold, by synthesis and transmutation. The former of these was effected by the direct combination of the pure sulphur of metals and mercurial earth; hence we see the reason of the numberless distillations and digestions, and processes of all kinds for depriving sulphur of its impurities, and bringing it to the last state of rectification or exaltation: hence also the multiplied experiments on quicksilver, in order to give it fixity in the fire: this method however was generally acknowledged to be so difficult, that few alchemists have even pretended to be able to do more than fix the mercury. The art of transmutation was carried much further: it was taken for granted that the object of Nature, in producing metals, was the formation of gold, as being the most perfect of these substances; and that the failure, in all cases, was owing solely to the interposition of certain impurities: it was known also, that the common methods of refining depended on the separation of the precious metals from the baser ones, with which they were mixed and contaminated; the conclusion, therefore, did not seem *a priori*, very extravagant; that, by an improvement in the art of refining, such of the cheaper metals as appeared the most to resemble gold, might be freed from those impurities in which the whole difference between them and gold consisted. Lead, from its specific gravity, and copper, from its colour, were the principal subjects of experiment; and when it is considered that arsenic was not yet discovered to be a metal, and the amazing effects of this substance in disguising the properties of gold, instead of being surprised at the accounts of transmutations, the principal wonder is, that they are not still more numerous and supported by more unexceptionable evidence. The substance capable of effecting this extraordinary change was called the elixir, or medicine of metals, the tincture, the powder of projection or philosopher's stone, a very small portion of which was adequate to the transmutation of a very large proportion of lead or copper; and by using a greater quantity than necessary of this powder, the gold resulting from the operation acquired the property of acting itself as an elixir. Such is the simplest and most consistent theory of the *great work*, as delivered in the writings of the best and most philosophical of the alchemists, nor when its real importance is considered in regard to chemical science and many of the arts, when too it is remembered what numerous and unsuspected sources of error existed at that early period of chemical investigation in which it flourished, and the imposing theory whereby it was supported, shall we lightly stigmatize those who honestly devoted much of their time to the pursuit, with the opprobrious appellation of pertinacious folly.

IV. If we were to enter upon a minute examination of the evidence, by which the principal instances of transmutation are supported, it would extend this article beyond its due limits; the documents besides are so equivocal, and the witnesses so suspicious or incompetent, that the enquiry would but ill repay the trouble: in the room of this, therefore,

fore, we shall lay down some general considerations, which by their agreement or disagreement with any particular case, will enable us to form a probable judgment of its truth or falshood. Nor is this, at all inconsistent with the way of treating the question, unfair or undevoted. In any system that is offered to our belief, if we can point out a fundamental error or contradiction, we may well exult ourselves from discarding the proofs adduced in favour of detached parts. With what strength of evidence are many stories of apparitions and witchcraft supported, how generally were they believed at the time of their occurrence, and how universally are they slighted and ridiculed at present, not from any new flaw discoverable in the evidence, but from their variance with general principles and experience?

That the philosopher's stone never existed, that no metal has ever yet, by human art, been produced or decomposed, is highly probable, from the convincing proofs which have been afforded by the progress of chemical philosophy, of the fundamental errors, both in fact and theory, to which even the ablest of the alchemists were subject. All chemical knowledge was anciently made a secret of; but by the invention of printing, and the rise of a more liberal spirit of communication, it may be added also, by the superiority of modern over ancient science, all nostrums and mysteries have in a great measure disappeared, and whatever was of sufficient importance to attract general attention, has been added to the stock of general information. In the mean time, alchemy has ceased to be an object of curiosity, not because its end was mean and trivial, but because all its supposed great facts have been resolved into mistakes. The value of the precious metals, instead of diminishing has rather been increasing, the direct contrary to which would have been the case, had they been capable of being produced from any of the baser ones. The professors of alchemy have been chiefly poor, and have in many cases even offered to divulge their secret for a sum of money; that is, being in possession of the art of producing gold ad infinitum, they have offered to communicate this wonderful knowledge for a few ounces of the very substance which they could manufacture by the hundred weight. Some of the alchemists in the dark ages, especially in Germany, who had the unfortunate reputation of possessing the philosopher's stone, were imprisoned by the princes of the country and furnished with chemical apparatus, till they should have purchased their liberty, by producing a certain weight of gold, but not an ounce was ever procured by this method. It is remarkable too, that the most skilful and reputable of the alchemists, although they maintain the possibility of transmutation, and profess to know the method by which it is to be effected, are very far from affirming, that they have themselves actually succeeded in the attempt. Again, if from the best attested instances of gold-making, we exclude those which depend on the suspicious testimony of the alchemists themselves, or the incompetent evidence of men entirely ignorant of chemical science, we shall find the remainder reduced almost to nothing. The royal academy of sciences at Paris, during the first years of its institution, was almost overwhelmed with applications from men who professed to be able to make or deteriorate gold at pleasure; either in this respect deceiving themselves, or in the hope of facilitating their attempts on the public credulity, by the sanction of that learned body: many experiments were in consequence made in their presence, all of which totally failed of success. These repeated detections, like those on the subject of witchcraft, appear to have decided the opinions of phi-

losophers respecting the possibility of alchemy, and although the word itself is still in use, it is now only employed in such contexts as to denote a vain and unprofitable search.

ALCHIMIA, in *Chemistry*, a branch of science, which is employed in the art of extracting the essential parts of minerals, and in the preparation of chemical compounds.

ALCHIMELECH, in *Botany*, the Egyptian bellot-Ray.

ALCHINDUS, JAMES, in *Medicine*, an Arabian physician, is supposed to have lived about the middle of the twelfth century. His work, *940 Medical and philosophical questions and answers*, was published with the works of Mesue, at Venice, in folio, in 1561, and 1603.

ALCHOLLEA, a kind of food in use among the western Moors, being fleshy meat, pickled, dried, boiled, and potted.

ALCHORNEA, in *Botany*, a genus of the *dialium monadelphica* class and order of professor Martyn, and *monadelphia octandria* of Swartz and Gmelin, the characters of which are, that the calyx of the male is a three or five-leaved perianthium; leaflets ovate, concave, equal, coloured, and deciduous; no corolla; the stamina have eight filaments, equal, scarcely longer than the calyx, slightly connate at the base, anthers ovate and upright; the pistillum is a rudiment: the calyx of the female is a one-leaved, four or five-toothed perianthium, the teeth equal and small; no corolla; the pistillum has a germ twin, superior, styles two, very long and filiform, stigmas simple and acute; the pericarpium is a capsule berried, two-seeded, two-celled, two-valved; the seeds are solitary, large and oblong; there is one species, viz. *A. latifolia*.

ALCIATI, ANDREW, in *Biography*, an eminent civilian, was born at Milan in 1492. Having studied the law in the university of Pavia, and in that of Bologna, he commenced the exercise of his profession at Milan in 1517, and became professor of civil law, in the university of Avignon, in 1518. Although his salary amounted to 600 crowns, and the number of his auditors was 800, he left this lucrative and honourable situation in disgust, because the city of Avignon was unable to make a regular payment of his stipend, in 1522, and resumed his first profession at Milan. In 1529, he was invited by Francis I. the king of France, to promote the study of the civil law at Bourges; but impelled by avarice, he successively changed his situation to Pavia, Bologna, and Ferrara, in each of which places he had many scholars and clients, and received ample recompence for his labours. When he was censured by his friends for his frequent changes, he vainly interrogated them, whether they blamed the fun for revolving to enlighten all nations; or, whether, when they admired the fixed stars, they found fault with the planets. But his predominant principle was avarice: and this principle induced him to decline accepting the offer of Paul III. to quit Ferrara and settle at Rome. "Why," said he, "should I, for the uncertain and empty hope of the purple, relinquish the honours of my profession, accompanied with the possession of a rich stipend?" From Ferrara, Alciati returned to Pavia, and in 1530, died of a fever, occasioned by excess of eating. He possessed, without doubt, distinguished talents, blended with a considerable degree of selfishness and meanness; and he very materially contributed to the improvement of his profession, introducing a taste for polite literature, and banishing that barbarous simplicity, which had before his time prevailed in the legal and judicial studies of the Italians. Erasmus follows upon this high encomium: "The praise which Cicero divides between Scævola and Cato, when

terms which are met with in the Digest," first published in Italy, 1515. This was followed by the "Disputationes de iure," published in the year 1517. "His-
torie de vita et rebus publicis," was printed at Padua, 1517. There are many other works on jurisprudence, published between 1517 and 1571, in six folio volumes. He also wrote a number of other works, of whose style he says, that "they are entertaining, chaste, and elegant, and not without strength;" and that "the sentiments are such as may be useful, even in civil life." These were published in 1517, in 1531, and in 4to, at Padua, with notes, in 1661: and they have been translated into various languages. Other works of Alciati, not included in the folio edition, are "Responsa," Lugd. 1561; "Historia Romanorum," 8vo. 1625; "De forma Romani Imperii," 8vo. 1559; "Epigrammata," 8vo. 1629. A volume of his works was published at Utrecht in 1697; and in 1695, he wrote a letter, which he wrote to a friend who had become a friar, representing the imprudence of his conduct, and exposing, with great spirit, the abuses of monastic life. Gen. Dict. Gen. Biog.

ALCIATI, JOHN PAUL, a native of Milan, distinguished himself in the 16th century, among those protestants who receded to the greatest distance from the Catholic faith, by denying the doctrine of the Trinity, and asserting that Jesus Christ did not exist before he was born of the Virgin Mary. When a view of indulging his speculations and prosecuting his inquiries without molestation, he removed to Geneva. Here he found protestants no less intolerant than papists. When he saw the zeal of Calvin in the persecution of Servetus, and the demand of subscription to the formulary of the Italian church at Geneva, obliged him, and others denominated Socinians, to seek refuge in some other country. Accordingly they fled to Poland, where Alciati and Blandrata were very successful in disseminating their opinions. Towards the close of his life, Alciati was reproached with having renounced Christianity, and becoming a Mahometan; but this is probably a calumny, similar to that which has been alledged against others, because they have concurred with the Mahometans in maintaining the simple unity of the divine nature. Calvin and Beza have been very severe in their charges against Alciati, representing him not only as ignorant, but frantic; this, however, is one of those instances in which allowance should be made for that vehemence and invective which are often the result of difference of opinion. Alciati closed his life at Dantzic. In 1564, he published "Letters to Gregorio Pauli" against the pre-
sence of Christ. Gen. Dict.

ALCIBIADES, an Athenian general, was the son of Clinias, the nephew of Pericles, and lineally descended from Ajax; and as much distinguished by the comeliness of his person and the natural endowments of his understanding, as by his rank and fortune. In early life he manifested those talents and propensities, which duly cultivated and directed would have rendered him eminent and illustrious. But his accomplishments and connections betrayed him into many snares and dangers, which he wanted resolution to avoid. Nature, in him, says Cornelius Nepos, had exerted her utmost force; since, whether we consider his virtues or his vices, he was distinguished from his fellow-citizens. He was

studious and learned, eloquent, aspiring and indefatigable in his pursuits; whatever were the objects to which his views were directed, liberal, magnificent and affable; and he knew when to assume these virtues when they suited his purpose, and to accommodate himself to the times; but when he gave a loose to his passions, he was indolent, luxurious, dissolute, addicted to illicit amours, intemperate and profane. As he entered into life with many advantages, that are adapted to command attention and esteem, he became a very general object of that love, which among the Greeks was sometimes a pure, sometimes an ambiguous, and sometimes a scandalous attachment. It was his felicity to engage the honourable regard and friendship of Socrates; and to his instruction and influence, he was much indebted; and though his preceptor was less successful than he wished, in restraining his vicious inclinations, implanting in his mind good principles, and guiding him to laudable pursuits, his pupil seems never to have totally lost the benefit of his good counsel. Of his vivacity and resolution, when he was very young, the writers of his life have recorded several instances, which indicate his characteristic temper. When he wished to stop a waggon which was passing along the road, and interrupting a play in which he was engaged, and his persuasion had proved ineffectual, he threw himself directly before it and challenged the driver to proceed; and this sudden display of resolution frightened him and made him stop his horses. On another occasion he went into a grammar school, and asked for a volume of Homer, which the master was unable to produce; he gave him a box on the ear and departed; intimating by this action, that a person who was not conversant with Homer was not fit to be a teacher of youth. As an act of frolic, and for the gratification of his companions, he committed the same act of insolence on Hipponicus, a respectable man of rank and fortune; but early on the next morning he went to his house, and being admitted into his presence, stripped himself, and offered his naked body to any chastisement which Hipponicus might think due to him. By this humiliation he not only appeased Hipponicus, but conciliated his esteem, and afterwards obtained his daughter Hipparete in marriage. Alcibiades, as he advanced in years, addicted himself to the chariot-races, and he is said to have been the first person who sent seven chariots at one time to the Olympic games. The magnificence which he displayed on these occasions, rendered him popular in the Grecian states; and at Athens in particular his conduct in various respects became the topic of very general conversation. In order to divert their attention from the more frivolous and faulty parts of his character, he is said to have cut off the tail of a very beautiful dog, which he much valued. The aspiring and active disposition of Alcibiades led him at an early period to military service. His first campaign was in the war which Athens carried on against Potidæa; Socrates attended him, and preserved his life, when, after fighting valiantly, he fell wounded in the field. In the battle of Delium, some years afterwards, he returned the obligation, by guarding Socrates in the retreat, and bringing him off securely. A treaty of peace having been established between the Athenians and Spartans, by the instrumentality of Nicias, who by this event had acquired popularity and influence, the jealousy of Alcibiades was excited, and his ambition led him to overturn the pacific system which Nicias was anxious to preserve. With this view he encouraged the people of Argos to break with the Spartans, and promised them the succour of the Athenians; and he exerted himself in widening the difference that still subsisted between the Lacedæmonians and the latter. He also represented Nicias as more attached to Sparta than Athens, and by his eloquence contributed to
subvert

subvert his popularity, and to make him odious to the people. When ambassadors arrived from Lacedæmonia, with full powers to terminate all differences, he contrived, by an artifice, to prepossess them in his favour; and to induce them to declare, that though they were deputed to propose an accommodation they were not empowered to bring matters to a conclusion. He then charged them with prevarication, and defeated the object of their embassy. Having so far succeeded, he immediately recommended the cause of the Argives, Mantineans and Eleans, who fought the friendship of Athens; but before any resolution could be adopted, an earthquake happened, which of course dissolved the assembly. When Nicias returned from Sparta, without having succeeded in his negotiations, the Athenians concluded a league with the Argives and the other states above mentioned, for 100 years. Alcibiades was now become so popular, that he was appointed to the command of a fleet which was destined to assist the Argives, and to put an end to the disputes which prevailed in their capital. The disposition of the people with regard to Alcibiades is justly represented by Aristophanes, in his comedy of "The Frogs," (Act. v. sc. 4.) "They hate Alcibiades, says he, and yet cannot do without him." The Misanthrope Timon formed a much better judgment of this conduct of Alcibiades. When he met him as he was coming from the assembly, and observed the respect with which he was treated, he took him by the hand and addressed him; "Go on and prosper, my son; thou dost right in pushing thy fortune, for thy advancement will be the ruin of all these people." The war of Sicily, which soon followed, proved that Timon was not mistaken. The Athenians had long been desirous of establishing themselves in this island. Their ardour was inflamed by Alcibiades, who encouraged the delusive hope, that Sicily would be only their place of arms and arsenal; and that they should proceed from hence to the conquest of Carthage, and make themselves masters of all Africa and the sea, as far as the pillars of Hercules. Nicias and Alcibiades had harangued the people on this subject; but the latter prevailed. A powerful armament was prepared for the expedition; and Alcibiades, Nicias and Lamachus were appointed joint commanders. When every thing was prepared, and the fleet was ready for sailing, several unfavourable omens occurred, which excited in the minds of the people very distressing apprehensions. One of these omens was peculiarly momentous to the fortune of Alcibiades. The *Hermæ*, or half statues of Mercury, which stood at the entrances of private houses and temples at Athens, were in one night mutilated and destroyed. Alcibiades was suspected of being concerned in this act of impiety, and he was actually charged with having defaced other statues and with having ridiculed some of the sacred mysteries. The fleet, however, sailed; but soon after their arrival in Sicily, Alcibiades was recalled: but having accompanied the messengers as far as Thurium, he absconded and withdrew to Peloponnesus. Being asked, on this occasion, whether he would not rely on his country, with regard to the judgment it might pass on him, he replied, "I would not rely on my mother, lest she should mistake a black bean for a white one," referring to the use of beans in giving suffrages, in which a black bean denoted condemnation. On his non-appearance he was condemned, his property confiscated, and the priests and priestesses were commanded to curse him. Among the latter was Theano, who opposed this decree, alledging, "that she had been appointed priestess, not to curse but to bless." When news was some time after brought to Alcibiades, that the Athenians had condemned him to die, he is said to have declared: "I will make them sensible, that

I am still alive." Alcibiades, in consequence of this event, abandoned the interest of his country, and induced the Spartans to succour the Syracusans, and to declare war against Athens. At Sparta he assumed the Lacedæmonian discipline, and by his versatility of disposition and manners, gained universal esteem. He cut his hair short, bathed in cold water, fed upon coarse bread and black broth, and affected simplicity and gravity of demeanour. He was at the same time active in his exertions, induced several of the cities of Ionia to revolt from the Athenians, and engaged Tissaphernes, the king of Persia's lieutenant, to enter in a league with the Spartans. Whilst he was thus employed he engaged in an intrigue with the wife of the Spartan king, Agis, with the vain ambition, as he pretended, of giving a line of kings to the Lacedæmonians; and Agis became his implacable enemy. He saved his life by taking refuge with Tissaphernes, and in this new situation, he conformed to the luxurious manners of the Persians, and practised adulation to such a degree, as completely to ingratiate himself with the Satrap. By his counsel, Tissaphernes maintained an even balance between the Athenians and Lacedæmonians; and Alcibiades at length contrived to make the friendship of the Persians the means of his own return to Athens. The constitution of the government having been changed, partly by his counsel and agency, from a democracy to an oligarchy, he was recalled by unanimous consent. But before his return, he determined to merit the honour to which he was aspiring by some illustrious exploit. Accordingly, in conjunction with the other Athenian commanders, Theramenes and Thrasylbulus, he took several places and gained several victories over the Spartans and their allies, and then set sail for Athens, with a fleet of 200 ships laden with rich spoils, together with the ships and flags captured from the enemy. A. M. 3597, B. C. 407. His reception was in a very high degree flattering and honourable; and in an assembly of the people, he deplored his misfortunes, which he ascribed to his own evil genius more than to the ill-will of his countrymen; and by his eloquent and pathetic speech he pleased his audience, that crowns of gold were decreed him; he was appointed general by sea and land, with unlimited power; his fortunes were restored to him; and he was absolved by the Eumolpides and Ceryces from all the execrations that had been denounced against him. "As for me," says Theodorus, one of the persons employed in revoking the imprecations, "I have not cursed him, if he has done no evil to his country."

When this pageantry was concluded, he set sail with 100 ships for the island of Andros, which had revolted; and having gained a victory, he departed for Caria in order to raise money, and left the fleet in the charge of Antiochus. Before his return, Lyfander, the Spartan commander, brought on a battle, defeated the Athenian fleet, and slew Antiochus. The consequence of this disaster was discontent at Athens, and the loss of his command. Instead of returning home, he collected a band of soldiers of fortune, and enriched himself by the booty which he took among the Thracian tribes; avoided the fate of the 10 new commanders appointed by the Athenians, most of whom lost their lives, on account of their ill success; and warned the Athenian commanders of the danger to which their fleet was exposed at *Ægos-potamos*. When Athens was taken by Lyfander, Alcibiades retired to Bithynia, where he was plundered of part of his property, and from hence he went to Phrygia, and obtained the protection of Pharnabazus the Persian governor. The Athenians, suffering under the oppression of the 30 tyrants, directed their views to Alcibiades; and as soon as the tyrants

... they did not find it. ... Alcibiades, was a native of the island of Salamis, and was the son of Cleinias. Alcibiades, at the age of twenty, was sent to Persia, with Timandra, the daughter of Cleinias, and he it on fire; but in vain attempted to extinguish it he rushed forth, and safely passed through it; but the darts of his murderers were poured upon him from a distance and dispatched him. Timandra wrapped up the body in her own garments, and buried it in a town called Melissa, where the emperor Augustus afterwards caused a marble statue to be erected to his memory, and a bull to be annually sacrificed on his tomb. His death happened about the 40th year of his age, Ante Christ. 403. Some of his writings were extant in the time of Cicero, Orat. ii. 22.

"It is not easy to say," says Rollin, in describing the character of Alcibiades, "whether his good or bad qualities were most pernicious to his country; for with the one he deceived, and with the other he oppressed it. In him strength and valour was united with nobility of blood. He was a warlike, bold and sturdy man; he was eloquent, of great ability in affairs, insinuating, and formed for charming all mankind. He loved glory, but without prejudice to his inclination for pleasure; nor was he so fond of pleasure as to neglect his glory for it. He knew how to give into or abstract himself from it, according to the situation of his affairs. Never was there ductility of genius equal to his. He metamorphosed himself with incredible facility, like a Proteus, into the most contrary forms, and supported them all with as much ease and grace, as if each had been natural to him. This convertibility of character, according to occasions, the customs of countries, and his own interests, discovers a heart void of principles, without either truth or justice. He did not confine himself either to religion, virtue, laws, duties, or his country. His sole rule of action was his private ambition, to which he reduced every thing. His aim was to please, to dazzle, and to be beloved; but at the same time to subject those he soothed. He favoured them only as they served his purposes; and made his correspondence and society a means of engrossing every thing to himself. His life was a perpetual mixture of good and evil. His sallies for virtue were ill sustained, and quickly degenerated into vices and crimes, very little to the honour of the instructions of that great philosopher, who took no small pains to cultivate him into a man of worth. His actions were glorious, but without rule or principle. His character was elevated and grand, but without connection and consistence. He was successively the support and the terror of the Lacedæmonians and Persians. He was either the misfortune or refuge of his own country, according to his declaring for or against it. In fine, he was the author of an universal destructive war in Greece, from the sole motive of commanding, by inducing the Athenians to besiege Syracuse; much less from the hope of conquering Sicily, and afterwards Africa, than with the design of keeping Athens in dependence upon himself; convinced, that having to deal with an inconstant, suspicious, ungrateful, jealous people, averse to those that governed, it was necessary to engage them continually in some great affair, in order to make his services always necessary to them, and that they might not be at leisure to examine, censure, and condemn his conduct.

He had the fate generally experienced by persons of his character, and of which they cannot reasonably complain. He never loved any one, himself being his sole motive;

nor ever found a friend. He made it his merit and glory to amuse all men, and nobody confided in, or adhered to him. His sole view was to live with splendour, and to lord it universally; and he perished miserably, abandoned by the whole world, and obliged at his death to the feeble services and impotent zeal of one only woman, for the late labours rendered to his remains." Plutarch in Alcibiades. Oper. tom. i. p. 191. Corn. Nepos. in Alcibiades. Thucydides, p. 316, &c. Ed. Duker. Diod. Sicul. tom. i. p. 502-647. Ed. Wesfeling. Xenophon, Hellen. lib. ii. Rollin's Anc. Hist. vol. iii. p. 164-303. Anc. Un. Hist. vol. v. p. 293, &c.

ALCIBIADES, was the name of one of the martyrs at Lyons, A. D. 177. He came originally from Phrygia, and led a very austere life, living upon bread and water; but was afterwards persuaded, in order to avoid giving offence, to partake of all sorts of food promiscuously, and to give God thanks. Lardner's works, vol. vii. p. 430.

ALCIBIADES, in *Entomology*, a species of *PAPILIO Eques*, with white wings, the anterior bounded by a black margin, the posterior marked below and at their tip with ferruginous black spots, found at Tranquebar.

ALCIBIUM, in *Botany*, a word used sometimes by the ancients as an epithet for a kind of echium, or viper's bugloss, and sometimes as the name of a peculiar plant.

ALCIDAMAS, in *Biography*, a native of Ekeæ, in Æolia, was the disciple of Gorgias Leontinus, and contemporary with Isocrates, and lived about 400 years before Christ. Two orations are extant under his name, viz. "Ulyssis contra Palamedem," published by Aldus, in his edition of the Orations of Æschines, Lyfias, &c. in fol. at Venice in 1513, and by H. Stephens in 1575; and another "Contra Sophistas," annexed to Aldus's edition of Isocrates at Venice in 1518. Cicero (Tuscul. lib. p. i. 48, Op. tom. ii. p. 346, ed. Olivet.) mentions Alcidamas as the author of a discourse on the praise of death. Fabric. Bib. Græc. lib. ii. c. 26. tom. i. p. 900.

ALCIDAMAS, in *Entomology*, a name given by Cramer to the *PAPILIO Turnus* of Linnæus.

ALCIDES, in *Entomology*, a species of *PAPILIO plebejus*, with caudated black wings dotted with blue, ferruginous below, and marked with a yellowish streak; found in Sierra Leona in Africa.

ALCIDES, is also a species of *SCARABÆUS*, with the horn of the thorax bent, bearded below, and unidentented, and the head recurved and naked, found in India.

ALCIDES, in *Mythology*, the surname of Hercules. See *ALCÆUS*.

ALCIDON, in *Ancient Geography*, a river of Triphylia, which rose on the frontiers of Arcadia, and discharged itself into the Jardanus.

ALCIMEDON, a plain of Arcadia, north of Mantinea.

ALCINOUS, in *Biography* and *History*, is represented by Homer as king of the Phæacians, in the island now called Corfu. His subjects were excellent mariners, and much addicted to the dance and song, and every kind of social pleasure; they were employed in conducting the shipwrecked Ulysses, who was hospitably received by Alcinous, to Ithaca. The taste of Alcinous for horticulture is much celebrated; and his garden, or orchard, is described by Homer as affording an abundance of fruit in quick succession, and also copious streams and pleasant shade. Homer Odyf. lib. vii. v. 108.

Hence we read in ancient geography, of the port, and also of the gardens of Alcinous, which pertained to this island.

ALCINOUS, a Platonic philosopher, probably lived about the

the beginning of the second century of the Christian era, and wrote a perspicuous and elegant "Introduction to the Philosophy of Plato," containing a summary of his doctrine. It was published in Greek by Aldus, at Venice, in 1521 and 1532, 8vo.; and with Ficinus's Latin translation, at Basil, in 1532; and at Paris, in 1562, 4to.; by Charpentier, with a Commentary, at Paris, in 1573; by Heinricus, Gr. and Lat. 8vo., at Leyden, in 1607, and reprinted at Oxford in 1667, 8vo.; and in English, by Stanley, London, in 1655, 1687, &c. Fabr. Bib. Græc. lib. iv. c. 23. vol. iv. p. 40, &c.

ALCIONIO, PETER, a learned Italian, contributed to the revival of letters in the 16th century. He studied the Latin and Greek languages with great diligence, and was for many years corrector of the press to Aldus Manutius at Venice. His learning advanced him to a professorship at Florence, under the pontificate of Adrian VI. He translated many Greek works into Latin, and his translations have been highly commended. He was also the author of many original productions, which prove him to be a man of talents. In his disposition and manners, however, he was chargeable with moroseness and ingratitude, and with intemperance and gluttony. Whilst he unduly valued himself on account of his own performances, he detracted from the merit of others. In the troubles excited at Rome by the Colonnas, he lost his estate; and in the year 1527, when the Emperor's forces took the city, he received a wound as he was going to join the Pope in the castle of St. Angelo; but upon the raising of the siege, he deserted his patron, and united with Cardinal Pompey Colonna, at whose house he sickened and died. His piece on exile, in the composition of which he was reported to have purloined a treatise of Cicero, "de Gloria," which he had found in the library of a monastery, and afterwards destroyed, his "Orations on the taking of Rome by Charles V. and on the knights who died at the siege of Rhodes," are all the original works which he left. The former was printed at Venice, in 1522, in 4to. and again at Leipzig, in 1702, under the title of "Analecta de Calamitate Literatorum." Gen. Biog.

ALCIPHRON, a philosopher of Magnesia, mentioned by A. Antoninus and Suidas, flourished in the time of Alexander the Great. He is different from Alciphron, the sophist, whose age is unknown, who wrote epistles on various topics, of which an edition was published at Leipzig, in 8vo. in 1715. Fabr. Bib. Græc. lib. ii. c. 10. vol. i. p. 425.

ALCIPHRON, in *Entomology*, a name given to the *PHALÆNA noctua cariceæ*, with cinereous wings, white streaks and point in the middle, yellow at the base, and five black points, found in the Indian fig.

ALCIPPUS, a species of *PAPILIO Danaus*, with yellow entire wings, a black margin, and white points, the posterior having a white disc, and black points, found in America.

ALCIS, in *Mythology*, the name of a deity worshipped by the Naharvali, a nation of Germans: and a name given to Minerva by the Macedonians. Tacit. Germ. 43. Liv. 42. 51.

ALCKHAUSEN, in *Geography*, a town of Sussia, belonging to the grand-master of the Teutonic order, in the county of Wehringen.

ALCMÆON, in *Biography*, a physician and philosopher, was born at Crotona, and probably flourished about 500 years before Christ, as he was a disciple of Pythagoras, and attended his lectures. He is said to have been the first person who attempted the dissection of a dead body, and of various animals, in order to examine the structure of the parts and

to have discovered the cochlea, one of the bones forming the organ of hearing. Le Clerc. Hist. de la Médecine, p. 141. He is said by Chalcidius, Haller observes, (Hist. Anat. vol. i. p. 16.) to have attempted a treatise on anatomy, which, however, is lost. The sum of his tenets, as far as they can be collected from scattered fragments, is this: "Natural objects, which appear multifarious to men, are in reality two-fold; intelligible natures, which are immutable, and material forms, which are infinitely variable. The sun, moon, and stars are eternal, and are inhabited by portions of that divine fire, which is the first principle in nature. The moon is in the form of a boat, and when the bottom of the boat is turned towards the earth, it is invisible. The brain is the chief seat of the soul, which is in perpetual action and immortal. Health consists in preserving a due mean between the extremes of heat and cold, dryness and moisture." Diogen. Laert. lib. viii. § 83. Clem. Alex. Strom. lib. i. p. 305. Arist. Met. lib. i. c. 5. lib. v. c. 1. Jamblic. Vit. Pyth. c. 23. n° 104. Cicero de Nat. Deor. lib. i. c. 11. Stob. Ecl. Phys. p. 54, 60, 93. Plut. Plac. Phil. lib. ii. c. 16, 27. lib. iv. c. 17. Fabr. Bib. Græc. lib. vi. c. 9. tom. xii. p. 49. Brucker's Phil. by Enfield, vol. i. p. 401.

ALCMAER, or **ALKMAAR**, in *Geography*, a town of the United Provinces in North Holland, about four miles from the sea, and 18 miles from Amsterdam. The streets are regular, the houses well built, and it is kept clean and neat by means of its canals. The land about the town was formerly full of morasses, but since it has been drained it is become exceeding good meadow-land, and the town is surrounded by productive orchards and gardens. The town, both within and without, has several beautiful walks. The noble canal that reaches from Alcmaer to Hoorn, was cut towards the beginning of the 17th century. This place was once very strong, and in 1573, obliged the Spaniards to raise the siege, after being encamped before it seven weeks. In the register of this town it is recorded, that in 1637, 120 tulips, with the offsets, sold for 90,000 florins. The butter and cheese that are made in the neighbourhood are reckoned the best in Holland, and furnish considerable articles of trade. N. lat. 52° 28'. E. long. 4° 26'.

ALCMAN, in *Biography*, a Lyric poet, was born at Sardis, or at Sparta, and flourished in the 27th olympiad, about 670 years B. C. Heraclides of Pontus assures us, that he was in his youth a slave at Sparta, and that by his genius and good qualities he obtained his freedom and a high degree of reputation in Lyric poetry. He was a performer on the cithara, and probably sung verses to the flute. Clemens Alexandrinus (Strom. lib. i. c. 16. tom. i. p. 364—365, ed. Potteri.) makes him the author of music for choral dances, and according to Archytas Hermoniacus, cited by Athenæus, (Deipn. lib. xiii. c. 8. p. 600.) Alcman was one of the first and most eminent composers of songs upon love and gallantry. Suidas says, that he was the first who excluded hexameters from the verses that were to be sung to the lyre, which afterwards obtained the title of Lyric poems, and Allian tells us, that he was one of the great musicians that was called to Macedonia by the king, and that he sung his airs to the sound of the flute; which Dr. Burney understands that he taught the Spartan army to perform their evolutions to. Found of this instrument. Alcman, according to Athenæus, was not more remarkable for a musical genius, than for a voracious appetite, and Elian tells him among the greatest gluttons of antiquity; and his intemperance was probably the cause of the particular disease of which he died. The Spartans erected a monument to him, which is still to be seen at

Pausanias. Of the many poems attributed to him by antiquity, nothing remains besides a few fragments furnished by citations in Athenæus and other ancient writers, and preserved by Neandrus, H. Stephens, and Urfinus. The name of his mistress was Megalotrata, a poetess. Alcmæon used the Doric dialect. Fabr. Bib. Græc. lib. ii. c. 15. tom. i. p. 366. Burney's Hist. Mus. vol. i. p. 385, &c. Some have confounded Alcmæon with Alcæon, the son of Penchus, of Croton, who, as Clem. Alex. (*ubi supra*) informs us, was the first who wrote a book concerning nature. See also Menægius ad Laetium. viii. 83.

ALCMANIAN, in the *Ancient Poetry*, a kind of lyric verse, or metre, consisting of two dactyls, and two trochees. Such *c. gr.* is

“*Virginibus puerisque cano.*”

The word is formed from *Alcman*, the name of an ancient Greek poet, in great esteem for his Erotics, or amorous compositions.

Some authors assign other Alcmæonian verses, composed of three dactyls and a long syllable.

E. gr. “*Munere ketitiamque Dei.*”

Others give an Alcmæonian, composed of a dactyl, spondee, and another dactyl, and a long syllable.

E. gr. “*Ne dubita, nam vera fides.*”

ALCMENA, in *Mythology*, the daughter of Electryon, king of Mycenæ or Argos, wife of Amphitryon, and mother of Hercules by Jupiter.

ALCMEON, in *Biography*. See **ALCMEON**.

ALCMEONE, in *Entomology*, a species of the **PAPILIO Danaus**, with rounded wings of the same colour, yellow at the base and white at the tip, found in Malabar.

ALCO, in *Zoology*, the name given to the **CANIS Americanus** of Linnæus, about the size of a squirrel, with a small head, pendulous ears, curved body, and short tail. There are two varieties, *viz.* the fat alco, ytzcuinte-porzotli, canis Mexicanus of Hernandez, or michuacanens of Fernandes, which is extremely fat, head very small, ears pendulous, with the fore part of the head white, and yellowish ears, short neck, arched back, yellow hair, white, short pendulous tail, large belly, spotted with black, white legs and feet, and the female with six conspicuous paps; and the techichi of Fernandes, which is like the small dogs of Europe, except that it has a wild and melancholy air. The first of these approaches the Iceland dog, and the second is perhaps the same animal with the *koupara*, or crab-dog of Guiana, which in figure resembles the fox, and in its hair the jackal; and has been called the crab-dog, because it lives chiefly upon crabs and other testaceous animals.

ALCOBACA, in *Geography*, a town of Portugal, in Estremadura, situated upon a small river near the sea, and surrounded by mountains, in a beautiful situation. It has a celebrated Cistercian abbey, built by Alphonso I. in 1148, which has been the general sepulchre of the kings of that kingdom. It is south-east of Liria, and $6\frac{1}{2}$ leagues north-east of Peniche. This town carries on various manufactures, the oldest of which is in the monastery, established by Pombal. Cambrics and fine linens are made here, but the woollen manufactory, and that for spinning of wool, which is performed by machinery, are more important. Link's Travels in Portugal, p. 278.

ALCOCK, JOHN, in *Biography*, an English Divine, was born at Beverley, in Yorkshire, and educated in the university of Cambridge, where he took the degree of doctor of laws. His ecclesiastical preferment was rapid, and

he was successively bishop of Rochester, Worcester, and Ely. In 1462 he was appointed master of the rolls; in 1470 a privy-counsellor, and one of the ambassadors to the king of Castile; in 1471 a commissioner to treat with the commissioners of the king of Scotland; and in 1472 lord-high-chancellor of England. He is represented as a prelate of distinguished learning and piety, and also of singular abstinence and purity. He was not only a considerable writer, but an excellent architect, so that he was made comptroller of the royal works and buildings under Henry VII. He improved the palaces of his several fees; founded a school, according to Fuller, at Beverley; and he was also the founder of Jesus college in Cambridge, appropriating to this purpose a nunnery, which was so notorious for incontinence, that the society was called a community of spiritual harlots. This college was first designed for a master, six fellows, and as many scholars; but under the patronage of the bishops of Ely, it has much increased in buildings and revenues, and now consists of a master, 16 fellows, and 30 scholars. Alcock was famous for preaching long sermons; one of his sermons before the university lasted upwards of two hours. He wrote several pieces, *viz.* “*Mons perfectionis ad Carthusianos*,” “*Abbatia Spiritus Sancti in pura conscientia fundata*,” “*Penitential Psalms*,” in English verse; “*Homiliæ vulgares*,” “*Meditationes piæ*,” and “*Spousage of a Virgin to Christ*.” Besides these he wrote a treatise with the whimsical and punning title of “*Galli Cantus ad confratres suos*,” or the crowing of the cock to his brethren; at the beginning of which is a print of the bishop preaching to the clergy, with a cock on each side, and having also a cock in the first page. This prelate died Oct. 1, 1500, at Wisbeach, and was buried at a sumptuous chapel, which he had built for himself, and which, though now neglected, is a noble specimen of his skill in architecture. Biog. Brit.

ALCOER, in *Geography*, a small town of Spain, in New Castile, situated in a fine country, between the Tagus and the river Cuyar. N. lat. $38^{\circ} 55'$. W. long. $4^{\circ} 26'$.

ALCOHOL, *ardent spirit, spirit of wine.* *Alcool, Esprit de vin.* Fr. *Weingeist*, Germ. *Spirito ardente, spirito de vino.* *Acquarzenite*, Italian. The term alcohol is applied exclusively by modern chemists, to the purely spirituous part of all liquors that have undergone the vinous fermentation. As this substance bears a very high importance, both as a chemical agent and in its various combinations, we shall bestow upon it considerable attention.

Alcohol is in all cases the product of the saccharine principle, and is formed by the successive processes of vinous fermentation and distillation. All fermented liquors, therefore, agree in these two points; the one, that a saccharine juice has been necessary to their production; and the other, that they are all capable of furnishing an ardent spirit by distillation.

Various kinds of ardent spirits are known in commerce, such as brandy, rum, arrack, malt-spirits, and the like; these differ from each other in colour, smell, taste, and strength; but the spirituous part, to which they owe their inflammability, their hot fiery taste, and their intoxicating quality, is the same in each, and may be procured in its purest state by a second distillation, which is termed in technical language, *redification*.

We shall refer the reader to the articles of **FERMENTATION (vinous)**, **DISTILLATION**, and the several species of distilled spirits, for an account of the progressive stages in the formation of alcohol; and we shall here take up the subject with the process of rectification or the second distillation, whereby alcohol is brought to that state of purity

in which its chemical properties are the most conspicuous.

Alcohol, as well as ardent spirits of different kinds, is procured most largely in this country from a fermented grain-liquor, prepared for the express purpose of distillation, from grain, melasses, &c.; but in the wine countries, the spirit is obtained from the distillation of wine; whence the synonymous term, *spirit of wine*. We shall only take the example of brandy, which is the product of the first distillation of wine, and mention the method by which alcohol is procured from it by rectification.

Brandy is a compound of alcohol, water, a colouring extractive matter, and a small quantity of oil. It is to the two last that it owes its peculiar flavour, smell, and appearance, whereby it is distinguished from other distilled spirits. The object of the process of rectification is to separate the first from the other ingredients, and this separation is effected upon the principle that alcohol is the most easily volatilized when a gentle heat is applied, and therefore appears in the first product of distillation, whilst the extractive matter and much of the water remain behind. It is more difficult, however, to get rid of the small portion of oil which brandy contains, as this is soluble in alcohol, and will rise with it in distillation, unless prevented by the means which will be presently mentioned.

The observations of M. Baumé, and his directions for the preparation of alcohol, are so judicious and accurate that we shall here mention them.

The following is the process given by this able chemist: "To procure rectified alcohol, put a quantity of brandy in the water bath of an alembic, and proceed to distillation. Set apart the first product of the distillation when it amounts to about a fourth part of the liquor put into the alembic. Then continue the process till about as much more is obtained, or till the liquor comes over white and milky. Then re-distil the latter product, and mix the first half which comes over with the first part of the former distillation, and continue to distil as long as any spirit comes over. This latter portion may be again distilled, and the first product mixed with the former first products, as before. After each distillation, there remains in the alembic a watery liquor which retains the smell of brandy, but is entirely deprived of inflammable spirit, and is thrown away as useless.

"Having thus procured all the spirit from the brandy, return all the reserved first products to the alembic, and distill with a gentle fire. When about half the liquor has come over, it should be kept apart as pure rectified alcohol; the remainder is to be distilled as long as it is inflammable, and may either be again rectified, or reserved for those purposes where a spirit of inferior strength is required."

The reason given by this judicious chemist for the above process is this: the spirit which first passes over in distillation is the purest, and contains the least portion of gross essential oil; the latter portion, on the other hand, is almost saturated with this oil, and the difference between the two is easily distinguishable when rubbed on the hands; the first product leaves no smell of brandy, but the last gives an odour like the breath of drunkards, who digest their food imperfectly. The quantity of oil, however, varies according to the nature of the brandy; that which is made from wine alone containing the least oil, but that which is procured from wine lees being so full of it as to leave a stratum of the oil swimming on the watery extractive liquor left in the alembic, after all the spirit has been distilled off.

M. Dubuiffon remarks concerning this oil, that the Languedoc brandies contain much more of it than the Cogniac; and that after distilling a large quantity of the for-

mer, the head of the alembic was covered with expanded drops of the oil, which adhered to the vessel. When collected together, and quite cold, they became as stiff as fuet, had a chestnut colour, a strong disagreeable taste, and a smell like turpentine.

Various additions have likewise been made to the impure spirit, in order to assist in the separation of this oil. The simplest, and one of the most efficacious is water. This, when added to the oily spirit, turns it milky (as is the case with any other solution of essential oil in alcohol), and by weakening the adhesion between the oil and the spirit, it enables the latter to rise in distillation, unmixed with the former. The chief inconvenience of this addition is, that it weakens the strength of the spirit so much as to require successive rectifications before it can be sufficiently deprived of its watery part.

Chalk, crumb of bread, bran, and other substances, are also added before distillation to the spirit, when oily and ill flavoured; and they all have a good effect in keeping down the matters which contaminate the alcohol, and render the distillation more effectual in purifying it.

Quicklime is still more efficacious, but it much lessens the product of alcohol, alters its nature in some degree, and makes it more penetrating. It would appear, however, that there are some kinds of wine in which the odorant particles are so intimately mixed with the spirituous part, that it is scarcely possible to separate them by simple distillation, however cautiously and skilfully conducted.

The common still with the worm-tube and refrigeratory, is very well calculated for the rectification of spirits, only allowance must be made for the readiness with which ardent spirit, when heated, assumes the state of vapour, and the very great expansion which it then undergoes.

Alcohol, freed from all foreign ingredients but water, and already of considerable strength, may be brought to the specific gravity of 0.825, at the temperature of 60°, by a single distillation, where the heat is moderate and applied very gradually, and the condensation slow. When about a third or half of the spirit is distilled over, the strength of the succeeding portion is diminished, the specific gravity increases, and it becomes more watery, and therefore the first product should be kept apart. This cannot be rendered stronger by any repetition of simple distillation, but it may be still further dephlegmated by means which will be mentioned hereafter.

We shall now proceed to the properties of alcohol.

Alcohol is a colourless transparent liquor, appearing to the eye like pure water. It possesses a peculiar penetrating smell, distinct from the proper odour of the distilled spirit from which it has been procured. To the taste it is excessively hot and burning, but without any peculiar flavour. From its great lightness and mobility, the bubbles which are formed on shaking it subside almost instantaneously, and this is one method of judging of its purity. Alcohol is very easily volatilized by the heat of the hand, it even begins to be converted into a very expandible vapour at the temperature of 55° Fahr: and the quickness of evaporation always produces a considerable cold. It boils at about 165°, and the vapours when condensed return unaltered to their former state. It has never been frozen by any cold, natural or artificial, and hence its use in thermometers to measure very low temperatures.

Alcohol takes fire very readily on the application of any lighted body, the speedier in proportion to its purity. It burns with a pale flame, white in the centre and blue at the edges; this gives but a small degree of heat, and is so faint as to be scarcely visible in bright day-light. It burns with-

out any fumes or vapour, and it evaporates, leaving no residuum; but it works, it is extinguished posteriorly, and the watery part remains behind.

Alcohol mixes with water in every proportion. Heat is extracted during the mixture, which is sensible to the hand, even in small quantities. At the same time there is a mutual penetration of parts, so that the bulk of the two liquors, when mixed, is less than when separate. Consequently the specific gravity of the mixture is greater than the mean between the gravity of the two liquors taken apart. The alcohol may be again for the most part separated from the water by distillation with a gentle heat. See GRAVITY (*Sp. Gr.*)

Owing to the great affinity which subsists between water and alcohol, this latter has the power of precipitating from the solution various salts dissolved in water. Thus, if some strong alcohol be added to a saturated solution of Glauber's salt in water, a conglum is immediately produced, consisting of the salt separated from the water in a very divided form, whilst the alcohol and water form a chemical union. This precipitation, however, only takes place in solutions of these salts which are soluble in alcohol. This circumstance has been very ingeniously applied to the analysis of various saline solutions, and especially to the examination of mineral waters. The power of precipitating some of these salts extends to very dilute solutions. Mr. Kirwan, in his valuable work on mineral waters, has found by experiment that felspar may be completely precipitated from water which contains only one-thousandth of its weight of this earthy salt, by any alcohol whose specific gravity is below 0.850. For further particulars on this subject, we must refer the reader to the article; *WATERS (Mineral, analysis of)*.

Alcohol is capable of uniting with a great number of substances, a circumstance which renders its use very extensive in a variety of chemical processes and in analysis. These we shall enumerate.

Some of the weaker acids, such as the boracic and tartareous, are soluble in alcohol without any apparent decomposition, and may be again recovered by evaporating the spirit. The stronger acids, however, exercise a very powerful action on alcohol, and produce several very curious and important compounds, particularly that singular liquor called ETHER. See the articles ETHER, OIL OF WINE, and OXYGEN GAS.

All the alkalies, when pure, may be dissolved in alcohol, but the fixed alkalies, when combined with carbonic acid,

are not soluble in this menstruum. This affords a very convenient method of procuring the caustic fixed alkalies in a state of purity, and by proper management they may be made to crystallize from their spirituous solution. The colour of a solution of alkali in alcohol is always somewhat red, however pure the alkali be, which is owing to a partial decomposition of the spirit. See the articles POTASH and TINCTURE OF SALT OF TARTAR.

Several of the neutral, earthy, and metallic salts, are soluble in alcohol. It is of some importance in chemical analysis to ascertain the degree of solubility of these salts, and many experiments have been made for this purpose.

The first of any importance are those of M. Macquer. He employed a spirit rectified so far, that a phial holding a Paris ounce of distilled water, at the temperature of 45° Fahr. would contain six gros and fifty-four grains of the spirit. The salts which he employed were previously dried with care, so as to expel their water of crystallization. He poured into a matrafs upon each of the salts half an ounce of the spirit, and set the vessel in a hot sand-bath. When the spirit began to boil, he filtrated it while hot, and then left it to cool. He then evaporated the spirit, and weighed the saline residuums; and from these he inferred the quantity of salt which the spirit had dissolved.

This method, however, cannot be considered as accurate, as some of the spirit must have evaporated during boiling, and some of the salt must have been deposited in the pores of the filter. Neither would the errors produced in this way be uniform, since it appears that some salts are, in a greater proportion than others, more soluble in hot than in cold spirit.

Wenzel also published a series of experiments, in 1777, on this subject. He varied the heat which he employed, according to the solubility of the salt.

He has, however, been guilty of a great omission in not mentioning the specific gravity of the alcohol which he used, but it may be supposed to be nearly the same as that of Macquer.

Lastly, Mr. Kirwan, with that accuracy for which he is so justly distinguished, has given in his treatise on mineral waters, a table of the solubility of certain salts, in which alcohol of different densities is employed, and the temperature properly noticed.

Our readers will find the results of all the above-mentioned experiments in the following Table.

TABLE of the Solubility of SALTS in ALCOHOL.

Salts employed, all deprived of their water of crystallization.	MACQUER.	WENZEL.	KIRWAN.				
	Soluble in 288 grs. of Alcohol, of about 0.84 sp.gr.	Soluble in 240 grs. of Alcohol, of about 0.84 sp.gr.	Soluble in 100 grs. of Alcohol, of different specific gravity.—Heat, from 50° to 70°.				
	Boiling heat used.	Heat various, as specified.	Sp. Gr. 0.9	Sp. Gr. 0.872	Sp. Gr. 0.848	Sp. Gr. 0.834	Sp. Gr. 0.817
	Grains.	Grains.	Grains.	Grains.	Grains.	Grains.	Grains.
Nitrated Potash	4	5 boiling heat	2.76	1.	0	0	0
— Soda	15	23 ditto	10.5	6.	—	0.38	0
— Ammonia	108	214 ditto					
— Lime	288						
— Alumine	—	240 at 54°					
— Magnesia	—	694 boiling					
— Silver	84	100 ditto					
— Iron	4	partly decomposed.					
— Copper	48	240 at 54°					
— Zinc	—	decomposed.					
— Cobalt	—	240 at 54°					
— Bismuth	—	partly decomposed.					
Muriated Potash	5	5 boiling	4.62	1.66	—	0.38	0
— Soda	0	0	5.8	3.67	—	0.5	—
— Ammonia	24	17 boiling	6.5	4.75	—	1.5	—
— Lime	288	240 ditto					
— Alumine	—	240 at 54°					
— Magnesia	—	1313 boiling	21.25	—	23.75	36.25	50.
(dried at 120° by Kirwan.)							
— Barytes	—	—	1.	—	0.29	0.185	0.09
Ditto, ditto, crystallized	—	—	1.56	—	0.43	0.32	0.06
Muriated Iron	36	240 boiling					
— Copper	48	240 ditto					
— Zinc	—	240 at 54°					
Corrosive Sublimate.	204	212 boiling					
Acetited Soda	—	112 ditto					
— Lime	—		2.4	—	4.12	4.75	4.88
— Lead	—	240 at 113°					
— Copper	—	18 boiling					
Arseniated Potash	—	9 ditto					
— Soda	—	4 ditto					
Oxalic Acidulum	—	7 ditto					

On examining the comparative results given in the above Table, we cannot consider them as very satisfactory, and in some instances we perceive so striking a difference in the results, that it must depend on some more extensive cause than mere casual error. Probably the degree and continuance of heat employed, in drying the salt and expelling its water of crystallization, must have differed considerably in the respective experiments. It would be useless to attempt to explain the cause of difference in all the results, but this shews the great necessity of attending minutely to every particular in such experiments.

The most important of the salts insoluble in highly rectified alcohol are the following—all the sulphates, both of the alkalies, earths and metals; some of the nitrated metals;

some of the muriated metals; and the carbonated fixed alkalies.

A peculiar colour is perceived in the flame of some of these solutions in alcohol when set on fire. The solution of nitre gives a pale yellow flame, that of boracic acid is a faint green, all the solutions of copper burn with a beautiful bright green, and those of nitrated or muriated strontian shine with a deep blood red.

Ammonia, both pure and carbonated, dissolves readily in alcohol. They are generally united by means of distillation, a moderate heat being sufficient to volatilize each. These combinations are principally employed in pharmacy.

Alcohol will readily unite with the carbonic acid gas, and will take up full its own bulk of it at a medium temperature.

perature.—The gas, however, appears to have little or no action on the spirit, since it is expelled from it by heat unaltered.

Neither metals, nor metallic oxyds, nor metallic acids, appear to be in any degree soluble in alcohol.

Sulphur will not contract any union with alcohol by simple digestion either cold or hot; but when they are both reduced to the form of vapour, and then mixed, a true solution is effected, and the result is a very pungent spirit with a strong odour of liver of sulphur, and which becomes milky and deposits the sulphur on dilution with water.

Ardent spirit acts in a slight degree on PHOSPHORUS, and dissolves so much of this inflammable substance as to become slightly luminous in the dark when the solution is dropped into water.

None of the pure earths are soluble in alcohol, and this latter has the power of precipitating lime, barytes, and strontian, from their watery solutions.

It is on the chemical substances belonging to the vegetable kingdom that alcohol exerts its most powerful action as a solvent, and herein consists its very extensive use in pharmacy, in preparing liquors for the table, in some of the arts, and in a very important part of chemical analysis.

Most of the acids belonging to the vegetable kingdom are highly soluble in ardent spirit, such as the tartareous, the citric, the oxalic, and the gallic. In procuring the latter from the gall-nut, alcohol furnishes us with a very elegant and commodious method of separating the acid from the mucilaginous extractive matter with which it is naturally mixed.

The acetous acid, when of the usual strength, simply mixes with alcohol, without producing any decomposition, but chemists have succeeded in forming an acetic ETHER, by employing the acid in its most concentrated state.

Alcohol will readily dissolve SUGAR. Wenzel estimates the quantity at about one-fifth of the spirit. In all the sweet native vegetable juices, such as the sap of the sugar cane and the maple, or the expressed liquor from the parsnip and beet root, the sugar is mixed with a large quantity of a mucilage very little soluble in alcohol. This furnishes a ready method for separating the purely saccharine part, a method which is much employed in the analysis of various vegetables, for the purpose of ascertaining the comparative quantity of sugar which they may be expected to yield to the manufacturer. This solution, when left to spontaneous evaporation, yields minute crystals of sugar, which are at first brown, and require a further purification.

Ardent spirit is an excellent solvent for essential oils, and in general, for the most odorous and inflammable of the vegetable productions. In the essential oil of a plant resides the Spiritus Rector, or the AROMA, that which gives the exquisite perfume to the rose or jessamine. When these odoriferous plants are distilled with alcohol, it rises strongly impregnated with their scent and flavour, and as it takes up no colouring matter it remains perfectly clear as before. Thus, the common lavender water is alcohol distilled off the lavender plant, and holding in solution the essential oil in which the scent resides. The *Distilled SPIRITS* in pharmacy, are similar preparations of alcohol, containing the flavour of spices, aromatics or other substances with which it has been distilled. (See OILS ESSENTIAL).

All the RESINS are highly soluble in alcohol, but scarcely, if at all, in water. These solutions have the peculiar colour, and acrid taste of the resin which they contain. An addition of water renders them all turbid, and from the pure resinous solutions it precipitates almost the whole of the dissolved

contents in the form of thick flakes. The solution of guaiacum affords an example of this.

The GUM RESINS, which are natural mixtures of gum and resin, yield their resinous part to pure alcohol and but little of their gum; water on the contrary dissolves the gum and leaves the resin; but a mixture of alcohol and water will hold both the ingredients in solution. These preparations are called TINCTURES in pharmacy, and they are of considerable use in containing within a small bulk, the medicinal virtues of larger quantities of the ingredients employed.

Artificial resins, or *Resinous EXTRACTS*, are also made by evaporating to dryness solutions of the resinous parts of several vegetables in alcohol.

CAMPHOR is readily and largely soluble in ardent spirit. This solution, when saturated, will let fall almost the whole of the camphor on the addition of water. Camphor also remarkably assists the solution of the resins.

Solutions of resinous substances in alcohol form the basis of the spirit VARNISHES, which when applied in thin layers over any substance, soon dry from the evaporation of the spirit, whilst the resin remains behind furnishing a smooth thin coating to the surface which they are intended to protect.

The fixed oils, when in their simple state, are entirely insoluble in alcohol, but they may be rendered soluble in this menstruum, either when they have been converted into drying oils by the action of metallic oxyds, or when they are united with alkalis in the form of SOAP. A solution of fine soap in alcohol is perfectly colourless and transparent, and will bear dilution with water without becoming turbid. It is employed in medicine as an external application, and is also a good reagent in the analysis of mineral waters to discover the presence of earthy salts. These decompose the soap by double affinity, and produce curdling.

The effect of alcohol on animal substances bear a considerable resemblance to its operation on the vegetable kingdom.

Muscular fibre and the coagulum of blood are not soluble in this menstruum, but are rendered by it hard, contracted, and incapable of putrefaction.

Albumen is equally insoluble in alcohol and is coagulated by it, probably owing to abstraction of the water which held it in solution. Milk is speedily curdled by ardent spirit of every kind.

Alcohol will dissolve WAX, SPERMACETI, BILIARY CALCULI, and the strong scented animal resins or resinous extracts, such as MUSK and AMBERGRIS. This menstruum, however, does not appear to be so extensively applicable to the analysis of animal substances as of those from the vegetable kingdom.

We have already mentioned that alcohol well rectified may be brought to the specific gravity of 0.825 (at 60° temperature) by a simple distillation, where the process is slowly and carefully conducted, and when only the first third, or half of the spirit which comes over is taken. Chemists have, however, been able to bring it to a higher state of dephlegmation, and consequently a less specific gravity. This is done by adding to the spirit in the alembic or still a quantity of a salt which is itself insoluble in alcohol, and which has such a greedy attraction for water as to be able to separate it from the spirit. Boerhaave recommends for this purpose common salt, hot, dry, and decrepitated. He allows the salt and the spirit to stand together for twelve hours, and then to be heated in a water-bath so as to distill off the spirit

by a very gentle warmth. The salt is left moist in the still, and contains much of the water of the spirit employed. Some recommend burnt alum in the room of salt, but the best addition is very dry, hot, carbonated alkali. A highly dephlegmated alcohol may be prepared in this method without the intermediate process of distillation, only then the spirit will be of a reddish colour, and will contain that small portion of caustic alkali which is always mixed with common carbonated potash, and which is soluble in ardent spirit. The following is Boerhaave's process: "Take a clean glass body containing common spirit of wine, and add thereto one-third of its weight of pure and dry potash, (carbonated potash), which immediately falls to the bottom. Shake the glass, and the salt directly grows moist and begins to dissolve at the bottom, whilst a red thin liquor floats above it; the more the vessel is shaken, the more liquid is the lower part of the salt, and the more distinctly separated from the upper liquor, nor is it ever possible to mix them together, but upon resting they will immediately separate into two liquors."

This process may be continued, he adds, by decanting carefully the upper of the two liquors, (which is the alcohol reddened by a little caustic alkali that it holds dissolved) and adding to it more carbonated alkali, till the portion last added will no longer become wet on shaking, a sign that the alcohol is as fully deprived of water as it is capable of being made by means of alkali. As a proof of the high dephlegmation of the spirit by this method, it may be observed, that if a drop or two of water be added to alcohol in which salt of tartar has long remained dry, the alkali immediately becomes moist, and appears to run unctuous from the sides of the vessel.

If the alcohol be distilled off the alkaline salt with a gentle heat, the first part which comes over will be about the specific gravity of 0.813 to 0.815, at the temperature of 60°, and this is as high a degree of purity as it has been brought to in the accurate experiments made in this country, by Dr. Blagden and others, for the purpose of ascertaining its specific gravity. (See GRAVITY *specific*.)

M. Lowitz, however, asserts, that he has brought alcohol to the specific gravity of 0.791, chiefly by adding, before distillation, a very large quantity of alkali so as almost entirely to absorb the spirit.

After distillation, the wet alkaline salt which is left may be dried, and again used for the same purpose; but Boerhaave asserts, that after repeating the use of the same alkali for a number of times, it becomes changed in its nature, and unfit for the purpose. This would imply a decomposition of the alcohol, which deserves to be further examined.

Various tests have been devised for ascertaining the purity of alcohol, and the proportion of water which it contains. A spirit, which is very free from water will, when set fire to, burn away without leaving any residue; if it is of moderate strength it will burn for a certain time, and then become extinguished, and leave a portion of water more or less considerable, according to the degree of dephlegmation; if, on the contrary, it is very weak and watery, it will not kindle at all. This test, however, is by no means accurate, since the heat of the burning spirit will drive off part of the water which should be left in the residuum. Another test is, to drop a small quantity of spirit on a small heap of gunpowder and kindle it. The spirit burns quietly on the surface of the powder till it is all consumed, and the last portion fires the powder if the spirit was pure, but if watery, the powder becomes too damp and will not explode. This test, also, is very

inaccurate; for if the powder be drenched with even a strong spirit, it remains too damp to be fired; and if it be only barely moistened, any spirit that will burn will inflame it. A better test is, as we have mentioned, to shake the spirit in a phial with some dry carbonated alkali; but the most accurate of all is to ascertain its specific gravity, and compare it with the density of known quantities of alcohol and water, previously mixed for the purpose of giving a standard of comparison. The very extensive and accurate labours on this subject, conducted by Beaumé, Blagden, Gouvenain, and other eminent scientific men, belong with more propriety to the subject of *SPECIFIC GRAVITY*.

It remains for us to mention the chemical nature of alcohol, and the appearances which attend its decomposition. The remarkable circumstance of a vegetable product burning away, without the smallest trace of smoke or fuliginous vapour of any kind, had long engaged the attention of chemists. Junker and Boerhaave threw much light on the subject by remarking, that the product of the combustion of alcohol was always a quantity of pure water; and this fact was more fully illustrated by the experiments of the illustrious Lavoisier. The ready evaporation of alcohol, and the ease with which its vapour will fill a large vessel, renders it a dangerous experiment to submit a considerable quantity at once to combustion, in oxygen gas confined in any vessel, but this difficulty was surmounted in an ingenious manner. His first experiment was simply to ascertain the quantity of water yielded by the combustion of a given weight of alcohol. This was performed in the following apparatus, contrived by M. Meusnier. See PLATES OF CHEMISTRY, fig. 10.

E F is a worm, contained in the cooler A B C D. To the upper part of the worm E, the chimney G H is fixed, which is composed of two tubes, one within the other, the inner of which is a continuation of the worm, and the outer one is a case of tin-plate, which surrounds it at about an inch distance, and the interval is filled with sand. At the inferior extremity K of the inner tube, a glass tube is fixed, to which is adopted the argand lamp L M, for burning alcohol.

Things being thus disposed, and the lamp being filled with a determinate quantity of alcohol, it is set on fire; the water which is formed during combustion, rises in the chimney K E, and being condensed in the worm, runs out at its extremity F, into the bottle P. The use of the outer tube G H, and of the sand between it and the inner tube, is to prevent the latter which proceeds from the worm, from being cooled during combustion, which would occasion the water, formed by the burning, to fall back on the lamp instead of passing on into the worm.

This apparatus though not perfect, has the advantage of enabling the chemist to operate with larger quantities than can be admitted in the more accurate experiments on combustion, and by it, the above-mentioned chemists were able to establish the important fact, that the quantity of water collected by the combustion of alcohol *very sensibly exceeds the quantity of the alcohol which is consumed*. The product of water must vary according to the strength of the alcohol, and the care of conducting the experiment; but it is so considerable, that from sixteen ounces of ardent spirit, Lavoisier obtained eighteen ounces and a half of pure water. There is besides, however, a large quantity of carbonic acid produced in this experiment which escapes, and cannot be estimated by this apparatus. Some of this gas unites with the water which is collected, and causes it to precipitate lime-water.

Having thus ascertained in a general way the products

of the combustion of alcohol, Lavoisier proceeded to repeat the experiment, in a manner which might determine the result with accuracy. He employed, for this purpose, a glass tube, of a diameter of about two to three inches, and coated over a mercurial trough. A small lamp filled with a known weight of alcohol, was introduced under the glass, turning it on the surface of the mercury, and the neck was closed with a very minute portion of phosphorus. The atmospheric air within the glass was sucked up by a syphon, till the mercury rose to a certain height which was noted, and the phosphorus on the wick lamp then kindled by a hot iron, the spirit soon took fire. As the air within the glass would be soon consumed, and the inflammation of the spirit stopped, a constant supply of oxygen gas was sent into the glass through a tube, which was connected with a reservoir of this gas, and which passed under the mercury into the glass where the combustion was going on. Great precaution was required not to let in more oxygen than was barely necessary to keep up the combustion; otherwise the heat, volatilizing part of the spirit, would have filled the glass with vapour of alcohol, and this mixing with the oxygen, would have suddenly exploded by the combustion. In this, as in other respects, the combustion of alcohol strikingly resembles that of pure hydrogen gas. The experiment was at last stopped by the quantity of carbonic acid generated; and on examining the results, (proper corrections being made for pressure and temperature) it was found, that 93.5 grains of alcohol and 110.32 grains of oxygen had been consumed. The products of these were 93.8 grains of carbonic acid and 106.2 grains of water, which last therefore exceeded by 12.7 grains the quantity of alcohol employed. From these data, and from previous experiments (wherein Lavoisier estimated, that 100 grains of oxygen take up 38.88 grains of carbon, for the production of carbonic acid gas; and that the same quantity of oxygen takes up 17.64 grains of hydrogen for the production of water), he concluded the composition of alcohol to be the following,

Carbon	-	-	-	-	28.53
Hydrogen	-	-	-	-	7.87
Water already existing in the alcohol					63.6

100

We may observe, however, that the result of this experiment can only be considered as an approximation towards the truth, since the estimation of the component parts of alcohol here given, does not agree with that which is deduced by the same chemist, from the result of vinous fermentation. Neither is there any light thrown on the mode of union between the component parts, and their degree of oxygenation as they exist in the spirit before combustion.

Alcohol has likewise been more directly decomposed without the accession of oxygen gas. Dr. Priestley produced inflammable air by passing the electric spark through spirit of wine. But the most striking experiments on this subject, performed by this excellent philosopher, were the decomposition of spirit by passing it through red-hot tubes, both of earth and metal. He first transmitted two ounce measures of alcohol, reduced to vapour by boiling, through an ignited porcelain tube, and procured 1900 ounce measures of air, "which was all inflammable *without any mixture of fixed air in it*, and which burned with "a blue lambent flame." (We here quote the very words of the author, which the writer of the article ALCOOL, in the *Encyclopédie Methodique*, has made to correspond with the experiments of Lavoisier, by adopting the following

singular translation—*M. Priestley, en faisant passer de l'alcool dans un tube d'argile rouge au feu, en a retiré du gaz hydrogène mélé de gaz acide carbonique.*) Dr. Priestley's next experiments are still more curious, as they determine the existence of carbonaceous matter in spirit of wine. Having found interesting results from the transmission of the vapour of water through a heated copper tube, he repeated the experiments, only substituting the vapour of spirit of wine for that of water. "In this case," he observes, "the vapour of the spirit had no sooner entered the hot copper tube, than I was perfectly astonished at the rapid production of air. It resembled the blowing of bellows. But I had not used four ounces of the spirit of wine before I very unexpectedly found that the tube was perforated in several places, and presently afterwards it was so far destroyed, that in attempting to remove it from the fire, it actually fell in pieces. The inside was full of a black sooty matter, resembling lamp-black." He then varied the experiment by using earthen tubes, placing within them copper filings, and transmitting the vapour of alcohol. The copper was as before, converted into a black friable substance, obviously produced by the addition of carbonaceous matter furnished by one part of the spirit, whilst the other part appeared in the form of a copious stream of inflammable air. It is however by no means the whole of the charcoal of the alcohol which is detained by the copper, for much of it escapes mixed with the inflammable air in the form of fine soot, giving the gas the appearance of a dense black cloud; and when the tube is strongly heated, this volatilized charcoal will give an uniform black coating to any balloon or large vessel in which the gas is received. Dr. Priestley found some other metals to undergo a similar change by the vapour of alcohol, but none in so striking a manner as copper. On heating some of this *charcoal of copper*, as he calls it, in oxygen gas, he found it to burn very readily to a certain point, after which the remainder could not be again kindled. The gas produced by the combustion, was pure fixed air or carbonic acid.

The excellent Dutch chemists, of the Teylerian institution, Van Marum and colleagues, repeated Dr. Priestley's experiments with great accuracy, and found the same results in every essential particular. They employed, as well as Dr. Priestley, Wedgwood's porcelain tubes, which they inclosed in iron tubes to prevent the sudden action of the fire which is apt to crack them. One extremity of the earthen tube received a small retort in which was put the alcohol, and the other entered a metallic serpentine tube, immersed in a refrigeratory, and provided at the further end with a bottle to receive the gaseous products. In the first experiment which was performed, an ounce and a half of alcohol in vapour had been transmitted through the heated copper, and had produced about six cubic feet of inflammable air.

In the second experiment the heat was greater, and the production of the gas more rapid. In all, the copper was reduced to a black and very friable substance, which fell to pieces between the fingers. The proportion of charcoal added to the copper by the experiments, varied at different times apparently owing to the greater or less rapidity with which the process was conducted. Dr. Priestley had united 446 grains of charcoal to 28 of copper, in one instance; and 508 to 19, in another: but the Dutch chemists found a much less proportion of charcoal, being only an addition of 292 grains to 748 of copper in one case, and in another, 180 of charcoal to 612 of the metal. The great difference in the results is, however, of little consequence in attempt-

ing to ascertain by these experiments the exact proportion of the component parts of alcohol, that a large part of the carbonaceous ingredient escapes the copper, and passes over into the vessels which receive the inflammable air, where it either appears in the form of a fine black foot, or remains permanently united with the hydrogen gas. M. Van Marum likewise collected in the bottle connected with the serpentine a quantity of nearly pure water, about equal to half the weight of the alcohol evaporated by boiling, and of the specific gravity of .996. He does not inform us of the strength of the spirit which he used. He confirmed the other part of Dr. Priestley's experiment by burning the *carbon of copper* in oxygen gas, and procuring pure carbonic acid, whilst the remaining copper still retained a small portion of carbon which could not be consumed. It is worthy of remark, that the inflammable air produced in the experiments of both these eminent chemists was found to be not much more than twice as light as common air, and it probably bears a considerable resemblance to that species of gas, termed, with great propriety by Mr. Cruikshank, *Gaseous Oxid of Carbon*.

The vapour of alcohol transmitted through earthen tubes forms, in particular circumstances, that singular air which has been named *OLEFIANT GAS*.

The uses to which alcohol is applied are numerous and important. In the arts, it is employed largely as a solvent for those resinous gums which form the basis of numerous varnishes and similar applications.

It possesses in the highest degree the cordial, stimulating, and intoxicating qualities of all distilled spirits, and although the less powerful and more grateful of the spirituous liquors, such as rum, brandy, &c. are more peculiarly devoted to the use of the table, the purer ardent spirit, again sufficiently diluted with water, is employed as the basis of many of the artificial cordial spirits and liquors, to which a flavour and additional taste are given by particular admixtures. Similar to this is the use of alcohol in medicine, where it serves as a solvent for the more active parts of vegetables, under the form of tinctures, and it is also employed as an external application, often with considerable success.

The highly antiseptic power of alcohol renders it particularly valuable in preserving particular parts of the body as anatomical preparations.

The gentle, steady, and uniform heat which it gives during combustion, and the absence of smoke or fuliginous vapour of any kind, make it often a most eligible material for burning in lamps.

As a fluid for thermometers, it has the advantage over mercury in not freezing in any known degree of cold, but from its ready volatility in a moderate heat it cannot be depended on with any accuracy, above 95 or 100 degrees.

The expansibility of alcohol is much greater than water; the former being, in a range of temperature from 30 to 100, $\frac{1}{45}$ th of its bulk, and the latter only $\frac{1}{45}$ th.

The use of alcohol in chemical analysis has been already mentioned. As a solvent for some of the earthy and metallic salts, and a precipitant of others, it is peculiarly fitted to assist in the analysis of mineral waters, and saline substances in general; and in the chemical examination of vegetable and animal matter, it furnishes a solvent of very extensive power, possessed of the valuable advantage to the chemist of producing but little decomposition in the substances which it holds in solution, and therefore enabling him to present them almost exactly with their native properties and distinctive characters.

VOL. I.

Boerhaave's *Chemistry*, vol. ii.—Therapeutic Method, Chap. Art. Alc. 1.—Fountain on Air, 2d edition.—*Annals de Chimie*, tom. xxx.

ALCOHOL is sometimes also used for a very fine, impalpable powder, which women in the East make use of as a kind of *fucus*. *Kohl* is a general term applied to a substance applied to the eye-ball, on the inside of the eye-lids, in the form of a powder finely levigated. That which is employed for ornament is called simply *al kohl*, or *isphahany*; when other ingredients, as flowers of olibanum, amber, and the like, are added, on account of some particular disorders, the *kohl* is distinguished by some appropriate epithet. Dr. Shaw, in his *Travels*, speaking of the women in Barbary, says, that none of these ladies think themselves completely dressed, until they have tinged their hair and edges of their eye-lids with *al-ka-hol*, the powder of lead-ore. Lady Montague (Letters, vol. ii. p. 32.) takes notice of this custom among the Eastern women; and in her sprightly manner, she supposes our English ladies would be overjoyed to know this secret. This ore used at Aleppo, called *Stibium* by the ancients, but very different from antimony, is brought from Persia, and is prepared by roasting it in a quince, an apple, or a truffle, then adding a few drops of oil of almonds, it is ground to a subtile powder on a marble. Of late years the lead ore, brought from England, under the name of *Arcifoglio*, has been used instead of the *isphahany*. The quantity of *kohl* consumed in the East is incredibly great. It has been said by one of their poets, in allusion to the probe used for applying the powder, and the mountains where the mineral is found, "that the mountains have been worn away by a bodkin." This probe or bodkin, called *meel*, is made of ivory, silver, or wood; it is dipped in water, and when a little of the powder has been sprinkled on it, it is applied horizontally to the eye, and the eye-lids being shut upon it, the probe is drawn between them, leaving the inside tinged, and a black rim all round the edge. The Roman Satyrists allude to this custom, as well as that of blackening the eyebrows:

"Illa supercilium madida fuligine tustum
Obliqua producit acu, pingitque trementes
Attollens oculos."

JUVENAL, Sat. ii. v. 67, and Casaubon's note.

The *kohl* is also used by the men for strengthening the sight, and preventing various disorders of the eye, for which purpose different ingredients are occasionally added. It is also applied to the eyes of children, as soon as they are born, and is renewed at the interval of a few days through the several periods of their adolescence. The use of the *kohl* is of very ancient date. Passages relative to it, in sacred history, may be seen in Shaw, (*Travels*, p. 229.), Harmer, (*Observations*, vol. ii. p. 405.), and Lowth's *Notes on Isaiah*, chap. iii. v. 16. Harmer conceives that the *redness of the eyes*, as it is in our version, which the dying patriarch mentions in blessing Judah, (*Gen. xlix. 12.*), is to be explained by this usage. Dr. Russell observes, on a passage in Xenophon referred to by Shaw, that blackening the eyes, though a custom among the Medes, was not at that time in use among the Persians; for Cyrus, among other things, seems to have been surprised at the painted eyes of his grandfather Artabanus. (*Cyropædia*, lib. i. p. 8.) See Russell's *Aleppo*, vol. i. p. 111, p. 112, 113, 114, 1794. From this impalpable powder to name the substance of other subtile powders, and afterwards to the use of water called to the highest purity and perfection, the Persians have given.

ALCOHOL, in the Arabic Language, is when a heavy

flow from planet receives another lighter one within its orb, so as to come in contact on therewith.

Alcohol Martis, flags of steel reduced to an impalpable powder, by turning it into rust with urine, then levigating it, and mixing it with a large quantity of water; that is, about a gallon to two pounds and a half of filings. After it has stood a quarter of an hour, the upper part of the water is to be poured off, and evaporated to a dryness. The powder at the bottom is to be put into a paper, in the form of a sugar-loaf, and washed, by gradually pouring in hot-water, till it is freed from the urinous salts. With regard to the remaining gross powder, the same process is to be repeated.

Musgrave has a great opinion of this preparation, as a remedy to bring back the gout from the nobler parts to the joints. He prescribes it thus: take of *alcohol martis* from five to ten grains, *theriaci Andromachi* from half a scruple to one dram, mix these with as much syrup of clove-july-flowers, as is sufficient to make a bolus.

ALCOHOLIZATION, in *Chemistry*, the rectification of a vinous spirit.

This is otherwise called *alcalization*.

ALCOLIZATION, according to Starkey, denotes the circulation of a volatile spirit on a fixed alkali, till such time as out of the two arises one neutral body different from both the former. *Alcoholization* is one way of volatilizing alkalis.

ALCOHOLIZATION is also used for PULVERIZATION.

ALCOL, or ANCOL, in *Geography*, lies on the coast of Barbary, on the east side of the Cape de Tenes, under which there is a small bay and good road, but open to the north and north-east; so that when a Levant gale is expected, ships should move round the cape to the west-side.

ALCOLA is used by *alchemists*, for the tartar of urine.

Alcola is found in three different forms, *viz.* 1. Resolved, or reduced into an impalpable substance. 2. Sandy, or voided under the appearance of small grains of whitish or reddish sand. 3. Mucilaginous, or viscous.

ALCOLEA, in *Geography*, a small town of Spain, in New Castile, situated in a fine country, a few leagues north of Madrid. N. lat. 40° 40'. W. long. 3° 6'.

ALCOLEA is also a town of Spain, in Andalusia, on the banks of the Guadalquivir, six miles north of Carmona.

ALCOLEA is also another town of Spain, in Aragon, on the confines of Castile, south of Balbastro, and north-east of the river Yzuela. N. lat. 41° 30'. E. long. 2° 14'.

ALCOMENÆ, in *Ancient Geography*, a town of Illyria. Steph. Byz.

ALCOMENÆ was also a town of the island of Ithaca, whence Ulysses was called Alcomeneus.

ALCON, in *Biography*, a surgeon of great eminence in the first century of the Christian æra, acquired considerable wealth in his profession, under the Emperor Claudius. He is said to have been expert in the art of reducing fractured, or luxated bones, and in curing hernias by incision. He is probably the person mentioned by Martial, in the following epigram, lib. xi. ep. 85.

Mitior implicitas Alcon fecat enterocelas,
Fractaque fabrilis dedolat ossa manu.

See more of him in Le Clerc's Hist. de la Medicine, p. 581.

ALCON, in *Entomology*, a species of *PAPILIO Plebejus*, with entire cærulean wings, brown margin, below cinereous brown, and numerous ocellary points; found in Austria.

ALCOR, in *Astronomy*, a small star adjoining to the large bright one in the middle of the tail of *URSA major*.

The word is Arabic.—It is a proverb among the Ara-

bians, applied to one who pretends to see small things, but overlooks much greater, "Thou canst see Alcor, and yet not see the full moon."

ALCORAN, or AL KORAN, the Mahometan Scripture or Bible, containing the revelations, doctrines, and prophecies, of the pretended prophet Mahomet.

It is vulgarly called *Alcoran*; but the first syllable of the word is nothing more than an article signifying *the*; and therefore the true orthography of the word is *Al Coran*, or *Al Koran*, that is, *the Koran*. It is derived from the Arabic word *karna*, to read, and signifies *the reading*; or what ought to be read. Thus Mahomet gave it this title by way of eminence, in imitation of the Jews and Christians, who call the Old and New Testament, *Scripture*; and the Bible, *i. e.* the Book; and *al Dhikr*, the admonition.

Besides this peculiar name, the Koran is also honoured with several appellations common to other books of Scripture; as *Al Forkan* from the verb *faraka*, to divide or distinguish, denoting a section or portion of scripture. It is also called *Al Mofhaf*, the volume, and *Al Kitab*, the book, by way of eminence.

It is the common opinion among us, that Mahomet, assisted by one Sergius, a monk, composed this book; but the Mussulmen believe it as an article of their faith, that the prophet, who, they say, was an illiterate man, had no concern in inditing it; but that it was given him by God, who, to that end, made use of the ministry of the angel Gabriel; that, however, it was communicated to him by little and little, a verse at a time, and in different places, during the course of twenty-three years;—'And hence,' say they, 'proceed the disorder and confusion visible in the work;' which, in truth, are so great, that all their doctors had never been able to adjust them. For Mahomet, or rather his copyist, having put all these loose verses promiscuously in a book together, it was impossible ever to retrieve the order wherein they were delivered.

Those twenty-three years which the angel employed in conveying the *Koran* to Mahomet are of wonderful service to his followers: inasmuch as they furnish them with an answer to such as tax them with the glaring contradictions of which the book is full: those contradictions they piously father upon God himself; alledging, that in the course of so long a time, he repealed and altered several doctrines and precepts which the prophet had before received of him.

The Mahometan doctors obviate any objection deduced from these contradictory passages by the doctrine of abrogation; and they distinguish the abrogated passages into three kinds; the *first*, where the letter and sense are both abrogated; the *second*, where the letter only is abrogated, but the sense remains; and the *third*, where the sense is abrogated, though the letter remains. Of the first kind were several verses, which by the tradition of Ans Ebn Malec, were in the prophet's life-time read in the chapter of *repentance*, but are not now extant. Another instance of this kind we trace from the tradition of Abdallah Ebn Masud, who reported that the prophet gave him a verse to read which he wrote down, but the next morning looking in his book, he found it was vanished, and the leaf blank; upon acquainting Mahomet with this circumstance, he was assured by the prophet that the verse was revoked the same night. Of the second kind is the verse called the verse of *stoning*, which, according to the tradition of Omar, afterwards Khalif, was extant, while Mahomet was living, though it be not now to be found. Of the last kind are observed several verses, in 63 different chapters, to the number of 225; such as the precepts of turning in prayer to Jerusalem, fasting

fasting after the old custom, forbearance towards idolaters, avoiding the ignorant, and the like.

M. D'Herbelot thinks it probable, that when the heresies of the Nestorians, Eutychians, &c. had been condemned by ecumenical councils, many bishops, priests, monks, &c. being driven into the deserts of Arabia and Egypt, furnished the impostor with passages, and crude ill-conceived doctrines, out of the scriptures; and that it was hence that the Koran became so full of the wild and erroneous opinions of those heretics.

The Jews also, who were very numerous in Arabia, furnished materials for the Koran; nor is it without some reason that they boast twelve of their chief doctors to have been the authors of this work.

The Koran, it is to be observed, while Mahomet lived, was only kept in loose sheets; his successor, Abubeker, first collected the contents into a volume, not only from the palm leaves and skins on which they had been written, but also from the mouths of those who had committed them to memory; and when the transcript was completed, entrusted the keeping of it to Haphsa, the daughter of Omar, one of the widows of Mahomet, in order to be consulted as an original; and there being a good deal of diversity between the several copies already dispersed throughout the provinces, Ottoman, or Othman, successor of Abubeker, in the 30th year of the Hegira, procured a great number of copies to be taken from that of Haphsa; at the same time suppressing all the others not conformable to the original.

The chief differences, in the present copies of this book, consist in the points, which were not in use in the time of Mahomet and his immediate successors, but were added since, to ascertain the reading; after the example of the Massoretes, who added the like points to the Hebrew texts of scripture.

The Koran is divided into 114 *suras*, or chapters, of very unequal length; which, in the manuscript copies, are not distinguished by their numerical order, though they are actually numbered in Sale's edition, but by particular titles, which, except the initial chapter, are taken sometimes from a particular matter treated of, or person mentioned therein, but usually from the first word of note. Some chapters have two or more titles, occasioned by the difference of the copies. Some of the chapters having been revealed at Mecca and others at Medina, this difference is noted in the title. Several of them are said to have been revealed partly at Mecca and partly at Medina; and as to others, it is not agreed among commentators to which of these two places they belong. The *suras* are divided into little verses, in Arabic, called *ayat*, *signs* or *wonders*, which are all composed in a broken interrupted style, resembling prose rather than verse. Many of these have their particular titles formed in the same manner as those of the chapters.

Beside these unequal divisions of chapter and verse, the Koran is divided into 60 equal portions, called *abzab*, each of which is again subdivided into four equal parts.—But it is more usually divided into 30 sections, named *ajza*, each of twice the length of the former, and subdivided in like manner into four parts. These divisions are for the use of the readers of the Koran in the royal temples, or in the adjoining chapels where the emperors and great men are interred. Of these readers, there are 30 belonging to every chapel, and each reads his section every day, so that the whole Koran is read over once a day. Under the title, at the head of every chapter, except the ninth, is prefixed the following solemn form, called by the Mahometans the *bismillah*, in the name of the most merciful God;

which form, as well as the titles, are considered by some commentators of divine original; that others believe them to be human additions.

This form always occupies place at the beginning of all their books and writings; and is, as a peculiar and characteristic mark of the religion; and it is deemed a sort of impiety to omit it. There are 29 chapters of the Koran, which have this peculiarity, that they begin with certain letters of the alphabet; some with a single one, and others with more. These letters are considered as peculiar marks of the Koran; and as concealing profound mysteries, the certain understanding of which, the more intelligent confess, has not been communicated to any mortal, their prophet alone excepted.

There are seven principal editions of the Koran; two at Medina, one at Mecca, one at Cufa, one at Bassora, one in Syria, and the common, or vulgate edition. The first contains 6000 verses; the second and fifth 6214; the third 6219; the fourth 6236; the sixth 6226; and the last 6225; but the number of words and letters is the same in all, *viz.* 77639 words, and 323915 letters.

The Koran is held not only of divine original, but eternal and uncreated, remaining, as some express it, in the very essence of God. The first transcript has been from everlasting by God's throne, written on a table of vast bigness, in which are also recorded the divine decrees, past and future. A copy from this table, in one volume, on paper, was sent down to the lowest heaven, by the ministry of the angel Gabriel, in the month of Ramadan, on the night of power: from whence it was delivered out by Gabriel to Mahomet, in parcels, some at Mecca, and some at Medina; though he had the consolation of seeing the whole once a year, and in the last year of his life twice. Some few chapters were delivered entire, the greater part only in separate periods, which were written down from time to time by the prophet's amanuensis, in such a part of any particular chapter, as he directed. The first parcel that was revealed, was the first five verses of the 96th chapter, which the prophet received in a cave of mount Harah, near Mecca.

Although the Sonnites or Orthodox believe, that the Koran is uncreated and eternal, and Mahomet himself is said to have pronounced him an infidel who asserted the contrary, yet several have been of a different opinion; particularly the sect of the Motazalites, and the followers of Isa Ebn Sobeh Abu Musa, surnamed Al-Mozdar, who accused those who held the Koran to be uncreated, of infidelity, as assertors of two eternal beings. The dispute, which occasioned much warm contention, was at length compromised by Al Ghazali, who maintained that the original idea of the Koran only is really in God, and consequently co-essential and co-eternal with him, but that the copies are created and the work of man.

The Koran is universally allowed to be written with the utmost elegance and purity of language, in the dialect of the tribe of Koreish, the most noble and polite of all the Arabians, but with some mixture, though very rarely, of other dialects. It is confessedly the standard of the Arabic tongue; and as the more orthodox believe, and are taught by the book itself, inimitable by any human pen; and therefore insisted on as a permanent miracle, greater than that of raising the dead, and of itself sufficient to convince the world of its divine original. Accordingly, Mahomet himself appealed to this miracle as the chief confirmation of his mission; publicly challenging the most eloquent man in Arabia, then abounding with persons whose sole

It was, indeed, a work of great power and genius; and it was, in the hands of Mahomet, an irresistible charm, to blind the judgment, and to captivate the fancy of his followers. Of that description of men, who first composed the adherents of Mahomet, and to whom the Koran was addressed, we are not able to give a very accurate idea of the simplicity of the sentiments, or of the beauties of the diction: but all could judge of the military abilities of their leader; and in the midst of their admiration, it is not difficult to conceive, that they would ascribe to his compositions every imaginary beauty of inspired language. The shepherd and the soldier, though awake to the charms of these wild but beautiful compositions, in which were celebrated their favourite occupations of love or war, were yet little able to criticise any other works than those which were addressed to the imagination or the heart; to debate on reasons, or the attributes and dispensations of the Deity, to the comparative excellencies of rival religions, to the consistency of any one religious system in all its parts, and to the force of its various proofs, they were quite inattentive. In such a situation, the appearance of a work, which possessed something like wisdom and confidence; which prescribed the rules, and illustrated the duties of life; and which contained the principles of a new and comparatively sublime theology, independently of its real and permanent merit, was likely to excite their astonishment, and to become the standard of future composition.

The style of the Koran is generally considered to be, in respect to its structure, simple, and elegant, and its figure-phrasology. It is concise and often obscure, adorned with bold figures after the eastern taste, enlivened with the most striking metaphors, and here and there, especially in the majestic and sublime parts, the style is distinguished by a simplicity and grandeur. Although it be written in prose, yet the features generally conclude in a long continued rhyme, for the sake of which the sense is often interrupted, and unnecessary repetitions are too frequently made. But this kind of jingling delights the Arabians; and they are fond of employing it in their most elaborate compositions; which they embellish with frequent citations from the Koran, and allusions to it. To this pomp and display of expression, some have ascribed the whole force and effect of the Koran, whilst others suppose that the sensual pleasures of paradise, which are so often displayed to the imagination of the reader, are the chief allurements to which it owes its efficacy.

"By the advocates of Mahometanism," says a learned and ingenious writer, "the Koran has been always held forth as the greatest of miracles, and equally stupendous with the act of raising the dead. The miracles of Moses and Jesus, they say, were transient and temporary; but that of the Koran is permanent and perpetual; and therefore far surpasses all the miraculous events of preceding ages. We will not detract from the real merit of the Koran; we allow it to be generally elegant, and often sublime; but at the same time, we reject with disdain its arrogant pretensions to any thing supernatural." "The real excellence of the work is to be referred to natural and visible causes." Besides the general impressions of admiration and astonishment, which the pretended prophet had produced on the minds of his followers, by the exterior sanctity of his demeanour, and his long and splendid series of victories, Mahomet found, in the language of Arabic, a language extremely loved and diligently cultivated by the people, whom it was so peculiarly adapted to; which were never enjoyed by any former or succeeding possessor. It requires not the eye of a philosopher, to discern in every sentence, counter a principle of national pride; and to see how much for every age, in the history of the Arabian, and how much for every age, in the history of the human race, to have confined in the knowledge and improvement of their own language. The Arabic, which has been ever esteemed the most copious of the eastern tongues; which had existed from the remotest antiquity; which had been embellished by numberless poets, and refined by the constant exercise of the natives, was the most successful instrument which Mahomet employed in planting his new religion among them. Admirably adapted by its unvalued harmony, and by its endless variety to

the feelings to expression, and to pursue the imagination in its unbounded flight; it became in the hands of Mahomet an irresistible charm, to blind the judgment, and to captivate the fancy of his followers.

"Of that description of men, who first composed the adherents of Mahomet, and to whom the Koran was addressed, we are not able to give a very accurate idea of the simplicity of the sentiments, or of the beauties of the diction: but all could judge of the military abilities of their leader; and in the midst of their admiration, it is not difficult to conceive, that they would ascribe to his compositions every imaginary beauty of inspired language. The shepherd and the soldier, though awake to the charms of these wild but beautiful compositions, in which were celebrated their favourite occupations of love or war, were yet little able to criticise any other works than those which were addressed to the imagination or the heart; to debate on reasons, or the attributes and dispensations of the Deity, to the comparative excellencies of rival religions, to the consistency of any one religious system in all its parts, and to the force of its various proofs, they were quite inattentive. In such a situation, the appearance of a work, which possessed something like wisdom and confidence; which prescribed the rules, and illustrated the duties of life; and which contained the principles of a new and comparatively sublime theology, independently of its real and permanent merit, was likely to excite their astonishment, and to become the standard of future composition.

"In the first periods of the literature of every country, something of this kind has happened. The father of Grecian poetry very obviously influenced the taste and imitation of his countrymen. The modern nations of Europe all possess some original author, who, rising from the darkness of former ages, has begun the career of composition, and tinctured with the character of his own imagination the stream which has flowed through his posterity. But the prophet of Arabia had, in this respect, advantages peculiar to himself. His compositions were not to his followers the works of man, but the genuine language of heaven which had sent him. They were not confined, therefore, to that admiration, which is so liberally bestowed on the earliest productions of genius; or to that fond attachment with which men every where regard the original compositions of their country; but with their admiration they blended their piety. To know and to feel the beauties of the Koran, was in some respect to share in the temper of heaven; and he who was most affected with admiration in the perusal of its beauties, seemed most fitly the object of that mercy, which had given it to ignorant men. The Koran, therefore, became naturally and necessarily the standard of taste. With a language thus hallowed in their imaginations, they were too well satisfied, either to dispute its elegance, or improve its structure. In succeeding ages the additional sanction of antiquity or prescription, was given to those compositions which their fathers had admired; and while the belief of its divine original continues, that admiration which has thus become the test and the duty of the faithful, can neither be altered nor diminished.

"When, therefore, we consider these peculiar advantages of the Koran, we have no reason to be surprised at the admiration in which it is held. But, if descending to a more minute investigation of it, we consider its perpetual inconsistency and absurdity, we shall indeed have cause for astonishment at that weakness of humanity, which could ever have received such impositions as the work of the Deity.

"The

"The first praise of all the productions of genius is invention, that quality of the mind, which, by the extent and quickness of its views, is capable of the largest conceptions, and of forming new combinations of objects, the most distant and unalike. But the Koran bears little impression of this transcendent character. Its materials are wholly borrowed from the Jewish and Christian scriptures, from the Talmudical legends, and apocryphal books then current in the east, and from the traditions and fables which flourished in Arabia. The materials, collected from these several sources, are here heaped together, with perpetual and needless repetitions, without any settled principle or visible connection. When a great part of the life of Mahomet had been spent in preparatory meditation on the system he was about to establish, its chapters were dealt out slowly and separately during the long period of 23 years. Yet this defective in its structure, and not less exceptionable in its doctrines, was the work which Mahomet delivered to his followers as the oracles of God.

"The most prominent feature of the Koran, that point of excellence in which the partiality of its admirers has ever delighted to view it, is the sublime notion it generally impresses of the nature and attributes of God. If its author had really derived these just conceptions from the inspiration of that being, whom they attempt to describe, they would not have been surrounded, as they now are on every side, with error and absurdity. But it might easily be proved, that whatever it justly defines of the divine attributes, was borrowed from our holy scripture; which even from its first promulgation, but especially from the completion of the new testament, has extended the views, and enlightened the understandings of mankind; and thus furnished them with arms, which have too often been ineffectually turned against itself by its ungenerous enemies.

"In this instance particularly, the copy is far below the great original, both in the propriety of its images, and the force of its descriptions. Our holy scriptures are the only compositions that can enable the dim sight of mortality to penetrate into the invisible world, and to behold a glimpse of the divine perfections. Accordingly, when they would represent to us the happiness of heaven, they describe it, not by any thing minute and particular, but by something general and great: something, that without descending to any determinate object, may, at once by its beauty and immensity, excite our wishes and elevate our affections. Though, in the prophetic and evangelical writings, the joys that shall attend us in a future state are often mentioned with ardent admiration, they are expressed rather by allusions than similitude, rather by indefinite and figurative terms, than by any thing fixed and determinate. 'Eye hath not seen, nor ear heard, neither have entered into the heart of man the things which God hath prepared for them that love him.' 1 Cor. ii. 9. What a reverence and astonishment does this passage excite in every hearer of taste and piety? What energy, and at the same time, what simplicity in the expression! How sublime, and at the same time, how obscure is the imagery! Different was the conduct of Mahomet in his descriptions of heaven and of paradise. Unassisted by the necessary influence of virtuous intentions and divine inspiration, he was neither desirous, nor indeed able to exalt the minds of men to sublime conceptions or to rational expectations. By attempting to explain what is inconceivable, to describe what is ineffable, and to materialize what in itself is spiritual, he absurdly and impiously desired to sensualize the purity of the divine essence. Thus he fabricated a

system of idolatry, a collection of demerits, that he reported and indeed to the nature of the being whom he pretended to adore, was its object; but that it was more than the food of the appetites and corruption of a sensual and unenlightened mind.

"That I may not appear to have been partial to our scriptures, thus to abuse the Koran, I shall produce a remarkable passage, I shall produce a part of the third chapter of the latter, which is so fully described by the Mahometans, who wear it engraved on their foreheads, and recite it in their prayers.—'God! there is no God but he; the living, the self-subsisting: neither slumber nor sleep seizeth him; to him belong whate'er things are in heaven and on earth. Who is he that can intercede with him but through his good pleasure? He knoweth that which is past, and that which is to come. He extendeth his hand over heaven and earth, and the preservation of both is to him no burden: he is the high, the mighty.' To this description who can refuse the praise of magnificence? Part of that magnificence, however, is to be referred to that verse of the psalmist, whence it was borrowed: 'He that keepeth Israel, shall neither slumber nor sleep.' Ps. cxxi. 4. But if we compare it with that other passage of the same inspired psalmist, all its boasted grandeur is at once obscured, and lost in the blaze of a greater light. 'O my God, take me not away in the midst of my days; thy years are throughout all generations. Of old hast thou laid the foundations of the earth; and the heavens are the works of thy hands. They shall perish, but thou shalt endure; yea, all of them shall wax old, as doth a garment; as a vesture shalt thou change them, and they shall be changed; but thou art the same, and thy years shall not fail.'

"The Koran, therefore, upon a retrospective view of these several circumstances, far from supporting its arrogant claim to a supernatural work, sinks below the level of many compositions confessedly of human original; and still lower does it fall in our estimation, when compared with that pure and perfect pattern which we justly admire in the scriptures of truth. It is then abundantly apparent that no miracle either was externally performed for the support, or is internally involved in the composition, of the Mahometan revelation." White's Sermons, containing a View of Christianity and Mahometanism, in their history, their evidence, and their effects, p. 256-271. Ed. 2.

The general aim of the Koran was to unite the professors of the three different religions, then followed in Arabia, Idolaters, Jews, and Christians, in the knowledge and worship of one God, under the sanction of certain laws, and the outward signs of ceremonies, partly of ancient, and partly of novel institution, enforced by the consideration of rewards and punishments, both temporal and eternal; and to bring all to the obedience of Mahomet, as the prophet and ambassador of God, who was to establish the true religion on earth, and be acknowledged chief pontiff in spiritual matters as well as supreme prince in temporal. The chief point therefore inculcated in the Koran is the unity of God, to restore which the prophet pretended was the chief end of his mission; it being laid down by him as a fundamental truth, that there never was nor ever can be more than one true orthodox religion. The rest is taken up in prescribing necessary laws and directions, frequent admonitions to moral and divine virtues, the worship and reverence of the Supreme Being, and resignation to his will. One of their most learned commentators distinguishes the contents of the Koran into allegorical and literal; under the former are comprehended all the obscure, parabolical, and ungrammatical

requir'd passages, with such as are repealed or abrogated; the latter, such as are clear, and in full force. See *Mahometans*.

Amongst the Mahometans this book is in the greatest reverence and esteem. The Mussulmen dare not so much as touch the Koran without being first washed, or legally purified; to prevent which, an inscription is put on the cover or libel: "Let none touch it but they who are clean." It is read with great care and respect, being never held below the girdle. They swear by it, take omens from it on all weighty occasions, carry it with them to war, write sentences of it in their banners, adorn it with gold and precious stones, and knowingly suffer it not to be in the possession of any of a different religion. Some say that it is punishable even with death in a Christian to touch it: others, that the veneration of the Mussulmen leads them to condemn the translating it into any other language as a profanation; but these seem to be aggravations. The Mahometans have taken care to have their scripture translated into the Persian, the Javan, the Malayan, and other languages; though out of respect to the original, these versions are generally, if not always, interlineated. It has been often published in Europe, in Arabic and in other languages. Maracci published it in Arabic and Latin, at Padua, in 1698, fol. with a partial and often silly confutation. The German translation of Boyssen was printed at Halle, in 1773; the French of Savary, at Paris, in 1782; and the English of Sale, at London, in 1734.

The number of commentaries on the Koran is so large that the bare titles would make a huge volume.—Ben Ofschah has written the history of them, intitled, *Tarikh Ben Ofschah*. The principal among them are, Reidhaori Thaalibi, Zamalchshari, and Bacai.

Beside the Koran which is the basis of the Mahometan faith, they have also a book containing their traditions, which they call *Somna*.

The Mahometans have a *positive* theology, built on the Koran and tradition; as well as a *scholastical* one, built on reason.—They have likewise their casuists, and a kind of canon law; wherein they distinguish between what is of divine, and what of positive right.

They have their beneficiaries too, chaplains, almoners, and canons, who read a chapter every day out of the Koran, in the mosques; and have prebends annexed to their office.—The *kutib* of the mosque is what we call the parson of the parish; and the *sebeis* are the preachers, who take their text out of the Alcoran. See Sale's Translation of the Koran, preliminary discourse.

ALCORAN is also used in a more limited sense, for a portion or chapter of the Koran.

In which sense, the word is synonymous with *sura*.

ALCORAN is also figuratively applied to certain other books full of impieties and impostures.

In this sense we meet with the Alcoran of the Cordeliers, which has made a great noise; wherein St. Francis is extravagantly magnified, and put on a level with Jesus Christ.

ALCORAN, among the Persians, likewise signifies a kind of tower, or steeple, very high and narrow, surrounded without by two or three galleries, one over another; whence the Moravites, a sort of priests, repeat their prayers thrice a day, with a very loud voice; making the tour of the gallery all the while, that they may be the better heard all round.

ALCORANISTS, among Mahometans, those who adhere strictly to the letter or text of the Alcoran, from an opinion of its ultimate sufficiency and perfection. The

Persians are generally Alcoranists, as admitting the Alcoran alone for their rule of faith. The Turks, Tartars, Arabs, &c. besides the Alcoran, admit a multitude of traditions.

The Alcoranists, among Mahometans, amount to much the same with the *textuaries* among the Jews. The Alcoranists can find nothing excellent out of the Alcoran; are enemies of philosophers, metaphysicians, and scholastic writers. With them the Alcoran is every thing.

ALCOUCHETE, in *Geography*, a town of Portugal, in the province of Estremadura, on the south coast of the Tagus, ten miles east of Lisbon. N. lat. 38° 55'. W. long. 8° 26'.

ALCOUTIN, a town of Portugal, in the province of Algarve, on the border of Alentejo, defended by a castle, and containing six parishes. It is situated on the Guadiana, and six and one-half leagues north-north-east of Tavira.

ALCOVE, in *Architecture*, a recess in a sleeping room, made for the purpose of receiving the bed. It is also an arched seat in a garden.

The word is derived from the Spanish *alcoba*, which, according to the older Dictionaries of that language, signifies a vaulted cabinet in a chamber, open on one side, without windows, and large enough to contain a bed. The Spanish word is derived from the Arabic *al kubbeh*, the alcove, the place for the bed, and *alkubbeh* is probably from *alkubbaun* the tent, or more probably from *kbaub*, sleep, *alkhaub*, the bed, *alkaab* the cave. The relation of these words is curious. According to the Spanish description an alcove is not unlike a cave or recess in a rock, in which a wandering Arab might make his abode for the night.

Alcoves in ordinary rooms are square recesses conformable to the definition we have given, and are finished in a stile corresponding with the apartments to which they belong, and with flat or vaulted ceilings, as taste may direct, or the height of the alcove may require. But in chambers of greater magnificence, and rooms of parade, they are not always recesses; but more properly a portion of a large apartment separated from the rest by an arch, or ballustrade, a screen of columns, or some other decorations, and elevated a few steps above the general level of the floor. On this elevated platform, a state bed is usually placed, and sometimes seats and sofas to entertain company. This is what the French architects denominate an alcove. The recess to which the English have appropriated the term, and which is conformable to its primary signification, the French denominate a *niche*, as may be seen in Blondel de la Decoration des Edifices en general. (See Plate I. of Architecture.)

The authors of the Encyclopédie Méthodique are of opinion, that alcoves, were in use among the ancients, and this would be indisputably true if we could receive the term in the lax sense in which they have explained it. But we cannot give the name of alcoves to the enclosures which they mention, consisting of a kind of moveable ballustrade hung round with drapery, and placed in any part of a chamber at pleasure, nor to those draperies supported by terms, or affixed to the wall, which frequently occur in antique basso-relievos. It must be confessed that we know very little of the private apartments of the ancients; yet if a recess for the bed to stand in had been a fashionable feature in a Greek or Roman bed chamber, it is probable that it would have been mentioned by Vitruvius, or others, and especially by Pliny, who is so minute and particular in the description of his Laurentine and Tusculan villas. In each of these villas he describes a small elegant retired closet, furnished with a bed, which by means of glass folding doors and curtains, could be occasionally laid into or separated from the adjoining

ing apartment. These closets appear to have been somewhat similar to alcoves, but they differ essentially from modern alcoves in having windows. The recess discovered by the Abbé Winckelmann, in one of the chambers of Pompeia, in which he conjectures, perhaps rightly, that a bed had been placed, and those recesses which he found on the second story of Adrian's villa, at Tivoli, have better pretensions to the name of alcoves, but something more than a verbal description is wanting to enable us to determine whether they were formed for the express purpose of receiving a bed, or for some other purpose; or whether they were not such accidental recesses as are made by necessity in the arrangement of a building which the architect turns to the best use in his power.

Be this as it may, alcoves, according to the modern manner, undoubtedly originated in Africa, or Asia, for we read of them perpetually in the Arabian stories, and in descriptions of Asiatic palaces and gardens. From Arabia they were introduced among the Spaniards by their Saracen conquerors, and by the Spaniards, after the expulsion of the Moors, at the close of the fifteenth century, into Germany, France, and other nations, as the name they bear in every country sufficiently evinces.

At this time the Spaniards would scarcely have influence enough to make any thing fashionable north of the Pyrenees; but at the period we are speaking of they were held in high consideration, and many of their customs and manners were adopted in the other dominions of Charles the fifth. It is remarkable that in the designs of Palladio, and of several Roman architects of the same age, whose works have been consulted, we find no example of alcoves, from whence it may be inferred that they had not then become fashionable either in Rome or Venice. Whether they were more so in those parts of Italy which were under the dominion of Charles might be an amusing subject of inquiry to an antiquary. It is said that alcoves are still frequent in the houses of the Spanish nobility, and Swinburne mentions two yet remaining in the Royal bedchamber of the Moorish palace of the Alhambra, at Grenada, which are probably the oldest in Europe, though it is uncertain whether their decorations are not of a more modern date, as the apartment was repaired for the use of Philip V. The beds were placed upon raised pavements of blue and white tiles, a fountain played in the middle to refresh the apartment in hot weather, and two small doors behind the alcoves led to the royal baths.

In England, alcoves of every kind have been much in use, but the change of manners, in consequence of the general diffusion of wealth, has nearly banished the most magnificent kind with state beds, and the parade of which they were appendages. Even in private bed-rooms they are now seldom constructed, except to obtain uniformity, or a communication to some other apartment, as they are found less convenient, and by confining the air, supposed to be less healthy to sleep in, than the uncontracted space of the chamber.

ALCOY, in *Geography*, a small town of Spain, in Valencia, at the source of a river of the same name, which traverses the whole province from south-west to north-east. N. lat. $38^{\circ} 45'$. W. long. $0^{\circ} 21'$.

ALCRANES ROCKS lie in a direction north-west from Cape Catoche, the north-east point of the province of Yucatan, on the Spanish main, and about north-north-east from Cape Concedido, the north-west point of Yucatan; extending from N. lat. $22^{\circ} 30'$, to $22^{\circ} 50'$ in breadth, and from W. long. $89^{\circ} 50'$, to $91^{\circ} 10'$ in length.

ALCUDIA, a town of Spain, in Valencia, eight miles north-west of St. Felipe.

ALCUDIA, a small town of Africa, near the Cape of the Three Slaves.

ALCUDIA is also a town of the island of Majorca, on the east coast between Puglierza and Cape de la Piedra, which gives name to a large bay with good anchorage, and a Cape forming the northern limit of the bay. In July and August there is a fishery of coral. N. lat. $39^{\circ} 50'$. E. long. $3^{\circ} 24'$.

ALCUESAR, or **ALGUEZAR**, a town of Spain, in Aragon, upon the river Vero, north of Balbastro, situated in a fertile country. N. lat. 42° . E. long. $0^{\circ} 16'$.

ALCUIN, or **ALBINUS FLACCUS**, in *Biography*, flourished towards the close of the eighth century, and was famous for his genius and erudition. He was born in the north of England, and educated at York, under the direction of archbishop Egbert. Some say that he received part of his education in early life from Venerable Bede, but as he survived him about 70 years, others have disputed this fact. Egbert appointed him keeper of the curious library which he had founded at York; and he was also deacon of the church in this city, and abbot of Canterbury. In 793 he was sent on an embassy by Offa, king of Mercia, to the emperor Charlemagne, who conceived so high an opinion of him, that he solicited him to settle in his court, and to become his preceptor in the sciences, as well as to assist him in settling some ecclesiastical disputes that agitated the country at that period. Accordingly he instructed the emperor in rhetoric, logic, mathematics, and divinity, and was in such high esteem at court that he was called, by way of eminence, "the emperor's delight." Charlemagne likewise employed his learned favourite to write several books against the heretical opinions of Felix, bishop of Urgel, in Catalonia, who maintained that Jesus Christ was the son of God, not by nature but by adoption; and Alcuin accompanied the emperor in 794 to the council of Frankfort, which consisted of 300 bishops, and of which he was admitted a member. Although this council decreed, that Jesus Christ, as man, ought to be called the proper, not the adopted, son of God, the dispute was continued; and Felix being allowed to defend his opinion before an assembly of bishops at Aix la Chapelle, in 799, Alcuin was employed as his opponent, and performed the office to the entire satisfaction of the emperor and other attendants, and to the conviction of Felix and his followers, who were thus induced to abandon their errors and to accede to the opinion of the church. Alcuin performed other services on behalf of religion. He wrote commentaries for explaining the scriptures, but chiefly with a view to the investigation of their mystical meaning; he corrected the errors of the Latin translation in common use; and the first German translation of the scriptures has been ascribed to his direction and superintendence. He was also appointed, in concurrence with Paulus Diaconus, to compile, from the writings of the fathers, homilies or discourses upon select portions of scripture, which the ignorant priests of that period might commit to memory, and recite to the people. Alcuin, under the patronage and with the assistance of Charlemagne, contributed very much to the advancement of learning, by establishing public schools, particularly in France. Cave (*Hist. Lit. tom. i. p. 637.*) says, that France was indebted to Alcuin for all the polite learning of which it boasted in the eighth century and the following ages. The universities of Paris, Tours, Fulden, Soissons, and many others, were indebted to him for their origin and increase; those of which he was not the superior and founder, being

Alcuin, a learned monk, by his doctrine and example, and by his labours, has been the first to draw them from Charles the Great, a great emperor of the Franks, then called the emperor Alcuin, who had been sent into France:

"Quid non Alcuino, sacunda Lutetia, debes!

Quid non hinc illi pueri scilicet, et
Benedicti, presuli, hinc d'pellers, cepit."

"I, O thou great town, nurtur'd in ancient lore,

Thy Alcuin has rais'd a general tribute pay;

Thou hast the light of science to restore,

And bid Barbaric darkness flee away."

Dr. Watson, in *History of English Poetry*, vol. i. ch. 25. characterizes Alcuin as "two magnificent ideas of the great matters of science, who were thus invited into foreign countries to conduct the education of mighty monarchs, and to plan the rudiments of the most illustrious academies. Their merits are in a great measure relative. Their circle of reading was contracted, their system of philosophy jejune; and their lectures rather aimed to stop the growth of ignorance than to produce any positive or important improvements in knowledge." After Alcuin had spent many years in the most intimate familiarity with the greatest prince of his age, he obtained, at length, with great difficulty, in 801, leave to retire from court to his abbey of St. Martin's, at Tours. Here he kept up a constant correspondence by letters with Charlemagne; from which it appears, that both the emperor and his learned friend were animated with the most ardent love to learning and religion, and constantly employed in contriving and executing the noblest designs for their advancement. The emperor often and earnestly solicited him to return to court, but no arguments could induce him to quit this honourable retreat where he was employed in the education of the youth of the school which he had founded in this city; and where he died on Wednesday, in the year 804. He was a person of distinguished piety and learning, and reckoned by William of Malmshury the best English divine after Bede and Aldhelm. He composed many treatises on a great variety of subjects, in a style much superior with respect to purity and elegance to that of the generality of writers in the age in which he flourished. Besides his poem, "De pontificibus et Sanctis Ecclesie Eboracensis," first discovered by Mabillon, and published by Dr. Gale among his "Quindecim Scriptores;" his other writings are extremely voluminous. They consist of commentaries on the Bible, homilies, lives of saints, theological and metaphysical discussions, epistles, verses, and treatises on orthography, grammar, rhetoric, and music; they are recited in the *Biog. Brit.* and by Cave, (*edit. 1697*) and amount in number to 53; and an edition of them was published by Duchesne, at Paris, in folio, in 1617, and at Ratisbon in 1777. Some additional pieces are enumerated by Dupin. It has been said that Alcuin advised Bede to publish his ecclesiastical history, and furnished materials for it; but the assertion is contradicted by chronology; this work having been published in 731. There was another Alcuinus, or Albinus, abbot of St. Austin's church at Canterbury, the cotemporary of Bede, who died three years before him. By this Alcuin Bede was urged to publish his history, and assisted with communications. *Biog. Brit. Henry's Hist.* vol. iii. p. 33—40. 8vo. Mosheim's *Ecl. Hist.* vol. iv. p. 254, &c. 8vo.

ALCYON. See HALCYON.

ALCYON, or ALCYONIUM, in *Ornithology*, a name given by the Romans to the *Alcedo* or king-fisher, and also a species of the *Alcedo*.

ALCYON, a name given by Brown to the *PELECANUS aprilius*.

ALCYONE, in *Entomology*, a species of the *PAPILIO Nymphalis*, with dentated brown wings, with yellow bands, the anterior having two ocelli on both sides, and the posterior marbled below; found in the mountains of the southern parts of Russia.

ALCYONIUM, in the Linnæan system of *Zoology*, a genus of *Zoophytes*; the characters of which are, that the animal grows in the form of a plant; the stem or root is fixed, fleshy, gelatinous, spongy, or coriaceous, with a cellular epidermis, penetrated with stellated pores, and shooting out tentaculated oviparous hydræ. The number of species, mentioned and characterized by Gmelin, is 28; viz. 1. *A. arboreum*, with woody stem, obtuse branches, and pores in the form of pimples, found in Norway, White and Indian seas, sometimes of the human height. 2. *A. exos*, with stem arborescent, coriaceous, crimson-coloured, above ramous, and with stellated papillæ, called by several authors the sea-hand, and found at the bottom of the Mediterranean sea. 3. *A. epipatrum*, with stem, cavated, fleshy, and reddish: the finger-shaped sea-pen of Ellis, and sea mad-apple of Rondeletius, found in the Mediterranean, about four inches long, and of the thickness of the finger. 4. *A. agaricum*, with stem filiform, and reniform pileus, kidney-shaped purple sea-pen of Ellis, found in the sea, washing the coast of Carolina. 5. *A. digitatum*, stemless, oblong, coriaceous, and rugose, dead-man's hand, or dead-man's toes of Ellis; the tethya of Rumphius, and fucus palma marinus of C. Bauhin, found in the European sea, encrusting testaceous fish and stones. 6. *A. schlosseri*, roundish and stupose, penetrated with ray-like stars, the alcyonium ramosum lividum, &c. of Solander and Ellis, the ura marina of Gesner, the botryllus stellatus of Gaertner, found on the coast of Cornwall, brown or ashy, and covering other bodies. 7. *A. lycurium*, globose, fibrous, yellow and warty, the tethya sphaerica of Donat, found in the Mediterranean, and at the Cape of Good Hope, about the size of an orange and cartilaginous. 8. *A. burja*, sub-globose, pulposus and green, the sea-orange of Marfili, found in the English and Mediterranean seas, about the size of a middling apple, and coriaceous. 9. *A. cydonium*, roundish, spongy, yellow and smooth, found in the African, Mediterranean, and Northern seas, affixed to rocks and corals, and sometimes loosened by the agitation of the waves. 10. *A. ficus*, obovated, pulposus and livid, the sea-fig of Ellis, and sea-lungs of Ray, the alcyonium tuberosum of J. Bauhin, found in the Mediterranean and English seas, very rarely among fossils, of an olive colour, and within granulose. 11. *A. gelatinosum*, polymorphous and gelatinous, the alcyonium luteum gelatinosum polymorphum of Solander and Ellis, spongia ramosa, &c. of Parkinson, fucus gelatinosus of Hudson, and fucus nodosus and spongiosus of Ray, found in the European ocean and the icy sea, adhering to the algae, stones, shell-fish, &c. 12. *A. manus diaboli*, polymorphous, perforated with obtuse protuberances, found in Iceland. 13. *A. massa*, yellow, spongy, patulous, with five radiated small stars, and black center, found in the sea of Norway. 14. *A. cranium*, tuberiform, white and bristly, found in the Norway sea. 15. *A. rubrum*, crustaceous, soft, sprinkled with reddish scattered spots, found in the Norway sea. 16. *A. mammillifum*, whitish, coriaceous, with convex mammillæ, and the center hollow and substellated, found in the American sea. 17. *A. ocellatum*, ferruginous, coriaceous, with rugose subcylindric cellules, and radiated ocellated apices, found adhering to rocks, with twelve rays of stars, in the island

of St. Dominica. 18. *A. tuberosum*, yellowish and tuberosous, with the apices frequently subdivided, and tubulous pores, found adhering to rocks in the island of Mauritius. 19. *A. gorgonoides*, cinereous, sandy-fleshy, with radiated warty cellules, found, with 12 rays of cellules, adhering to corals and rocks, in the island of Curassoa. 20. *A. asbestinum*, with a roundish stem, and oblong pores scattered over every part of it, found, in the sea washing the American coast, very porous, whitish and within rose-coloured. 21. *A. alburnum*, white, very ramous, attenuated and subdivided, with tubulous terminal pores, found in the Indian sea. 22. *A. papillosum*, crustaceous, with large papillæ thickly set and convex, the boletus marinus of Marélli. 23. *A. conglomeratum*, gelatinous, convex, with conglomerated fingers, and terminal mouths without teeth, found in the Cornish seas. 24. *A. aspidioides*, crustaceous, coriaceous, with dispersed papillæ, and two subdentated mouths, found in the Cornish seas. 25. *A. synicum*, with many cylindric fleshy stems, and an orifice stellated at the apex, found on the northern shore of Spitzbergen. 26. *A. vermicularis*, green, ramous, with cylindric obtuse pyramidal branches, found on the rocks of the island of Nisita, opposite to Neapolis. 27. *A. stellatum*, with two stellated terminal mouths. 28. *A. corniculatum*, with four stellated mouths, encompassing a papilla, and four small erect terminal horns, found in the sea of Holland.

From a series of experiments made by Mr. Hatchett, on a few species of alcyonium, viz. asbestinum, ficus, and arboreum, he was led to conclude, that they were all composed of a soft, flexible, membranaceous substance, slightly hardened by carbonate, mixed with a small portion of phosphate of lime. Phil. Trans. for 1800. P. ii. p. 364.

ALCYONIUM is also a name given, with various epithets, to the TUBIPORA musica of the Linnæan system, and also to several species of MILLEPORA.

ALCYONIUM is also a name given by Lloyd to a peculiar kind of fossil coral, of the ASTROITES kind, found in Wales. It is very plentiful in that country, and puts on the appearance of a sort of marble, being bedded in a marbly matter for its matrix. Phil. Trans. N^o. 252.

ALCYONIUM MARE, in *Ancient Geography*, a name given to that part of the gulf of Corinth, which stretched itself between the western coast of Bœotia, the northern coast of Megaris, and a small part of Corinth, as far as the promontory of Olmia.

ALCYONIUM was also the name of a lake in Corinth, of unfathomable depth, and which Nero attempted unsuccessfully to found. Bacchus is said to have descended to hell through this lake to bring back Semele. Near this lake was a temple constructed by the Oropians to Amphiarus, the Sorcerer. Pausanias. Ed. Kuhnii. p. 200.

ALDABARAM, in *Osteology*, a name given by some to the sesamoid bones of the great toe.

ALDAN, in *Geography*, a river of Siberia, which rises in the mountains of Okhotsk, on the borders of China, N. lat. 55° 50', and E. long. 125° 14', and taking a north-east course to lat. 63°, changes its direction to west-north-west, and at N. lat. 63° 25', E. long. 128° 24', joins the Lena.

ALDARU, in *Botany*, a name given by Avicenna, Serapion, and other Arabian writers, to the LENTISK tree.

ALDBOROUGH, in *Geography*, a sea-port town of England, in the county of Suffolk, deriving its name from the river Ald, near it, and pleasantly situated between the sea on the east and a high hill on the west, on which the church stands. The fishery of this town in the season is considerable, and near it there is a quay, with warehouses for the fish, and conveniences for drying those of the north-sea. Herrings and sprats are the principal objects of attention;

and it is said that this is the only place for curing red sprats. The town is corporate, and sends two members to parliament. Its markets are on Wednesday and Saturday. It is 94 miles north-east of London. N. lat. 52° 16'. E. long. 1° 42'.

ALDBOROUGH is also a market town in the West Riding of Yorkshire, on the river Ouse, 17 miles north-west of York, and 208 miles north of London. N. lat. 54° 15'. W. long. 0° 20'. It sends two members to parliament. It was formerly a Roman station, called *Ulcinon Brigantum*, and probably the capital of the Brigantes. Its market day is Wednesday.

ALDE, or Oude, a small island on the west-coast of Norway. N. lat. 61° 25'. E. long. 5° 9'.

ALDE, HENRY VAN, in *Biography*, a painter who flourished in 1650, and excelled in portraits.

ALDEA Gallega, q. d. *Gallicum villages*, a small market town of Portugal, in Eribemadura, situate in a kind of island formed by the Tagus, north of Setúbal, and south-east of Lisbon. On an eminence, a league from Aldea Gallega, is a church dedicated to Nossa Senhora da Atelaya, our lady of the watch-tower; to which the negroes in Lisbon annually make a pilgrimage; and this black procession is attended by a great concourse of people. N. lat. 38° 45'. W. long. 8° 31'.

ALDEA el Muro, or del Poco, a town of Spain, in Old Castile, on the frontiers of Aragon.

ALDEA del Rio, a town of Spain, in the province of Andalusia, and district of Cordova, situate on an eminence, to the south of the Guadalquivir; eight miles north-west of Cordova.

ALDEA river is on the coast of Brazil, in about S. lat. 19° 40'. W. long. 40° 5', on which stands the town and port of Reys Magos. There is a large cape to the south of it.

ALDEA de Trinidad, lies on the coast of Brazil, called Paraguay, to the north-east part of the gulf of Santos, in S. lat. 24° 30'. W. long. 46° 30'.

ALDEAS bay is about 16 leagues north-east from Cape Negro, on the southern part of the west coast of Africa, in S. lat. 15° 25'. E. long. 11° 25'. The bay is small but secure; and European ships, trading to the coast for slaves, frequently touch at it.

ALDEBAC, in the *Materia Medica* of the ancient Arabian physicians, the name by which they have called BIRD-LIME, and which they reckoned among the vegetable poisons.

ALDEBARAN, in *Astronomy*, the Arabian name of a fixed star, of the first magnitude, in the eye of the constellation TAURUS, or the bull; and hence popularly called the bull's eye. For the beginning of the year 1800 its

Right ascension was	- -	66° 6' 51", 10
Annual variation in AR.	- -	0 0 51, 31
Declination	- - -	16 5 52, 00 N.
Annual variation in decl.	- -	0 0 8, 3

ALDEBERT, or ADELBERT, in *Biography*, a native of France, who, in the eighth century, deluded the people by pretended visions and revelations. He exerted episcopal dignity without the authority of Boniface, the pope's legate, and among other irregularities, with which he was chargeable, both as to his principles and conduct, he forged a letter, addressed to the emperor, which he pretended to have been written by Jesus Christ, and to have been transmitted to him by the archangel Michael. He also remitted sins without confession, and required his followers to quit the church, and to worship God in houses which he erected in the fields, and to kneel before men, which he placed in woods, and near fountains. His popularity

was the cause of sedition and tumult among the eastern Franks. He was condemned at the instigation of Boniface to perpetual banishment, in a council held at Rome, A. D. 754, and fell into prison, where he probably ended his days. His forged letter was published by Stephen Baluze, in the second vol. of the "Capitularia Regum Francorum." Mosheim's Eccl. Hist. vol. ii. p. 273.

ALDEGO, in *Geography*, a river of Italy, which rises near Montebello in the Vicentin, and joins the Adige in the diocese of Venice, near Zevio.

ALDEPRIFTUS, or **ALDEPRITTUS**, in *Biography*, a learned English physician and mathematician, who died in the year 1538, aged 58 years. He published "Lam. Veneris periculis et salutis exco. Hinc et Saxonia, Primum Alder cardinali." 1597. 4to. See *Alm de Meris*, *Veneris*, p. 17.

ALDEGREVER, *Henry*, a considerable engraver and painter, was born at Zeitz in Weimar, in 1502. He is said to have studied under Albert Durer, at Nuremberg, where he became a pupil. The mathematical part of his engraving is very neat, and executed entirely with the graver, in the style of Albert Durer. The light parts upon his flesh are rendered soft and clear, by the addition of small long dots, which he has occasionally interspersed with judgment. His drawing of the naked figure is more correct than that of the old German masters, and he has less of that stiff taste which appears in the best of their works. It is observed, however, that his figures of men are more correct than those of his women. His heads are in general very expressive, and his other extremities well marked, but sometimes rather heavy. As a painter also, he is spoken of very highly, and considered as nearly if not altogether equal to his master, Albert Durer. His principal works are his own portrait and several others, such as those of Knipendolling, Melanchthon, &c.; the history of Sufannah and the two elders; Dives and Lazarus; the passion of Christ; the labours of Hercules; several Madonnas; many historical subjects; a variety of Goldsmith ornaments, very beautifully engraved; and some few nudités, amongst which is the society of Anabaptists. There is only one etching attributed to this master, which is Orpheus playing on a violin, and Eurydice seated at the foot of a tree, dated 1528. It has been observed, that Aldegrever would have been very eminent in his profession, if in early life he had been introduced to a knowledge of the antique, and a more intimate acquaintance with the Roman masters. This artist has been erroneously called Aldergraft, and his Christian name has been Albert instead of Henry; but his name upon his own portrait is Aldegrever. The time of his decease is not known; but the last date which appears upon his prints is 1558. The number of his plates amounts to no less than 350. Strutt.

ALDEN, FORT, in *Geography*, is situate in Cherry-valley, in the state of New York.

ALDENAH, or ALDENAH, a small town of Germany, in the circle of the Lower Rhine, in a prefecture of the same name, and in the archbishopric of Cologne, situate on the river Ahr, eight leagues south of Cologne. N. lat. 50° 35'. E. long. 6° 43'.

ALDENAU, a small town of the Lower Rhine, and archbishopric of Cologne, in a prefecture of the same name, 10 leagues south of Cologne. N. lat. 50° 29'. E. long. 6° 29'.

ALDENBERG, a town in the circle of Westphalia and duchy of Berg, four leagues north-east of Cologne.

ALDENBORG, a town of ancient Ruslad, now Old Ladoga, which lies in the government of St. Petersburg.

ALDENBURGH, a town in the circle of Upper Saxony, and duchy of Anhalt-Bernburg, two miles north of Bernburg.

ALDENHOVEN, a town of the circle of Westphalia, and duchy of Juliers, three miles west-south-west of Juliers.

ALDER-tree, in *Botany*. See *BETULA*.

ALDER, Unit. See *RHAMNUS*.

ALDERAIMIN, or **ADDERAIMIN**, in *Astronomy*, the Arabian name of a star of the third magnitude, in the left shoulder of the constellation Cygnus, marked α by Bayer.

ALDERBURGH, in *Geography*, a considerable manufacturing village of England, in the county of Wilts. two miles and a half south-east of Salisbury.

ALDERHOLM, an island of Sweden, at the mouth of the river Gelle, in the gulf of Bothnia, formed, as is also Landskron, by the three branches of this river. This island is distant 80 miles north from Stockholm, and has a dock, arsenal, warehouses for deals, &c., and carries on a considerable trade.

ALDERMAN, among our ancient Saxon ancestors, was the second of the three orders or degrees of nobility.

The word, in its original, is *ealdorman*; compounded of *eald*, *old*, or *alder*, *elder*, and *man*, q. d. *elderman*.

Etheling was the first rank of nobility, *alderman* the second, and *thane* the lowest.

It appears, says Mr. Hume (*Hist.* vol. i. p. 476, 8vo.), from the translations of the Saxon annals and laws, and from king Alfred's translation of Bede, as well as from all the ancient historians, that *comes*, in Latin, *alderman* in Saxon, and *earl* in Dano-Saxon, were quite synonymous; and it also appears, (*Id.* p. 201.), that the aldermen or governors of counties, who, after the Danish times, are often called earls, were admitted into the wittenagemot, or great council of the nation, and gave consent to the public statutes. The bishops, together with the alderman or earl, presided in the county-courts, or shiremotes, where all causes, ecclesiastical as well as civil, were decided; but they had no further authority than to keep order among the freeholders and interpose with their opinion. The aldermen received a third of the fines levied in these courts; and as most of the punishments were then pecuniary, this perquisite formed a considerable part of the profits belonging to the office. The alderman, or earl of a shire, appears to have been a person of the highest dignity and greatest power among the Anglo-Saxons; and therefore this office was commonly enjoyed by the thanes of the largest estates and most ancient families. Possessed both of the civil and military government of his shire, the alderman was a little king within his own territories, and assumed the titles of sub-king and prince in subscribing charters and other deeds. When he appeared at the head of the military forces of his shire in times of war, he was called a duke or hieretogen, which signify a general or commander of an army; and was indeed a high and potent prince. In the most ancient times of the Anglo-Saxon government, the aldermen, or earls, were appointed by the king, but towards the conclusion of this period, these great officers seem to have been elected by the freeholders of the shire, in the shiregemote or county-court. To enable them to support their dignity, they enjoyed certain lands, called the earl's lands, besides the fines above-mentioned and several other perquisites. The office of earl was so far from being hereditary in the most ancient period of the Anglo-Saxon government, that it was held only during the good pleasure of the sovereign, and their own good behaviour. But towards the conclusion of this period, the great earls were most commonly, though not always, succeeded by their sons in their earldoms.

of knowledge, and became famous for his learning, not only in England, but in foreign countries; so that several learned men sent him their writings, for his perusal and correction; particularly prince Æthelwold, a son of the king of Scotland, who presented him to give his pieces the last polish, by rubbing off the Scotch rust. Camden says, that he was the first Saxon who wrote in the Latin language, but he must have written and he composed a book for the instruction of his son Æthelstan in the profody of that language. Æthelstan, however, preceded him in Latin verse, as Dr. Warton, (*Hist. of English Poetry*, vol. ii. c. 10.) says. That Aldhelm's Latin compositions, which most of our poets as now live, were deemed extraordinary performances, and excited the attention and admiration of scholars in all other countries. A learned contemporary, who lived in a remote province of a Frankish territory, in a letter to Aldhelm, has this remarkable expression,—"Venerabile Latinis paucioribus nomen" has reached us, even at this distance. Venerable Bede gives the following character of him: that, "he was a man of universal erudition, having an elegant style, and being wonderfully well acquainted with books, both on philosophical and religious subjects." King Alfred the Great declared, that Aldhelm was the best of all the Saxon poets, and that a favourite song, which was universally sung in his time, near 200 years after the author's death, was of his composition. The character of Aldhelm is thus drawn by an ancient chronicler: "he was an excellent harper, a most elegant Saxon and Latin poet, a very skilful chanter or singer, a 'doctor egregius,' or doctor of singular merit, and admirably versed in the scriptures and the liberal sciences." It is related of him, that when he was abbot of Malmesbury, having a fine voice and great skill in music as well as poetry, and observing the backwardness of his barbarous countrymen to listen to grave instructions, he composed a number of little poems, which he sung to them after meals in the sweetest manner; and by these means they were gradually instructed and civilized. William of Malmesbury bears this testimony concerning him, that his style is less lively than may be desired by those who are more attentive to language than matter; but if you examine his writings attentively, you will find in them Grecian acuteness, Roman elegance, and English dignity. After Aldhelm had governed the monastery of Malmesbury about 30 years, he is said to have retired to Sherborne, of which he had been consecrated bishop in 705, and where he died, May 25, A. D. 709. His treatise against the mistakes of the Britons concerning the celebration of Easter, was the means of reconciling many of the Britons to the Catholic usage on this point. He also wrote several other treatises on various subjects, the titles of which are recited in the *Biog. Brit.*: some of which are lost, and others published by Martin Delrio, at Mentz, in 1601, in 8vo.; and by Caninius in the *Bibliotheca Patrum*. His book, written partly in prose and partly in hexameter verse, in praise of virginity, dedicated to Ethelburga, abbess of Barking, was published among Fide's *Opuscula*. *Biog. Brit.* Henry's *Hist.* vol. iv. p. 10—13, 8vo. *Cave Hist. Lit.* sec. xii. vol. i. p. 575, ed. Oxon.

ALDHUN, AETHUNUS or AETHWINUS, the first bishop of Durham, was promoted to the see of Lindisfarne or Holy Island, in 990, the 14th year of the reign of king Ethelred. The legends of the time say, that he was admonished by heaven to quit this station, in which he was harassed by the incursions of the Danish pirates; and that he and the monks, who accompanied him, took with them the body of St. Cuthbert, which had been buried there 112 years, and after wandering about for some time, settled at Dunelm, now called Durham, where he established a city and a ca-

thedral church. Before this time, the town consisted only of a few scattered cottages, and the spot which he selected for the establishment of his colony was covered with wood, which was soon cleared away by the bishop and his followers. In three years the church was completed and dedicated to St. Cuthbert, whose bones were deposited within its walls. From this time the episcopal see was fixed at Durham. Alfred and Edward, the sons of king Ethelred, were educated by this prelate; and when their father was driven from the throne by Swain, king of Denmark, he conducted them, together with queen Emma, into Normandy, to duke Richard, the queen's brother, A. D. 1017. In the next year the bishop was so affected with the news of the defeat of the English by the Scots, that he died a few days after, having enjoyed the prelacy 29 years. Aldhun was of a noble family, but, according to Simeon of Durham, was more ennobled by his virtues and religious deportment. *Biog. Brit.*

ALDII, in *Antiquity*, servants who attended their masters in expeditions to the wars. They were otherwise called *Aldians*, *Aldiansi*, and *Aldionarii*.

ALDPORT, in *Geography*, an ancient name for Manchester.

ALDRED, in *Biography*, an English prelate of the 11th century, was a man of an enterprising and ambitious spirit, and gradually rose from being a monk of Winchester and abbot of Tavistock, to the see of Worcester and the archbishopric of York. Four years after he was promoted to the see of Worcester, which he obtained in 1046, he took a journey through Hungary to Jerusalem, the first adventure of the kind which any Englishman had performed; and upon his return he was deputed by Edward, the Confessor, on an important embassy to the emperor Henry II. On his arrival in England, after some stay in Germany, where he acquainted himself with the church discipline, which he introduced into his own country, he procured the administration of the see of Wilton for three years, during the absence of its bishop, and that of Hereford for four years, after the death of its incumbent. In 1061 he was advanced to the archbishopric of York, and allowed, as it has been said, by means of bribery, to hold the see of Worcester in commendam. Pope Nicholas II., having heard of his simoniacal practices, not only refused him the pall, for which he applied, but deprived him of his other preferments, but being robbed in his way home over the Alps, he was under a necessity of returning to Rome, and by the bold interference of earl Tosti, the pope was prevailed upon to grant him the pall, on condition of his resigning the see of Worcester. Afterwards the king, considering the depredations which the see of York had suffered by the incursions of the Barbarians, permitted Aldred to retain 12 towns or manors belonging to the see of Worcester for his own use. Others, however, say, that he detained them by violence and injustice. The following instance of resolution, and of priestly arrogance, is recorded by his panegyrist Stubbs. The high sheriff having intercepted some provisions, which the archbishop's servants were conveying to the palace at York, and seized them for the king's use, Aldred, instead of seeking legal redress, sent a deputation of clergy and citizens to demand restitution, and enforced the demand by threats of excommunication. Upon the sheriff's refusal, the archbishop, with a train of ecclesiastics, hastened to the king, who was then sitting in council at Westminster, and abruptly addressed him in this imperious language. "Hear me, William! when thou wert an alien, and God had permitted thee, for our sins, and through much blood, to reign over us, I anointed thee king, and placed the crown upon thy head with a blessing; but now, because thou deservest it not, I will change that blessing into a curse against thee, as

a persecutor of God and his ministers, and a breaker and contemner of those oaths and promises, which thou madest unto me before the altar of St. Peter." The king was astonished and terrified, threw himself at the feet of the archbishop, and anxiously entreated to know what offence he had committed. When the nobility who were present expressed their indignation at the prelate's insolence, and at his suffering the king to lie at his feet; "let him alone," said the archbishop; "let him lie; he is not fallen at my feet, but at the feet of St. Peter." At length he raised the king and delivered his complaint; upon which an order was issued, that the goods should be fully restored, and the prelate was sent away loaded with rich presents.

Aldred's versatility of principle was sufficiently manifest in his conduct under the changes of government that occurred during the latter part of his life. When his patron Edward was dead, he assisted Harold in obtaining the crown. On the arrival of William the Norman, when Stigand, archbishop of Canterbury, refused to crown him, Aldred fell in with the stream, and performed the ceremony. Upon the Danish invasion, when the citizens of York, and others, declared for prince Edgar Atheling's title, the archbishop sided with the Danes, and died Sept. 10, 1069, just before the Danes landed; and was buried in the cathedral church of York. Biog. Brit.

ALDRICH, or ALDRIDGE, ROBERT, was bishop of Carlisle, in the reigns of Henry VIII., Edward VI., and Mary, and of course accommodated his principles to the changes of the times. He was born at Burnham, in Buckinghamshire, educated at Eton school, and elected scholar of king's college, Cambridge, in 1507, where he took the degree of master of arts. At this time Erasmus styled him "*blandæ eloquentiæ juvenis*." Leland has also celebrated him for his admirable parts and learning. In 1529 he was incorporated bachelor of divinity at Oxford, and in 1530 he was licensed as doctor in the same faculty. He successively became archdeacon of Colchester, canon of Windsor, and regent of the order of the garter, and at length, in 1537, bishop of Carlisle. He died March 25, 1555, at Horn-Castle, in Lincolnshire, which was a house belonging to the bishops of Carlisle. He wrote several pieces, such as "*Resolutions concerning the Sacraments*," "*Answers to Queries, concerning the Abuses of the Mass*," "*Various Epigrams*," and "*Resolutions*," of some questions relating to bishops and priests, and other matters, tending to the reformation of the church, begun by Henry VIII. Biog. Brit.

ALDRICH, HENRY, an eminent divine and polite scholar, was born at Westminster, in 1647, and educated in the college school, under the famous Busby. In 1662 he was admitted into Christchurch college, Oxford, where he continued, in the several situations and with the appropriate commendations of a diligent student, useful tutor, and excellent master, to the day of his death, Dec. 14, 1710. Having passed through the gradations of bachelor of arts in 1666, and master in 1669, he took orders, and became an eminent tutor in his college. In 1681 he was installed canon of Christ church, and in the same year accumulated the degrees of bachelor and doctor in divinity. During the reign of James II. he bore a conspicuous part in the controversy with the papists, and published several tracts; ranking, according to bishop Burnet, (Hist. of his own Times,) among those eminent English clergymen, "who examined all the points of popery, with a solidity of judgment, a clearness of arguing, a depth of learning, and a vivacity of writing, far beyond any thing that had before that time appeared in our language." Soon after the Revolution, viz. in 1689, Dr. Aldrich was installed dean of Christchurch, in which high station he behaved in the most

worthy and exemplary manner, and exerted himself in promoting learning, virtue, and religion. By his skill in architecture he improved the buildings of the college; and that part of it called Peckwater quadrangle, so deservedly admired, was designed by him. The parish church of St. John's, in Oxford, and the chapel of Trinity College, which he designed, are further specimens of his architecture and knowledge. In order to excite and cherish a taste for polite literature, he annually published some piece of an ancient Greek author, as a new year's gift to the students of his house. The works of this kind which he edited were "*Xenophontis Memorabilia*," Gr. and Lat. Oxon. 1690, 8vo.; "*Xenophontis Sermo de Ageillao*," Gr. and Lat. Oxon. 1691, 8vo.; "*Aristoteli Historia LXXIII. Interpretum*," Gr. and Lat. Oxon. 1692, 8vo.; "*Xenophontis de re equestris lib.*" Gr. and Lat. Oxon. 1693, 8vo.; "*Epictetus et Theophrastus*," Gr. and Lat. Oxon. 1707, 8vo.; "*Platonis, Xenophontis, Plutarchi, Luciani Symposia*," Gr. Oxon. 1711, 8vo. He wrote likewise a system of Logic, intitled "*Artis Logicæ Compendium*," Oxon. 1691, 8vo.; and "*Elements of Geometry*," in Latin, never published. He was also concerned in Gregory's Greek Testament, printed at Oxford in 1703, fol. He wrote notes on Havercamp's edition of Josephus, and in concurrence with bishop Sprat, he revised the MS of Lord Clarendon's History of the Rebellion. The tracts which he published in the popish controversy were, "*A Reply to two Discourses, lately printed at Oxford, concerning the Adoration of our Blessed Saviour in the Holy Eucharist*," Oxford, 1687, 4to.; and "*A Defence of the Oxford Reply, &c.*" Oxford, 1688, 4to.

Dr. Aldrich amused his academic leisure with music and poetry. His abilities as a musician rank him, in the opinion of competent judges, among the masters of the science. He composed many services and anthems for the church service, and adapted English words to many of the motets of the Italian masters, some of which are frequently sung in our cathedrals as anthems. He established a musical school in his college, and at his decease bequeathed to it a most capital collection of church music. Although he chiefly applied himself to sacred music, yet being of a cheerful temper, and possessing a fund of humour, he occasionally diverted himself by producing pieces of a lighter kind. For the entertainment of smokers, to which fraternity he belonged, he composed a smoking catch to be sung by four persons whilst they were smoking; and he was also the author of the popular catch "*Hark the bonny Christ church bells*." As a Latin poet, Aldrich is entitled to some distinction. Two elegant pieces written by him are contained in the "*Musæ Anglicanæ*;" one on the accession of William III., the other on the death of the Duke of Gloucester. The following epigram, intitled, "*Causæ Bibendi*," is also inscribed to him:

"Si bene quid memini, causæ sunt quinque bibendi,
Hospitis adventus, præsens sitis, atque futura,
Aut vini bonitas, aut quælibet altera causa."

Thus translated: "If on my theme I rightly think,
There are five reasons why men drink:
Good wine, a friend, because I'm dry,
Or lest I should be by and by,
Or any other reason why."

The candour of Aldrich's temper, and the moderation of his principles, may be inferred from his having been appointed by William III. in 1689, one of the commissioners for preparing matters towards introducing alterations in the service of the church, and accomplishing a comprehension with

ALE, a popular fermented drink, made from malt and hops; and chiefly distinguished from beer, another potable liquor made from the same ingredients, by the quantity of hops used therein; which is greater in beer, and therefore renders the liquor more bitter, and fitter for keeping. For the method of brewing ale, see *Brewing*. The brewers also distinguish pale, or fine ale, brown ale, &c. Their several properties, effects, &c. see under *MALT-LIQUOR*.

The art of making an infusion of corn, and particularly of barley, similar to our ale, seems to have been known and practised in very ancient times among those people who lived in climates that did not afford grapes. It seems to have passed from Egypt into those western nations, which were settled by the colonies that migrated from the east. The *zythum* and *curmi*, mentioned by Tacitus, as the beverage of the ancient Germans, are supposed by Matthiolus to correspond to our ale and beer. Dioscorus Siculus says (lib. ii. c. 26. tom. i. p. 370.) that the Gauls, who lived in a country that produced neither grapes nor olives, made a strong liquor of barley, which they called *Zythus*. The natives of Spain, the inhabitants of France, and the aborigines of Britain, used this liquor, under the different appellations of *calia* and *coria* in the first country, of *cerevisia* in the second, and of *curmi* in the last; all which names literally denote the *strong water*.

After the introduction of agriculture into this island, ale or beer was substituted for mead, and became the most general drink of all the British nations which practised that art, as it had been of all the Celtic people on the continent. "All the several nations, (says Pliny, H. N. xiv. 29. tom. i. p. 729.) who inhabit the west of Europe, have a liquor with which they intoxicate themselves, made with corn and water, *fruge malida*. The manner of making this liquor is somewhat different in Gaul, Spain and other countries, and it is called by many various names; but its nature and properties are every where the same. The people of Spain, in particular, brew this liquor so well, that it will keep good for a long time. So exquisite is the ingenuity of mankind in gratifying their vitious appetites, that they have thus invented a method to make water itself intoxicate." The manner in which the ancient Britons and other Celtic nations, made their ale is thus described by Isidorus, (Orig. lib. xx. c. 2.) and Orosius, (lib. iv. p. 259.) cited by Henry (Hist. of England, vol. ii. p. 364, 8vo.): "the grain is steeped in water, and made to germinate, by which its spirits are excited and set at liberty; it is then dried and grinded; after which it is infused in a certain quantity of water; which, being fermented, becomes a pleasant, warming, strengthening, and intoxicating liquor." This ale was most commonly made of barley, but sometimes of wheat, oats, and millet. Geopon. lib. vii. c. 34. p. 203. This liquor is of such antiquity in England, that we find mention of it in the laws of Ina, king of Wessex. Ale was the favourite liquor of the Anglo-Saxons and Danes, as it had been of their ancestors, the Germans. Tacitus, de Mor. Germ. c. 23. Before their conversion to Christianity, they believed that drinking large and frequent draughts of ale was one of the chief felicities which those heroes enjoyed who were admitted into the hall of Odin. Amongst the liquors provided for a royal banquet, in the reign of Edward the Confessor, ale is particularly specified. In Scotland and Wales they had two kinds of ale, called common ale and spiced ale; and their value was thus ascertained by law: "if a farmer hath no mead, he shall pay two casks of spiced ale, or four casks of common ale, for one cask of mead." By this law, a cask of spiced ale, nine palms long, and 18 palms in diameter, was valued at a sum of money equal in effect to 7*l*. 10*s*. of our present money; and a cask of common ale, of the same dimensions, at a sum equal to 3*l*. 15*s*. Hence it appears,

that common ale was at this period an article of luxury among the Welsh, and that it was probably obtained by the great and opulent. Was it the intention to have been unknown even to the king of Wales, as it is not mentioned in their laws; though Gladda Carbroon, who died about a century after the conquest, informs us, that there was a vineyard in his time at Maenrper, near Pembroke, in South-Wales. Henry's Hist. vol. ix. p. 393. By a statute of Henry III. in 1212, mentioned by Rymer (Hist. Eng. vol. ii. p. 224.) a brewer was allowed to sell two pence of ale for a penny in cities, and three or four pence in the country price in the country. But the first assize of ale was fixed by the famous Stat. 51 Henry II.

The following method for preserving ale from turning sour in long voyages, was first published by Dr. Stubbs (Phil. Trans. N. 27.) and experienced by several travellers. Take any number of five gallons, after being put in a cask or hop-board not to be filled any more, put in two or three eggs whole, and let them lie in it. In a fortnight or a little more, the egg-shells will be entirely dissolved, and the eggs become like wind-eggs enclosed only in a thin skin; after this the white is preyed on, but the yolks are not touched or corrupted; and by these means the ale has been so well preserved, that it was found better in Jamaica than at Deal.

The duties on ale and beer make a considerable branch of the revenue in England. They were first imposed in 1643, when the excise was first established, again by Car. II. and have been continued by several subsequent acts of parliament. By 27 Geo. III. c. 13, for every barrel of beer or ale, above six shillings a barrel, (exclusive of the duty hereby imposed, and not being two-penny ale, nor table beer) the brewer shall pay eight shillings; and for every barrel of six shillings, or under, (exclusive of the duty) one shilling and fourpence; and for every barrel of beer or ale above six shillings the barrel (exclusive of the duty), and not exceeding 1*s*. (33 Geo. III. c. 23. s. 1.) commonly called table beer, brewed by common brewers, according to 22 Geo. III. the brewer shall pay three shillings; and for every barrel of two-penny ale three shillings and fourpence.

The saccharine matter extracted from the farinaceous seeds, of which ales are made, and subjected to a fermentation analogous to that of wine, imparts to our ales a quantity of alcohol; and they have, therefore, in general, the cordial, exhilarating, intoxicating, and sedative qualities of wine. But their effect, in these respects, depends partly upon the quantity and condition of the saccharine matter that is employed, and partly upon the management of the fermentation to which they are subjected. Barley is chiefly employed for the purpose of making ales, though it might be prepared from any of the cerealia; and this selection is very properly made, because its germination is most easily conducted, and under its germination it gives out its sugar most readily, and in greatest quantity. Ales, made in the ordinary manner, will be stronger or weaker according to the quantity of the saccharine matter that is used; and this will be greater or less according to the quantity of well-ripened farina in the barley that is employed, according to the mode in which it is malted, according to the proper and complete extraction of the saccharine matter by water, and according to the dissipation in a greater or less degree, of a quantity of the superfluous water. The other qualities of ales, besides their strength or weakness, will depend upon the conduct of the fermentation. As the infusion of malt or wort, is not so well disposed to fermentation as the juices of fruits, it will require the addition of a ferment; and afterwards the conduct of the fermentation will be very much the same with that of wines; at first very active, and then slowly protracted for a long time: but however ale is managed,

is a fermentation, and a capability of being rendered into a solid body, and of being dissolved into a liquid one; and a large portion of our alimentary constitution, which of course renders also much more than we are, and they are, *and* *per se*, susceptible to acrimony, and more so than water. It has been commonly supposed, that the viscosity of worts is never entirely corrected by the fermentation; and therefore that ale is more apt than wine to fill the vessels of the human body with viscid fluids; but Dr. Cullen thinks that this circumstance detracts little attention, as it is possible that the power of the gastric fluid, and of the fermentation which happens in the stomach and intestines, reduces the whole nearly to an equality in respect of fluidity. Cullen's Mat. Med. vol. i. p. 413, &c.

Ale, *cerevisia*, is also a denomination given to divers medicated liquors, or diet-drinks, of which ale is the basis or vehicle. The medicinal ales make a large article in our old dispensatories. Such are the *cerevisia oxydiorica*, for the eyes; *cerevisia anti-arthritis*, against the gout; *cerevisia cephalica*, for the head; *cerevisia epileptica*, &c.

Ale, *gill*, is prepared by infusing the dry leaves of gill or ground-ivy, in malt-liquor; which hereby becomes impregnated with the virtues of that simple; and is therefore reputed absterfve and vulnerary, good in disorders of the breast, and against obstructions of the viscera.

Ale, *Dr. Butler's purging*, is prepared of polopody, sena, sarsaparilla, aniseeds, scurvy-grass, agrimony, and maiden-hair, put up in a bag, and hung in a vessel of ale.

We also meet in some dispensatories with syrup of ale, made by boiling that liquor to a consistence; which has been used against obstructions in the kidneys, and the fluor albus.

Ale-beer. See BEER.

ALT-BERRY, is ale boiled with bread and mace; sweetened, strained, and drunk hot.

ALE-CONNER, an officer in the city of London, whose business is to inspect the measures of the public houses. There are four of them: and they are chosen by the common-hall of the city.

Ale-houses must be licensed by justices of the peace, who take recognizances of the persons licensed, viz. 10*l.* each, and of their sureties, 5*l.* each, that they will not suffer unlawful gaming, nor other disorderly practices in their houses. By 35 Geo. III. c. 113. every person, excepting those who sell ale in fairs, who shall sell by retail ale or beer without licence, is liable to a penalty of 20*l.* for the first offence, and for the second shall moreover be incapable of being afterwards licensed to keep an alehouse, with all costs. The licence is granted on the first of September, or within twenty days after, at a general meeting of the justices for the division to which he belongs, upon his producing a certificate to his character, unless, by living in a city or town-corporate, this last circumstance is dispensed with, and continues in force for one year only. Ale-house keepers, selling ale in short measure, are liable to a penalty not exceeding 40*s.* and not less than 10*s.* and likewise to a fine of 10*s.* for permitting tipping, &c. 26 Geo. II. c. 41. 29 Geo. II. c. 12. 5 Geo. III. c. 46. 30 Geo. III. c. 38. and 32 Geo. III. c. 59. By the last act no person can sell wine by retail to be drank in his own house, who has not an ale-licence.

Ale-measure. See MEASURE.

Ale-silver, a rent, or tribute, yearly paid to the lord-mayor of London, by those who sell ale within the city.

Ale-taster, is an officer appointed and sworn, in every court-leet, to take heed that there be a due size, and goodness of bread, ale, and beer, sold within the jurisdiction of the leet.

Ale is used by some of our ancient English writers, and particularly in composition with other words, for festival.

Thus, bridal or bride-ale is the feast in honour of the bride or marriage; leet-ale in some parts of England denotes the dinner at a court-leet of a manor for the jury and customary tenants; lamb-ale is used for an annual feast at lamb-shearing; Whitsun-ale is the name by which in the midland counties the rural sports and feasting at Whitsuntide are denominated; and church-ale was a feast established for the repair of the church, or in honour of the church-faint, &c. See Warton's Hift. of English Poetry, vol. iii. p. 128.

Church-ales, as they are described by Pierce, bishop of Bath and Wells, in his answer to the inquiries of archbishop Laud, are when the people go from afternoon-prayers on Sundays to their lawful sports and pastimes in the church-yard, or in the neighbourhood, or in some public-house, where they drink and make merry. By the benevolence of the people at these pastimes many poor parishes have cast their bells, and beautified their churches, and raised stock for the poor.

Clerk-ales, or lesser church-ales, were so called because they were for the better maintenance of the parish clerk; and there is great reason for them, says his lordship, for in poor country parishes, where the wages of the clerk are but small, the people thinking it unfit that the clerk should duly attend at church, and not gain by his office, send him in provision, and then come on Sundays and feast with him, by which means he sells more ale, and tastes more of the liberality of the people, than their quarterly payment would amount to in many years; and since these have been put down, many ministers have complained to me, says his lordship, that they are afraid they shall have no parish clerks. A *bid-ale* is when a poor man, decayed in his substance, is set up again by the liberal benevolence and contribution of his friends at a Sunday's feast. The people were fond of these recreations, and the bishop recommends them, as bringing the people more willingly to church, as tending to civilize them, and to compose differences among them, and as serving to increase love and unity. But the justices of the peace were of a different opinion, and signed a petition to the king, in which they declare that these revels had not only introduced a great profanation of the Lord's day, but riotous tipling, contempt of authority, quarrels, murders, &c. and were very prejudicial to the peace, plenty, and good government of the country, and therefore they pray that they might be suppressed. Two judges in the western circuit, in 1653, made an order for suppressing them; but Laud complained to king Charles I. of their invading the episcopal jurisdiction, and they were summoned before the council, reprimanded, and enjoined to revoke this order at the next assizes. Neal's Hift. Puritans, vol. i. p. 567, 4to.

ALEA, in *Roman Antiquity*, signifies, in general, games of chance. They were forbidden by the Cornelian, Publician, and Titian laws, except in the month of December. Hor. Od. iii. 24. 58. Martial, iv. 14. v. 85. xiv. 1. These laws, however, were not strictly observed. The character of gamesters, *aleatores* or *aleones*, was held infamous. Cicer. Cat. ii. 10. Pliny, ii. 27.

ALEA, in a more limited sense, is applied by Roman writers to a particular game played with dice, in a pair of tables, somewhat after the manner of our back-gammon, or trictrac. Instead of our men, they played with white and black stones, which were moved this way or that, as the dice directed.

Alea in this sense appears to have been the same game with what the Greeks called *pettia* and *chivia*; the Romans sometimes *tabula*, *teffara*, and XII. *scripta*.

ALEA, the surname of Minerva, given to her by Aleus king of Arcadia.

ALEA, in *Ancient Geography*, a town of Arcadia, south-east of Stymphalus. It was founded by Aleus, and had three

three considerable temples, viz. those of the Ephesian Diana, of Minerva Alea, and of Bacchus. The feast of Bacchus, called *Skierua*, was celebrated every third year; and Pausanias relates, that on this occasion they privately scourged the women at the altar of this deity.

ALEA was also a town of Thessaly, and another of Spain, where Steph. Byz. places the Carpetani.

ALEANDER, JEROME, in *Biography*, was born in 1480, and distinguished himself in the 16th century by his violent opposition to Luther and the Reformation. Luther says he was a Jew, probably on account of his accurate acquaintance with the Hebrew language; but Bayle shews that he was descended from a Catholic family of distinction in Istria. His memory was singularly retentive, and enabled him to acquire not only the Hebrew, Greek and Latin, but also many modern languages. According to Luther, who is contradicted by Bayle, he was at Rome in the pontificate of Alexander VI. and was secretary to the infamous Caesar Borgia. It is acknowledged, however, that he was invited to France by Lewis XII. in 1508, to teach the Belles Lettres in the university of Paris. In this situation he was so much esteemed, that he attracted the attention of Leo X. and by the recommendation of this pontiff he became secretary to the cardinal de Medici; and afterwards succeeded Acciaiolli as librarian of the Vatican. In 1519 he was sent by Leo as his nuncio into Germany; and in the diet of Worms he declaimed for three hours against the doctrine of Luther. Although he declined the contest to which Luther challenged him, he had influence sufficient to obtain an edict, which he himself drew up, for burning his books and proscribing his person. In 1531 he was again nuncio in Germany, and attempted, though unsuccessfully, to dissuade Charles V. from making a truce with the Protestants in this country. Having been created cardinal by Paul III. in 1537, he was sent a third time into Germany, where, as the pope's legate, he exerted himself in checking the progress of the Reformation. Upon his return to Rome he died in 1542, in consequence of taking too many unnecessary medicines, and just as he was finishing a large work against all the professors of literature, which was never published. The works which he has left are a Greek and Latin Lexicon, printed at Paris in 1521, fol. and a Greek Grammar, printed at Strasburg in 1517, 8vo. Luther represents Alexander as a man destitute of principle, of violent passions, insatiable avarice, and licentious conduct; but he was an adversary, and allowance should be made for the feelings and language of resentment. Erasmus speaks with respect of his learning, but complains of his unsteadiness as a friend, of his want of veracity, and of the injury which he suffered from his accusations. Aleander's mortification at seeing the progress of heresy, notwithstanding his utmost efforts to restrain it, is emphatically expressed in the epitaph, which he composed for his own tomb.

"Καὶ θάνατον ἐκ ἀνέμου, οὗ πρῶτον αἶν' ἐπιμαρτύρῃς
Ποῦλιν, ὡπὲρ ἰδὼν ἀλγὺν νῦν βέλεις."

"Not unreluctant I resign my breath,
For to behold life's ills is worse than death."

Gen. Dist.

ALEANDER, JEROME, the *Younger*, the nephew of the former, was by profession a civilian, and a writer of some distinction in the 17th century. He was secretary first to Bandini, and afterwards to Barberini at Rome, and a member of the literary academy denominated Humourists; for which society he wrote several pieces, and one on the device adopted by the society. In the way of his profession he wrote "Commentaries on the Institutes of Caius;" and as an antiquarian he wrote a piece intitled, "Explicatio antiquæ va-

bulae Marmoræ Solis effigie exsculptæ," &c. printed in 4to. at Rome, in 1616, and at Paris in 1617. He also wrote Italian and Latin poems, and some pieces on ecclesiastical affairs. His death, which is said to be owing to excess of eating, happened in 1631; and his funeral, which was magnificent, was conducted and attended by his associates of the academy. Gen. Dist.

ALEATORIUM, in *Roman Antiquity*, was the place where they played at *alea*.

The aleatorium was near the *sphaeristerium*; that the sportsmen, when tired with the pila, or more robust exercises, might refresh themselves in the aleatorium.

ALEBCE, in *Asiatic Geography*, a town of Gaul, supposed to be the same with Albice.

ALEBUS, a river of Spain.

ALEC, in *Ichthyology*, a name given by Gaza, in his commentaries on Aristotle, to the fish called by that author *maius*, and by Ovid *menerela*. It is of the SPARUS kind.

ALECOST. See TANACETUM.

ALECTO, in *Mythology*, one of the three Furies, daughter of Acheron and Night, or of Pluto and Proserpine; she is represented with vipers about her head and wings, and armed with vipers, scourges, and torches. The name denotes envy, or that which has no rest; being derived from a priv. and *λεγω*, I rest. See a fine description of this Fury in Virgil. *Æn.* vii.

ALECTO, in *Entomology*, a species of SPHINX, with the fore wings grey above, and the posterior red, with a black base and margin; found in India.

ALECTOR, in *Ornithology*, a species of CRAX, with a yellow cere, black body, and white belly.

ALECTORIA, derived from *αλεκτωρ*, a cock, in *Natural History*, a stone said to be found in the stomach, liver, or rather gall-bladder of old cocks.

It is ordinarily of the figure of a lupine, and seldom exceeds the bigness of a bean. It has abundance of virtues attributed to it, but most of them are fabulous.

This is otherwise called *alec torius lapis*, sometimes *alec torolithos*, in English the cock-stone.

The more modern naturalists hold the *alec torius lapis* to be originally swallowed down, not generated in the stomach or gizzard of cocks and capons.

ALECTORICARDITES, compounded of the Greek *αλεκτωρ*, cock, and *καρδια*, heart, in *Natural History*, a name given by Plot to a figured stone resembling a pullet's heart, with the fat near the basis of it, and the coronary vessels descended from it.

ALECTORIUS lapis, is used for a small species of *lufonites*, or disjunct segment of a palate of a fish, approaching to the nature of the *Ischodonius lapis*.

ALECTOROLOPHUS, in *Botany*. See BARTSIA, PEDICULARIS, and RHINANTHUS.

ALECTOROMANTIA, from *αλεκτωρ*, a cock, and *μαντις*, divination, in *Antiquity*, an ancient kind of divination, performed by means of a cock.

This art was in use among the Greeks; and the usual manner of it was this. A circle was made on the ground, and divided into twenty-four equal portions, or spaces: in each of which spaces was written one of the letters of the alphabet, and upon each of these letters was laid a grain of wheat. This done, a cock was turned loose in the circle, and careful observation was made of the grains he pecked. The letters corresponding to those grains were afterwards formed into a word; which word was to be the answer desired.

It was thus that Libanius and Janblichus sought who should succeed the emperor Valens; and the cock answering

to the spaces $\odot E O \odot$, they concluded upon Theodora, but by a mistake, instead of Theodorus. The truth of this story is disputed.

There are also other species of *alestereomantia*: in some the augury was taken from the crowing of the cock, wherein regard was had to the time of the day, whether before noon or after; to which some added the consideration of the sign the star was in, and the motion of the moon. Others speak of a kind of *alestereomantia* performed by help of a ring. Phil. Trans. N. 162.

ALECTRA, in *Botany*, a genus of the *dichynamia angiosperma* class and order: its characteristic, that the calyx is a perianthium, one-leaved, two-lipped, upper lip two-cleft, lower three-cleft; the clefts ovate, obtuse, shorter than the tube; the corolla one-petalled, tubular; the tube gradually widened; the border expanding, five-parted; the parts broad-lanceolate, obtuse; the stamina, four filaments, inserted into the tube, filiform, bearded, of the length of the tube, two of them a little shorter, anthers twin; the pistillum, a germ ovate, style filiform, of the length of the filaments, stigma inserted a little shorter than the style, and of the same length, striated on both sides; the pericarpium, a capsule, ovate, obtuse, twin, smooth, two-celled and two-valved; the seeds foliary and ovate. There is one species, viz. *A. Capensis*, a native of the Cape of Good Hope, in grassy places near rivers, flowering in November and December, and growing black in drying. Martyn.

ALECTRUONURUS, *gramen*. See **FESTUCA**.

ALED, in *Geography*, a river of Wales, in Denbighshire, which runs into the Elwy.

A-LEE, in *Sea-Language*, the situation of the helm, when it is pushed down to the lee-side of the ship, in order to put the ship about, or lay her head to the windward. See **TRIM**.

ALECHIMO, in *Geography*, a balia or district of the island Ceylon, situate on the coast, containing 28 villages, and 10000 people.

ALEGAMBE, *Patriar*, in *Biography*, a learned Jesuit, was born at Brüssel in 1592; and having finished his education, entered into the service of the duke of Ossuna in Spain, and accompanied him to Sicily. After he assumed the habit of a Jesuit at Palermo in 1613, he taught philosophy at Gratz in Austria; and became professor and doctor of divinity in 1629. During this period he travelled through Germany, France, Spain and Italy, as tutor to the son of the prince of Eggenberg, a favourite of the Emperor Ferdinand II. and attended him as confessor, in 1658, in his embassy to pope Urban VIII. When this mission was finished, he was retained at Rome by the general of the Jesuits as secretary of the Latin dispatches to Germany, and afterwards appointed president of spiritual affairs, and auditor of confessions in the professed house. He died of the dropsy in 1652. His chief work was a "Bibliothèque des Auteurs Jesuites," printed at Antwerp in 1643; and at Rome, by Sotuel, in 1675. Gen. Dict.

ALEGER, a name given to an inferior sort of vinegar, made of ale, or malt liquor, instead of wine. Power has given a description of the eels in *aleger*. V. Power, Exper. Philos. Obs. 3. p. 32.

ALEGRANZA, in *Geography*, one of the smaller of the Canary islands, situated at the north-east end of the Lance-rota, one of the larger.

ALEGRE, a town of France, in the department of the Upper Loire, and district of Puy-en-Velay, five leagues south-east of Brioude, and four north-east of Puy-en-Velay.

ALEGRETE, a town of Portugal in Alentejo, upon the river Caia, with the title of a marquise, and containing

about 2000 inhabitants; 24 leagues south-east of Pont-Alegre. N. lat. 29° 41'. W. long. 6° 36'.

ALEGINUS, JOHN, in *Biography*, cardinal and patriarch of Constantinople, was a native of Abbeville in Picardy. He was legate à latere in Spain and Portugal, and died in 1240. His works were formerly in estimation, but are now disregarded.

ALEPHORF, in *Botany*. See **CLECHOMA**.

ALEI, in *Geography*, a river of Russia, which runs into the Oby on the left side of it.

ALEUTHA, from *αλευτοι*, *Lavanti*, in the *Materia Medica* of the ancients, a word used for all fatty bodies whatever. The oils of vegetables, and the fat of animals were all called by this general name. But these simple substances were not the only ones called by it, for it is very frequently used to express any sort of medicated oil impregnated with aromatic vegetables; but its general acceptation in this sense, was for such compositions as were intended to anoint the body; and therefore they were properly only vegetable or animal fats impregnated with the lighter parts of plants, and not clogged with an addition of powders, or with wax, or any thing of that kind, which might have given them the consistence of ointments. The ancient physicians were very fond of these compositions, which they applied either to some diseased part only, or to the whole body, and after they had made the patient use the warm bath to relax and open the pores.

ALEIUS CAMPUS, in *Ancient Geography*, a plain of Cilicia, placed by Strabo to the east of Sarus, between Adana and the sea. It is so called from Bellerophon's wandering and perishing there, after being thrown off Pegasus.

ALEKSEVSKI, in *Geography*, a town of Russia, in the government of Simbirsk, 30 leagues south-east of Simbirsk. N. lat. 53° 15'. E. long. 50° 14'.

ALEKSIEPSKOE, a town of Russia, in the government of Saratov, 37 leagues north-east of Saratov.

ALEKSIN, a town of Russia, in the government of Tula on the Occa, nine leagues north-east of Kaluga. N. lat. 54° 44'. E. long. 36° 44'.

ALEMA, a city of Gilead, beyond Jordan, mentioned 1 Maccab. v. 26; and perhaps the same with Helmon-Deblatam.

ALEMAN, Louis, in *Biography*, was born in 1390, and advanced rapidly through several gradations of ecclesiastical preferment to the archbishopric of Arles. He was much respected by Louis III. king of Naples, who, on his account, confirmed the privileges granted to the city of Arles; and he was honoured by pope Martin V. who had employed him in several services, with the dignity of cardinal. After the death of Martin V. he embroiled himself with pope Eugenius IV. by holding the council of Basil, of which he was president, in contradiction to his wishes; and he was excommunicated by this pontiff. He was again restored to his communion and dignities by pope Nicholas V. and sent as his legate into Lower Germany. On his return to his diocese, he was usefully employed in reforming the clergy, and instructing the people. He died at Salon in 1450, and was canonized. With the virtues of an ecclesiastic he united the talents of a statesman. Nouv. Dict. Hist. Gen. Biog.

ALEMAN, LOUIS AUGUSTINE, was born at Grenoble in 1653, where he followed the profession of an advocate. His works were, "Remarks of M. de Vaugelas on the French Language," with a preface by himself; "New Observations, or a Civil War in France upon Language," 12mo. Paris, 1674; "Monastic History of Ireland," 12mo. Paris, 1680; "Historical Journal of Europe for the Year 1694." Nouv. Dict. Hist.

ALEMANNI, **ALLEMANNI**, or **ALEMANS**, in *Ancient Geography*

Geography and History, the denomination of a body of Suevi, who appeared on the banks of the Main, and in the neighbourhood of the Roman provinces, in the eighth or tenth of plunder, or of martial glory, about the year 214, or the 4th of the reign of the emperor Caracalla. *Ulp. Cass. lib. lxxvii. p. 1350.* *Amobius Cassianus*, an original Roman historian, cited by Agathias, (*lib. i. c. 7.*) informs us, that this body of volunteers, which evolved into a great and permanent nation, was composed of many different tribes, and on this account assumed the name of Alemanni, or *Alamanni*, i. e. men of all nations, to denote at once their various lineage, and their common bravery. They consisted chiefly of Suevi, who, in process of time, were joined by several other German nations and some Gauls; for we are told by *Tacitus*, that a considerable number of Gauls, abandoning their own country, went to settle beyond the Rhine, in that territory which had formerly belonged to the Suevi. *Aurelius Victor*, *St. Jerom*, and other writers place them between the Danube, the Upper Rhine, and the Mein, in the present duchy of Wirtemberg. They were numerous and warlike, and were chiefly celebrated for fighting with great dexterity and bravery on horseback. Their abhorrence of slavery was so great, that even those who were taken prisoners by Caracalla chose rather to die than to be sold for slaves: for when they were actually sold, they not only destroyed themselves, but some of them dispatched also their children. *Dion. Cass. lib. lxxvii. p. 86.* Their government was monarchical; and the objects of their worship were the same with those of the other German nations. Caracalla, in consequence of a victory which he gained over the Alemanni, in the year 214, was distinguished by the surname of Alemannicus. In 234, the 13th year of the emperor Alexander Severus, the Alemanni, accompanied with other German nations, passed the Rhine, took possession of the forts on the banks of the river, and ravaged Gaul. Alexander, returning from Persia, hastened to the banks of the Rhine, and as the Alemanni had repassed the river upon the news of his approach, he ordered a bridge to be thrown over, proposing to attack them in their own country. But being assassinated by the mutinous soldiery, at the instigation of Maximinus, this business devolved upon his successor. Accordingly Maximinus pursued them with great slaughter, and took many of them prisoners, with great spoil of corn and cattle; and the advantages he gained were thought to be so considerable, that the senate conferred upon him and his son the title of Germanicus. In the year 256, the fourth of Valerian's reign, the Alemanni made an unexpected irruption into Gaul, and laid waste the country; whilst those who dwelt on the banks of the Danube penetrated through the Rhetian Alps into the plains of Lombardy, advanced as far as Ravenna, and displayed the victorious banners of barbarians almost in sight of Rome. A large army was suddenly convened, at the appearance of which the Alemanni were terrified, and retired into Germany laden with spoil. On another occasion 300,000 of this warlike people are said to have been vanquished in a battle near Milan, by Gallienus, at the head of only 10,000 Romans. Whether we give credit to the relation of this victory or not, Gallienus seems to have formed an alliance with the Alemanni, and protected Italy from their fury, by marrying Pipa, the daughter of a king of the Marcomanni, a tribe of the Suevi, often confounded with the Alemanni. A party of them was defeated by Claudius in 268, and compelled to save themselves by a precipitate flight into their own country. As soon, however, as they heard of the death of Claudius, they prepared for again invading Italy; 40,000 horse appeared in the field, and the number of the infantry doubled that of the cavalry. Their first objects were a few cities

on the Rhetian frontier; but as they perceived they enlarged their views, and they traced a line of devastation from the Danube to the Po. Aurelian, A. D. 270, having collected an active body of troops, marched with silence and celerity along the flanks of the Helvetian forest; and when the Alemanni, laden with the spoils of Italy, arrived at the Danube, the Roman army, which lay concealed, intercepted their return. The dismayed barbarians, enclosed by the Roman legions, and reduced to a condition abject and distressed, sued for peace. Their ambassadors were received by Aurelian with every appendage of dignity; and when they were ordered to rise and allowed to speak, they attempted to extenuate their conduct, and demanded a large subsidy, as the price of the alliance which they offered to the Romans. The emperor's reply was stern and imperious. He treated their offer with contempt, and their demand with indignation; and dismissed them with the choice only of submitting to his unconditional mercy, or awaiting the utmost severity of his resentment. Aurelian, being suddenly called away into Pannonia, committed the destruction of the Alemanni, either by sword or by famine, to his lieutenants. But the barbarians made their escape, and returned towards the mountains of Italy. As soon as the emperor heard that they had liberated themselves, and were ravaging the territory of Milan, he hastened to march to the relief of Italy. The Alemanni, in the mean while, had spread themselves from the Alps to the Apennines; and, by a desultory war, the force of the enemy remained unsubdued. Three considerable battles are mentioned, in which the principal force of both armies was obstinately engaged. In the first battle, fought near Placentia, the Romans received so severe a blow, that the immediate dissolution of the empire was apprehended. But the firmness of the emperor restored in some degree the honour of his arms. The second battle was fought near Fano in Umbria; and here the Alemanni were totally and irretrievably defeated. The flying remnant of their host was exterminated in a third and last battle near Pavia; and Italy was rescued from the inroads of these barbarians. During the alarm which preceded the decisive battle of Fano, the Sibylline books were consulted, A. D. 271; and the ceremonies which were enjoined were punctiliously observed. "These superstitious arts, says Mr. Gibbon, however puerile in themselves, were subservient to the success of the war; and if, in the decisive battle of Fano, the Alemanni fancied they saw an army of spectres combating on the side of Aurelian, he received a real and effectual aid from this imaginary reinforcement." The emperor Probus, A. D. 277, delivered Gaul from the invasion of the Germans, and recovered 70 flourishing cities, which had been oppressed by those barbarians, who, since the death of Aurelian, had ravaged that great province with impunity. Probus pursued his Gallic victories, passed the Rhine, compelled nine of the most considerable princes of Germany to repair to his camp, to fall prostrate at his feet, and to accept such conditions as he thought proper to dictate: and in order to raise a bulwark against their future inroads, he constructed a stone wall of considerable height, and strengthened it by towers at convenient distances. From the neighbourhood of Newstadt and Ratibon on the Danube, it stretched across hills, vallies, rivers, and morasses, as far as Wimpfen on the Neckar, and at length terminated on the banks of the Rhine, after a winding course of near 200 miles. Within a few years after the death of Probus, this wall was overthrown by the Alemanni. In 287 they made another incursion into Gaul, but were defeated by Maximian, who in the following year passed the Rhine, and laid their country waste wherever he came with fire and sword. Dioclesian also at the same time entered Germany

through Rætia, and is said to have extended the confines of the empire to the source of the Danube. In the year 291 the Burgundians seized on part of the country belonging to the Alemanni; and in 301 Constantius Chlorus, the father of Constantine the Great, gained a signal victory over them, on which occasion the Alemanni are said to have lost 60,000 men. Notwithstanding this loss, they did not long remain quiet; for in 310 they again crossed the Rhine, and ravaged the neighbouring provinces; but Constantine marching against them, defeated them in a battle, and obliged them to quit their booty and repass the Rhine. Some say he was called Maximus on account of this victory. In the 18th year of Constantius's reign, the Alemanni again attempted to make an incursion into Italy; and having advanced as far as the lake of Constance, the emperor marched against them, and put them to flight. In the course of the same year another body of them, breaking into Gaul with the Franks and Saxons, took and plundered above 40 towns on the banks of the Rhine, and among these was the city of Cologne, which they almost entirely ruined. They were at length driven out of Gaul by Julian; but assembling near Straßburg, he marched against them, A. D. 357; and after victory had remained for some time in suspense, the Alemanni were entirely defeated, and driven completely out of Gaul. Julian ravaged the countries of the Alemans and their allies for some time, and granted them a truce for ten months. When the truce expired, he passed the Rhine on a bridge of boats, entered their country, and compelled them to sue for peace. Upon the death of Julian they again ravage Gaul; defeat the Romans in a pitched battle, but were afterwards defeated by Jovinus in three battles, A. D. 366. In the close of the following year they again rally, and pass the Rhine; but Valentinian gains a signal victory over them. In 369 Valentinian invades their country; and in 374 concludes a peace with their king Macrianus. In 378 they again pass the Rhine, and waste the neighbouring provinces, but are defeated with great slaughter by Gratian. In 388 they submitted to Maximus, who had usurped the empire in Gaul, and agreed to pay him a yearly tribute. In the reign of Honorius a colony of the Alemanni was allowed to settle in that part of the present Switzerland, which is separated by mount Jura from the Franche Comté, and by the lake of Geneva and the Rhine from the present Savoy and province of Vienne. About the year 411 the country bordering on the lake Lemanus, or the lake of Geneva, was, according to Servius, inhabited by the Alemanni. In 477 Audoacrius, king of the Saxons, and Childeric, king of the Franks, marched against those who had settled among the Alps, and put many of them to death. Upon the destruction of the western empire, the Alemanni subdued that part of Gaul, which is now known by the name of Alsace, where they settled. These were joined by their countrymen in Germany, and those who dwelt between Mount Jura and the lake of Geneva; and in 496 entered Germania secunda, and wasted the country; but they were overcome by Clovis, king of the Salian Franks, and dispersed. Those who settled in Alsace and near the lake of Geneva acknowledged him for their king. Others took refuge in Rætia and Noricum, where they were allowed by Theodoric, king of Italy, to reside. Many of them were transplanted by the same prince into Italy, and the rest were permitted to settle between the Alps and the Danube. From this time the Alemanni had no king of their own; but continued, as they were dispersed in several countries, subject partly to the Ostrogoths, who were masters of Italy, and partly to the Franks, who had dominion in Gaul. When the Ostrogoths ceded their territories out of Italy to the children of Clovis,

the Alemanni, those excepted whom Theodoric had transplanted into that country, submitted to the Franks. Gibbon's History, &c. vol. i. p. 417, &c. Vol. ii. p. 21, &c. Anc. Un. Hist. vol. xvii. p. 288—299.

ALEMANNIA, or ALEMANIA, in *Ancient Geography*, a name given to Germany, which was not known before the time of the Antonines, and then applied only to a part of it. The appellation is derived from the ALEMANNI.

ALEMBERT, JOHN LE ROND D', in *Biography*, an eminent mathematician and philosopher, and an elegant writer, was born at Paris, November 16, 1717. His surname D'le Rond was derived from that of the church near which he was exposed as a foundling by his mother, who is said to have been Mademoiselle Tencin, sister of the Abbé, afterwards Cardinal, Tencin. His father Des-touches Canon, hearing of his situation in the house of a glazier, with whose wife he was put to nurse, yielded to the impulse of affection and duty, and took measures for his future subsistence and education. In acquiring the first rudiments of education among the Jansenists, he manifested signs of those extraordinary powers, by which he was afterwards distinguished. At the age of 10 years, his schoolmaster declared that he had nothing further to teach him; and during his attention to theological studies, he composed at a very early period, "A Commentary on the Epistles of St. Paul to the Romans," which led the Jansenists to expect, that he would be an able champion in their cause, and become a second Paschal. But pursuing his education at the college of Mazarin, he transferred his attention from theology to mathematics, in which he found greater satisfaction, and in the knowledge of which he afterwards excelled.

Upon leaving the college, he retired to the house of his nurse, for the purpose of enjoying a tranquil retreat, and of prosecuting his studies without interruption. He hoped likewise to testify his gratitude for her former kindness by sharing with her the means of subsistence with which he was provided, and thus contributing to the increase of her domestic comfort. In this obscure situation he lived for many years, with the greatest simplicity, and derived satisfaction to himself from administering to the happiness of those with whom he was connected. His hostess had no just conception of the extraordinary talents of her guest; and she could not help occasionally considering him as still an object of compassion. "You will never," said she one day to him, "be any thing but a philosopher; and what is a philosopher but a fool, who toils and plagues himself, that people may talk of him after he is dead?" With a view to the improvement of his fortune, or rather of the means of comfortable subsistence, he followed the advice of his friends in directing his attention, first, to the law, in which he took his degrees, and afterwards to medicine; but his attachment to mathematics prevailed over every other consideration, and induced him to decline the advantage which he might reasonably expect to derive from any other lucrative profession. At the age of 24, in 1741, he attracted notice by correcting the errors of Reyneau's "Analyse Démonstrée," which was a work of high estimation in the department of analytics; and he was admitted a member of the Academy of Sciences. He then assiduously examined the path in which a body moves in passing obliquely from a rarer into a denser fluid; and this investigation, which he satisfactorily prosecuted, engaged him in extending his views to the forces of moving bodies. The result of his speculations was, his "Treatise on Dynamics;" (*Traité de Dynamique*, 4to, Paris, 1743. Ed. 2. 1758.) in which he separates into two parts the action of the moving powers, and

and considers the one as alone producing the motion of the body, in the second instant, and the other as employed to destroy that which it had in the first. This principle had been applied by M. d'Alembert, so early as the year 1744, to the theory of the equilibrium, and the motion of fluids, (*Traité de l'Equilibre et du Mouvement des Fluides*, Paris, 1744. Ed. 2. 1770.) and the discovery of it was succeeded by a new calculus, the first essays of which were published in a "Discourse on the General Theory of the Winds," (*Reflexions sur la Cause Generale des Vents*, Paris, 4to, 1747.) which the academy of Berlin honoured with the prize-medal in 1746; and at the same time the author was elected an honorary member. This work was dedicated to the king of Prussia, who was terminating a glorious campaign by an honourable peace, in the three following Latin verses:

"Hæc ego de ventis, dum ventorum ocyor alis
Palantes agit Aultriacos Fredericus, et orbi,
Inlignis lauro, ramum prætendit olivæ."

"Swifter than wind, while of the winds I write,
The foes of conquering Frederic speed their flight;
While laurel o'er the hero's temple bends,
To the tir'd world the olive branch he sends."

From this time d'Alembert was ranked among the philosophical friends of Frederic. In 1747 our mathematician applied his new calculus of "Partial Differences," to vibrating chords, and the propagation of sounds. In 1749, he suggested a method of applying his principle to the motion of any body of a given figure; and he also resolved the problem of the precession of the equinoxes; determining its quantity, and explaining the phenomenon of the nutation of the earth's axis, discovered by Dr. Bradley, ("Recherches sur la Précession des Equinoxes, et sur la nutation de l'axe de la Terre, dans la Systême Newtonien," 4to, Paris, 1749.) In 1752 he published a treatise on the "Resistance of Fluids," ("Essais d'une nouvelle Théorie du Mouvement des Fluides," 4to, Paris, 1752.), and about the same time, in the memoirs of the academy of Berlin, "Researches concerning the Integral Calculus." In the same year he published "Elements of Music," designed to explain the principles of Rameau, ("Elémens de Musique, Théorique et Pratique, suivant les principes de M. Rameau éclaircis, développés, et simplifiés, 1 tom. 8vo. a Lyon.") Other pieces, published at various times, in the memoirs of the Academies of Paris and Berlin, were collected under the title of "Opusculs Mathématiques, ou Memoires sur differens sujets de Geometrie, de Méchaniques, d'Optiques, d'Astronomie," in 9 vols 4to. Paris, from 1761 to 1773. He also wrote "Recherches sur differens Points importants du Systême du Monde," Paris, 1754 and 1756, 3 vols. 4to. His "Elémens de Philosophie," was printed in 1759. Besides these separate publications, the Memoirs of the Academy of Paris contain the following pieces, viz. "Précis de Dynamique," 1743; "Précis de l'Equilibre et de Mouvement des Fluides," 1744; "Methode générale pour déterminer les Orbites et les Mouvements de toutes les Planetes, en ayant égard à leur action mutuelle," 1745; "Précis des Reflexions sur la Cause Generale des Vents," 1750; "Précis des Recherches sur la Précession des Equinoxes, et sur la Nutation de l'axe de la Terre dans le Systême Newtonien," 1750; "Essai d'une nouvelle Theorie sur la Resistance des Fluides," 1752; "Précis des Essais d'une nouvelle Theorie de la Resistance des Fluides," 1753; "Précis des Recherches sur les differens Points importants du Systême du Monde," 1754; "Recherches sur la Précession

des Equinoxes, et sur la Nutation de l'axe de la Terre, dans l'Hypothese, de la dissimilitude des Meridiens," 1754; "Reponse à un Article du Mémoire de M. l'Abbé de la Caille, sur la Théorie du Soleil," 1757; "Addition à ce Mémoire," 1757; "Précis des Opusculs Mathématiques," 1761; "Précis du troisième volume des Opusculs Mathématiques," 1764; "Nouvelles Recherches sur les verres Optiques, pour servir de suite à la Theorie qui en a été donnée dans le volume 3^e des Opusculs Mathématiques," premiere mem. 1764; "Nouvelles Recherches sur les verres Optiques, pour servir de suite à la Theorie qui en a été donnée dans le troisième volume des Opusculs Mathématiques," seconde mem. 1765; "Observations sur les Lunettes Achromatiques," 1765; "Suite des Recherches sur les verres Optiques," troisième mem. 1767; "Recherches sur le Calcul Integral," 1767; "Accident arrivé par l'explosion d'une meule d'Emouleur," 1768; "Précis des Opusculs de Mathématiques," 4^e & 5^e vols. leur analyse, 1768; "Recherches sur les Mouvements de l'axe d'une Planete quelconque dans l'Hypothese de la Dissimilitude des Meridiens," 1768; "Suite des Recherches sur les Mouvements, &c.," 1768; "Recherches sur le Calcul Integral," 1769; "Mémoire sur les principes de la Mech." 1769.

The Memoirs of the Academy of Berlin contain the following pieces, viz. "Recherches sur le Calcul Integral, 1^{re} partie," 1746; "Solution de quelques problemes d'Astronomie," 1747; "Recherches sur la Courbe que forme une Corde tendue, mise en vibration," 1747; "Suite des Recherches sur le Calcul Integral," 1748; "Lettre à M. de Maupertuis," 1749; "Addition aux Recherches sur la Courbe que forme une Corde tendue, mise en vibration," 1750; "Addition aux Recherches sur le Calcul Integral," 1750; "Lettre à M. le Professeur Formey," 1755; "Extr. de Differ. Lettres à M. de la Grange," 1763; "Sur les Tautochrones," 1765; "Extr. de Differ. Lettres à M. de la Grange," 1769. The Memoirs of Turin, contain "Differentes Lettres à M. de la Grange, en 1764 & 1765," en tom. iii. of these memoirs, and "Recherches sur Diff. Sujets de Math." en tom. iv.

The numerous and valuable productions above recited, entitle d'Alembert to rank among the most celebrated mathematicians of the age. But he is no less distinguished by his genius, judgment, and taste, than by his mathematical knowledge; and he is deservedly regarded in France as one of the first writers of that nation. To him the original design of the French Encyclopedia has been generally ascribed; a work which was begun in 1750 by d'Alembert, Diderot, Voltaire, and many other learned men, and which has contributed in a very eminent degree to the diffusion of knowledge. Many of the most valuable articles in mathematics, history, and polite literature, were composed by M. d'Alembert; and the preliminary discourse, concerning the rise, progress, connections, and affinities, of the various branches of human knowledge, will be ever considered by the best judges as the evidence of a well-informed and comprehensive mind, as a specimen of judicious arrangement and correct criticism, and also as a model of just thinking and good writing. Besides the valuable store with which he furnished this treasure of universal science, his talents were displayed in many separate publications on subjects of classical and polite literature. His "Translation of select parts of Tacitus," ("Traduction de divers morceaux de Tacite," in 2 vols. 12mo. afford, says one of his biographers, an elegant specimen of his learning; and his "Memoirs of Christina queen of Sweden," is a masterly piece of biographical writing, in which the author evinces his

acquaintance with the rights of mankind, and his courage in asserting them. His "L'Esprit on the Dispute of Men of Letters, with Persons high in rank and office," exposed the main faults of the former, and the violent tyranny of the latter. A king of the court, who heard the author lecture on the excesses of the deism of the great, and the trifling whims they require of us, said: "If he had consulted me, I could have told him still more of the matter." These pieces, with other essays on subjects of polite literature, "Eloges" on Bernoulli, T. Buffon, Montesquieu, Mallet and Damaleis, and "Elements of Philosophy," were collected into 5 vols. 12mo. about the year 1760, and published under the title of "Melanges de Littérature, d'Histoire, et de Philosophie." In 1765, M. d'Alembert published his "Dissertation on the Destruction of the Jesuits," (De la Destruction des Jesuites.) in 12mo. Paris; a work which not only ridicules, with the keenest satire, the disciples of Ignatius Loyola, but treats with just severity their adversaries, and which exposed the writer to many opprobrious and unmerited reflections. In the year 1772, he was chosen secretary to the Academy of Sciences; and soon after this honour, he formed the design of writing the lives of all the deceased academicians from 1700 to 1771, as a continuation of the "History of the Academy," published by Messrs. Pellisson and d'Olivet. This design he executed in three years, by composing 70 *éloges* or panegyrics, comprised in 6 vols. 12mo. and published at Paris in 1787, under the title of "Histoire des Memoires de l'Académie Française, morts depuis, 1700, jusqu'en 1771." "This collection, notwithstanding some inequalities of style, is justly admired: it abounds with lively portraits, amusing anecdotes, ingenious parallels, and just reflections."

As soon as M. d'Alembert engaged in the design of publishing the Encyclopedia, he emerged from obscurity, and became an object of attention, not only in the circle of his friends, to which he had hitherto been confined, but to the public at large. Whilst many approved and commended both the design and the execution of it, the freedom with which several articles were written, was condemned by others, and subjected M. d'Alembert, as well as others of his colleagues, to considerable obloquy. However, his literary merit was now thought sufficient to entitle him to royal patronage. In 1756 the interest of the minister, Count D'Argenson, obtained for him a pension of 1200 livres. In 1762, he was invited by the empress of Russia to undertake the education of her son, the Grand Duke, with the offer of a salary of 100,000 livres, and other privileges: but this lucrative and honourable office, though enforced a second time by a letter under the empress's own hand, his attachment to his country and friends, and his preference of literary leisure, induced him to decline. The next year he was invited to an interview with the king of Prussia at Wesel: when they met, the king affectionately embraced him; and enquiring of the philosopher, "whether the mathematics furnished any method of calculating political probabilities?" M. d'Alembert replied, "That if such a method existed, it could be of no use to a hero, who could conquer against all probability." The king offered him the presidency of the Academy of Berlin, vacant by the death of Maupertuis. But though the ferment, occasioned in France by some articles in the Encyclopedia, and especially that of Geneva, and the odium he had personally incurred, might have led him to seek an asylum in the court of a philosophical prince, he declined accepting the flattering proposal; nevertheless a correspondence subsisted between the king and him as long as he lived. The letters are published in the "Posthumous works of the

king of Prussia." This correspondence, and that with Voltaire and other eminent persons, his constant intercourse with learned foreigners, as well as distinguished characters at home, and his influence in the academy, concurred to give importance to M. d'Alembert; and though he was called the *Mazarin* of literature, candour leads us to believe that his influence was owing more to his talents, learning, and virtues, than to artful management, and supple address. His abhorrence of superstition and priestcraft, it must be allowed, drove him into the extreme of infidelity; and he was not only lax in his religious principles, but on some occasions indecorous in his mode of attacking doctrines that have been generally received even amongst those who have been accustomed to think freely on the subject of religion. He seems to have adopted that system of deified nature, which bereaves the world of a designing cause, and presiding intelligence; and his zeal in propagating the free notions he had imbibed, actuated by his enmity to the jesuits and clergy, and animated by intercourse with confidential friends of the same description, sometimes received a check, and required a lesson of moderation even from the philosopher Frederic. "The eccentricity of his opinions," says a liberal biographer, "did not, however, destroy the virtues of his heart. A love of truth, and a zeal for the progress of science and freedom, formed the basis of his character: strict probity, a noble disinterestedness, and an habitual desire of obliging, were its distinguishing features. Many young people, who discovered talents for science and learning, found in him a patron and guide. To worthy men, even in adversity and persecution, he was a firm and courageous friend. To those who had shewn him kindness, he never ceased to be grateful. Gratitude induced him to dedicate two of his works to two ministers, when they were in disgrace, the Count d'Argenson, to whom he owed his pension, and the Marquis d'Argenson, who had given him many proofs of respect and esteem. When in early life, Mad. de Tencin, informed of his singular talents, came to him, and fondly caressing him, discovered to him the secret of his birth: "What do you tell me!" he cried out: "Ah! you are but a step-mother; it is the glazier's wife who is my mother." Through life he retained for his nurse the affectionate sensibility of a grateful son. He remained in her house near 30 years; and did not leave it till in 1765, after a long illness, his physician represented to him the necessity of removing to a more airy lodging. His health being recruited, he continued to occupy his honourable station among philosophers, till the 29th of October, 1783, when, in the 66th year of his age, he expired; leaving behind him the reputation of amiable virtues and eminent talents. Perhaps no character has ever appeared, which has more completely exemplified the union of strong mathematical genius with an elegant taste for polite literature." His eulogium by Condorcet is published in the "Hist. de l'Acad. Royale des Sciences," 1783. Monthly Rev. vol. lxxvi, p. 238. Nouv. Dict. Hist. Hutton's Math. Dict. Gen. Biog.

ALEMBIC, *Limbec, Alambic*, Fr. An alembic is one of the numerous articles of DISTILLATORY apparatus. In the English laboratories and manufactories its use is almost superseded by the retort and still; but on the continent, especially in France, it continues to be the favourite vessel for distillations in the large way. The French indeed appear to have no word in their language synonymous with the English one still, and hence the difference between these two vessels is but very imperfectly noticed even in their best authors. As distillation depends on the separation of the volatile from the more fixed parts of a compound by the action of fire, it is obviously essential to

every apparatus for this purpose that it should consist of at least two parts; the one for the reception and heating of the matter to be distilled, and the other for the collection and condensation of the more volatile part when in a state of vapour. Of all the vessels devised to this use the alembic is the simplest and the most ancient.

Both Dioscorides and Pliny mention the *ambix* (ambix) which is described by the latter of these writers, as a hemispherical iron cover, luted upon the earthen pots in which mercury was procured by the distillation of cinnabar: it is probable, however, that the ambix was in the time of Pliny a more plain still, without any beak or gutter, since he mentions the mercury being wiped off in small drops from the inside of the vessel, the necessity of which manipulation would be superseded by the invention of a beak. The alchemists having adopted this instrument, prefixed the Arabian article *al* to its name, and made considerable alterations in its form. Their object in all distillations and digestions being to separate, as much as possible, the most volatile products from those that are less so, they imagined that the greater distance which the vapour had to pass through, in its passage from the boiler to the condenser, the more perfectly would the spirit or quintessence be dephlegmated; for this purpose the body of the alembic was made of a globular form, terminating above in a long narrow neck, to the end of which was luted the capital; (Chemistry, plate iii. fig. 10. A. the body, B the neck, C the capital) sometimes for the purpose of more effectually keeping down the impure particles, the neck was bent in a zig zag or spiral direction. The characteristic difference between an alembic and a still seems to be in the construction of the head or capital, which in the alembic is contrived not merely to collect, but to condense the vapour; whereas, the corresponding part of a still serves merely to collect the vapour, which is transmitted in an elastic state through the beak, and condensed in the worm. In the figure already referred to, the distance between the body and the capital is so great, that much of the heat must be given off from the vapour before it arrives in this part; the mere refrigerating power, therefore, of the atmosphere is amply sufficient to condense the vapour into drops on the inner surface of the capital, which, trickling down into the channel or gutter at the bottom, are delivered by the beak into any vessel placed to receive them. The length and narrowness, and convolution of the neck were, however, found to condense so much of the vapour before it reached the capital, as to render all processes, in which it was employed, unsufferably tedious; besides requiring so high a heat as to alter and injure the products very considerably; the neck was therefore shortened and made wider, and as in consequence of this the vapour came into the capital more heated than before, it was necessary to substitute a more powerful refrigerating cause to the casual and varying action of the external air; with this intention, the capital of the metallic alembics was inserted into a vessel of water, (fig. 11.) called a refrigeratory, and thus the alembic, as far as concerned the number and general disposition of its parts, was completed.

The glass and earthen-ware alembics soon received all the perfection of form which their materials would allow: the body, instead of being a globe with a long neck, was altered into a cucurbit; and the capital assumed a more conical shape; the two parts of the apparatus were also fitted closely into each other, by grinding with emery. The irregular expansion and contraction of glass by heat, rendered the use of a refrigeratory impossible, so that

when distilling briefly, it is necessary to cover the capital with cloth soaked in cold water and frequently renewed: thus requiring a constant attention, hence more than the risk of cracking the cucurbit, by a drop of cold water falling upon it from the head. On this account, the glass alembic is but little employed, although capable, when skilfully managed, of distilling a much larger quantity in a given time, than a retort of equal capacity. (Fig. 12. A. the body of the cucurbit, B the capital, C the channel, D the beak.)

The metallic alembics being formed of more manageable substances, and being appropriated to large processes, in which economy of time and fuel was of great importance, invited and obtained a number of valuable improvements. The most considerable of these are due to Beaumé, a representation of whose alembic, as further improved by Chaptal, is given in fig. 13. This vessel is composed of three parts; the one marked A is the boiler, being a hollow cylinder of tinned copper, of equal diameter at top and bottom, but bulging out into a shoulder at *g*, by which it is suspended over the furnace; in this part are fixed two handles *a a*, and a short pipe *f*, fitted with a cork, for the purpose of supplying water or any other fluid, without the necessity of taking the apparatus to pieces. B is a cucurbit or *balneum marie* made of tin, of a cylindrical figure, with two handles, and a collar on the outside, which fitting into the inner groove *b*, of the boiler, supports it when suspended within this last. The third part of the apparatus is the capital, a section of which is represented at C: *s* is the collar, by which it is fixed on the inner groove *b*, of the cucurbit B; *k* is the proper capital, in shape a short cone, made of tin, terminating at its base in a circular channel *l*, slightly inclined towards the beak *m*. Surrounding the capital, and closely soldered to it is the refrigeratory *e*, made of copper, and accommodated in shape to the capital; at the bottom is a large stop-cock *p*. For the distillation of water, or of spirits from the wash, where a brisk boiling heat is required, the liquor is put into the boiler, and the cucurbit is omitted; but for the rectification of alcohol and other similar processes, the substance to be distilled is to be put into the cucurbit, and the boiler being filled with water, the heat is conveyed through the medium of this fluid, and of course is more moderate and equal.

Most of the French brandies are prepared in alembics, whereas all British spirits are manufactured in stills; the advantage of the alembic is that less fuel is required, and the spirit is but little exposed to the risk of becoming empyreumatic. Its disadvantage consists in being less expeditious, and in requiring greater accuracy in the temperature of the refrigeratory; if too cold, the vapour is in part condensed before it touches the inside of the capital, and falls back into the boiler; if too hot, a portion of vapour escapes into the air; a greater proportion also of water is required for the condensation of a given quantity of vapour, than where a worm and still is made use of. Encycloped. Method. Art. Alambic.—Beaumé *Elémens de Pharmacie*.—Macquer's *Dict.*—Boerhaave's *Chemistry*.

ALEMBROTH, SALT OF. This term, the use of which is derived from the alchemists, has been successively applied to a variety of preparations and native salts. The general idea which the word seems to convey, is that of a flux or solvent, either to assist in the fusion of metallic ores and earths, or to dissolve obstructions, and attenuate viscid humours in the human body, when employed medicinally. A peculiar earth, found at mount Olympus in the island of Cyprus, was called alembroth, which was

fat to be of a vitreous and abundant nature, and was employed as a medicine as a flux. Probably, however, it was a native fixed salt, as the terms *vitreous* and *abundant* were formerly applied in a very loose manner to the nature of a vitreous nature, and the artificial preparation of a stomach salt, given by the old writers of pharmacy, it contains a fixed alkali.

A *LEMBOETH SALT* is still retained in chemical nomenclature, and is now employed exclusively to express that mercurial salt which arises from the union of corrosive mercurial muriat with muriated ammonia. The ammoniacal salt remarkably increases the solubility of the mercurial, and a solution of the alembroeth salt is generally the form in which the corrosive sublimate is given internally in diseases which require the use of this active medicine. See *MERCURY, (medicine of.)*

ALEMDAR, an officer in the court of the Grand Seigneur, who bears the green standard of Mahomet, when the festival appears in public on any solemn occasion.

ALEMETH, in *Scripture Geography*, a city in the tribe of Benjamin.

ALEMPHON, in *Geography*, a lake of North America in Canada, north of lake Superior.

ALEN, in *Geography*. See AALEN and AHLEN.

ALEA, a river of North Wales, which runs into the Dee, near Wrexham. Alen is also a river of Germany in Lower Saxony, in the district of Calenberg, which rises in mount Soelling, in the district of Corvey, and runs into the sea.

ALEN, VAN, or OOLEN, *John*, in *Biography*, a painter of towns, landscape, and still life, was born at Amsterdam in 1651, and died in 1698. He had no ready talent for invention, but he possessed a very extraordinary imitative genius, so that, in the touch and peculiar tints of colour, he could mimic the work of any master in any style; and as the works of Melchior Hondekoeter were in the greatest repute, he applied himself particularly to imitate and copy his works, which he did so exactly, that connoisseurs were at a loss to determine, whether any picture was Van Alen's or Hondekoeter's. By this practice he gained both money and reputation. Pilkington.

ALENBY, in *Geography*, a town of Norway, 50 miles south of Drontheim.

ALENCON, a city of France, and capital of the department of Orne, situate on the river Sarthe, in an extensive and fruitful plain, which abounds with all sorts of corn and fruit, hemp and pasture. It has a well-fortified castle, and several public buildings. The number of inhabitants was some years ago computed at 10,000. Its commerce consists of linen, lace called *point d'Alençon*, serges, stuffs, leather, &c.; and it has three markets every week. In its vicinity are stones fit for building, and others called flints of Alençon. It is eight leagues north of Moëns, 25 south-west of Rouen, and 35 south-west of Paris. N. lat. 48° 25'. Long. 0°.

ALENÇON is also a small town of Dauphinè, in the generality of Grenoble.

ALENDIN, a town of Africa in the empire of Morocco.

ALENIO, JULIUS, in *Biography*, was born at Brescia, in Venice, travelled into the Eastern countries, and arrived at Maca, in 1610, where he taught mathematics. From thence he went to China, where he was employed for 36 years in the propagation of Christianity. He is said to have been the first who planted the Christian faith in Xanfi, and to have built several churches in the province of Fokien. He died in 1649, and left several works in the Chinese language. *Biog. Dict.*

ALENQUER, in *Geography*, a town of Portugal, in Estremadura, situate on an eminence near a small river, which falls into the Tagus. It is said to have been built by the Alans, being anciently called *Alenker rana*, i. e. the temple of the Alans. It contains about 2500 inhabitants, is a marquise, and has 13 parishes belonging to its district.

ALENSTEIG, a town of Germany, in the archduchy of Austria; four miles south of Bohmish Waidhoven.

ALENT, a town of the archduchy of Austria, four miles west-north-west of Baden.

ALENTAKIE, or ALENTAK, a province of Esthonia, upon the gulf of Finland; the capital of which is Narva.

ALENTEJO, or ALEMTEJO, one of the largest but least populous provinces in Portugal, situate between the rivers Tagus and Guadiana, and extending from the mountains of Algarve on the south, to the frontiers of Estremadura on the north, and from the sea and Tagus on the west, to the borders of Spanish Estremadura and Andalusia on the east. Its length from north to south is computed at 36 leagues, and its breadth from east to west is nearly the same. It is called Alemtejo, i. e. alem do rio Tejo, q. d. beyond the river Tagus, because it lies in that direction with regard to Estremadura and the countries further north. It contains four cities, the chief of which is Evora, 105 towns, 358 parishes, and about 339,355 inhabitants. The towns are very populous; but there is a scarcity of villages, which contribute most to cultivation; and another cause of its scanty population is its always having been the theatre of war between Spain and Portugal. It contains a great number of fortresses, maintains ten regiments of infantry and four of cavalry, which are constantly recruited here, and form a fourth part of the military establishment of the whole country. The lands in this province are far from being well cultivated, being sown only once in three years; though some of our geographers represent it as a fertile province, and call it the granary of Portugal. Its principal products are wheat and barley, and in many places it also affords grapes, olives, and other fruits, as well as game and fish. Some parts yield marble and gems. In this province there are three kinds of soil, viz. fertile black solid fat earth, which is found in the red clay of Elvas, Campomayor, Olivença, Fronteira, Estremoz, Beja, and Serpa; a lighter earth mixed with a little sand, which forms the soil round Evora and Arrayolos, where the bad kinds of wheat, barley and rye, succeed very well, and cork trees and evergreen oaks also grow; and a sandy barren soil, which forms the heaths of Cantarinho, Ponte de Sor, Monte Argil, Tancoes and Vendas Novas, a tract of country about 30 leagues in circumference. At present these heaths, which afford beautiful varieties of heath plants and evergreen shrubs, serve only as pasture for goats; though the clayey soil is very capable of cultivation; as are also marshy tracts which might be drained. The rivers in Alemtejo, particularly in winter, are very rapid, and do much damage. There is a small chain of mountains in this province, about seven leagues long, and two and one-half broad, which runs between the city of Evora and the town of Estremos, and which in reality belongs to the chain of Toledo. The commons are generally covered with cistus, which is used in some parts for heating ovens, and in other parts as pasture for cattle. The whole province is full of vagabond beggars, who beg or steal by day, and at night sleep in the huts of the husbandmen. The nobility keep large herds of sheep and goats, and thus prevent the heaths from being cultivated. The prosperity of this province is impeded also by the luxury of the peasantry, by the number of fast-days, and of religious houses, and by the badness of the roads. The Upper Alemtejo

Alemt-jo would export, and consequently grow, much more corn, if there were but roads for its conveyance. See Link's Journey through Portugal, p. 17—164.

ALEUTS, in *Ancient Geography*, a river of Asia, to the west of Smyrna, according to Pliny. To the waters of it was attributed the virtue of making the hair and skin to grow on different parts of the body.

ALEPPO, in *Geography*, the metropolis of Syria, is deemed, in importance, the third city in the Ottoman dominions. Although it is much inferior to Constantinople and Cairo with regard to situation, magnitude, population, opulence, and courtly splendour, it may be reckoned superior to both these cities in the salubrity of its air, the solidity and elegance of its private buildings, and also the convenience and neatness of its streets. With respect to commercial advantages, it has much declined, but still continues to maintain a trade that is far from being inconsiderable. In Arabic, Aleppo is called *Haleb*, to which is usually added the epithet *Al Shabba*. According to the fabulous history of the Arabian writers, who trace the origin of this city to the migration of the patriarch Abraham into the land of Canaan, who rested for some time on the hill, where the castle of Aleppo is now situated, the appellation *Haleb* is derived from the circumstance of his distributing milk to the poor of a neighbouring village. Their frequent repetition of the words "Ibraheem haleb," or "Abraham has milked," gave occasion, as it is said, to the name *Haleb*, which was conferred on the town that was afterwards built on this spot. The same history refers the epithet *Al Shabba* to a pied cow, which the populace distinguished by its lowing in the herd of the patriarch. Goliut and others, with much greater probability, deduce this term, which denotes a variegated grey and white colour, from the colour of the soil and of the buildings. Some have supposed that Aleppo was the Zobah of Scripture; but it was, more probably, the Berœa of the Greeks. Aleppo is situated, according to celestial observations (see Conn. des Temps. 1792.) in N. lat. 36° 11' 25" and E. long. 37° 9', at a considerable height above the level of the sea, near the river *Kowick*, which runs in a small stream to the west of the city. Its distance from Scanderoon or ALEXANDRETTA, the nearest sea port, is in a straight line between 60 and 70 miles, but in the caravan road between 90 and 100 miles. It is encompassed, at the distance of a few miles, by a circle of hills, which are in general rocky, scantily provided with springs, and totally destitute of trees, but affording good pasture for sheep and goats. Within this circle, there are hills and hillocks, which are intersected by plains and little valleys; the soil of which is in some parts of a reddish or black colour, rich and fertile, but in general whitish, shallow, and mixed with many small stones. This city, including its extensive suburbs, occupies eight small hills, the intermediate vallies, and a considerable extent of flat ground, comprehending in the whole a circuit of about seven miles; though the city itself is not above three and one-half miles in circumference. The wall that surrounds it, which was built, or at least repaired by the Mamaluke princes, is neglected and mouldering into ruin. Besides this wall, the city was formerly defended by a wide and deep ditch, which is now filled with rubbish or converted into garden grounds. It has, at this time, nine gates, two to the south, two to the east, two to the north, and three to the west. One of the northern gates, formerly called the Jews' gate, which the son of Saladin changed into Bab al Nafer, or Gate of Victory, was once, according to the Missionaries, the residence of the prophet Elisha, and it has lamps which are kept constantly burning

in commemoration of that saint. The castle, which stands on a hill near the north-east corner of the city, and which is encompassed by a broad deep ditch, about half a mile in circumference, may be distinguished at a considerable distance; but a traveller, approaching from the west, can scarcely any other part of the city, till he gains the brow of one of the hills within two or three miles of the gates; and thus it becomes an extensive and striking object. The mosques, the minarets, and numerous cupolas, form a splendid spectacle, and the flat roofs of the houses which are situated on the hills, rising one behind another, present a succession of hanging terraces, interspersed with cypresses and poplar trees.

Aleppo is, in general, a well-built city, and the houses within are grand and handsome. The streets are better disposed and broader than those of eastern cities; they are well paved and remarkably clean, and they have a commodious foot-way, on each side, raised half a foot above the other part. The mosques in Aleppo are numerous; of which seven or eight are reckoned magnificent, though none have more than a single minaret, or steeple, whence the people are summoned to prayers. These minarets were first annexed to the mosques, as it is said, by Al Waleed, who succeeded to the Caliphate, in the 86th year of the Hegira. Into these mosques none but Moslems are permitted to enter; and at Aleppo, it is only one of them into the courtyard of which Jews and Christians are allowed admission. The public edifices, next in importance to the mosques, are the KHANES, or CARAVANSARIES, intended principally for the accommodation of strangers, and partly as warehouses for goods. The BAZARS, or Markets, are lofty stone edifices, arranged in the form of a long gallery, arched above or roofed with wood. Of these the principal are situated close to one another, in that part of the city that is contiguous to the great khane; and others are distributed through several parts of the town, and the suburb called Bankusa, where the corn-market is kept. The streets, in which are shops, for the necessaries of life, are also called bazars, and they are defended from the sun by mats spread on wooden rafters, projecting from each side. The bazar gates are regularly shut at sun-set, and watchmen, provided with a pole and a lamp, are stationed for the night within them. These gates are secured merely by wooden locks and keys. There are also gates and watchmen in the principal streets, and by these the town is secured from nocturnal brawls and depredations. The natives, who are habitually sober and regular, retire to their habitations at an early hour, and the dread of being carried by the patrol to the Seraglio, restrains the most riotous from drunken frolics. The public baths, or hammams, do not contribute much to the embellishment of the city, as their fronts to the street are very simple; but the coffee-houses, which are spacious and handsome, and dispersed through all quarters of the town, attract the notice of strangers. They are gaudily painted, and furnished with matted platforms and benches; and those of the better sort have a fountain in the middle, with a gallery for musicians. At certain hours of the day the coffee-houses are full of company, though they are not frequented by persons of the first rank. The dwelling-houses of Aleppo comprehend the seraglios, or palaces, the houses of the opulent merchants, and the habitations of the middling and ordinary people. The seraglio, in which the Bashaw of Aleppo usually resides, is situated near the castle, and is a very ancient and extensive building, surrounded by a strong and lofty wall. The gates of this edifice lead to several interior courts, which are destined for barracks, stables, an hippodrome, and various other offices. The principal build-

ing contains apartments for the bashaw, his harem, household officers, and pages. It consists of three courts, one of which is the dome, where the bashaw gives audience. The whole of the building is much neglected, and if it had not been originally a very substantial edifice, it would long ago have been in ruins. There are five or six other seraglios of more modern date, that are much smaller, well built, and handsomely decorated; they were erected at different periods by former bashaws, and belong to their heirs. They are now occasionally let to such governors as do not chuse to reside in the old seraglio, and to other officers of the Porte, who visit Aleppo on public business. Other buildings, constructed on the same plan with these, though not denominated seraglios, are occupied by the principal agas and effendees.

The roofs of all the houses, those that have domes excepted, are flat, and plastered with a composition of mortar, tar, ashes and sand, which in time becomes very hard. These flat roofs, or terraces, are separated by party walls, and most of the natives sleep on them in the summer. The Franks, who live near one another, have doors of communication, and by means of their own and the bazar terraces, can make a large circuit without descending into the street. The natives have no intercourse by the terrace, and guard by high walls against being overlooked.

To the lower class of strangers, as Arabs, Kurds, and other Turks of foreign extraction, and Armenian Christians, there is appropriated a kind of accommodation, called Keisaria, which is a large area, surrounded by a number of mean, low houses, each consisting of two or three rooms. Other buildings, in the form of a close or court, allotted to weaving and other manufactories, are called by the same name.

The castle of Aleppo is deemed, by the natives, absolutely impregnable; but its walls and turrets are in so bad a state, that a few cannon would soon demolish them. It is, however, of importance as a magazine for military stores in times of war with Persia, for the awe of the city, and an asylum to the magistrates in case of insurrection; as a prison for state criminals, and a place of execution for the Janizaries, when condemned to die. The Aga of the castle is immediately dependent upon the Porte, and subject, only in certain cases, to the bashaw. He commands a numerous garrison; and the private men, with their families, lodge in the castle.

The fuel used at Aleppo is wood and charcoal; and that which is employed in heating the bagnios renders them a public nuisance. This consists chiefly of the dung of animals, the filth of stables, and the pairings of fruit, which, both in drying and burning, are very offensive. Cow dung is seldom used in the city, but by the Arabs and peasants it is used not only as fuel, but for forming a kind of flat pan in which they fry their eggs. Camel and sheep's dung with brushwood, or the stalks of such plants as grow in the Desert, are the common fuel. At Aleppo, in one of the suburbs called Mafhirkah, they have a glass manufactory, and a tannery to the south-west of the town near the river. Their slaughter-houses are situated in an airy field, in the skirts of the suburbs, towards Bankusa, and their principal flesh market is in the suburb called Iideida. They have several lime-kilns near the walls, on the south-west of the city, and a manufactory of cartgut half a mile to the south, which occasionally emits a very offensive stench. Within the walls, they have only one public burial ground besides several private cemeteries; but without the walls the burial grounds are of wide extent round the town, and the white tombs and grave

stones, viewed at a distance, add to the rocky sterile appearance of the country.

The city is supplied with water by means of an aqueduct from two springs, at the distance of about eight miles to the north. This aqueduct, which is said to be coeval with the city, was repaired by the empress Helena, the mother of Constantine, and again repaired and enlarged by the son of Saladin, in 1218. It supplies with water a range of gardens, formed on its banks, and called the gardens of Babullah, which is the name of an adjoining village, and the water is distributed through the grounds by means of small intersecting channels dug in the earth; and regulations are established for its communication in due proportion to different persons. This tract of gardens extends about 12 miles, and generally belongs to some effendee or aga, possessing sufficient authority for the protection of his tenants, or forms a part of some religious estate. The whole extent of these gardens is subdivided into square or oblong fields, bordered with dwarf trees, flowering shrubs, and taller trees, such as the plane, weeping willow, ash, and white poplar. Within these inclosures are cultivated mad-apples, melons, and cucumbers, with a variety of esculent roots, cabbages and greens for the kitchen; in others, cotton, tobacco, sesamum, palma christi, and lucern; and some are sown with barley, which is used in the spring as green fodder for the horses. Among these inclosures are large plantations of pomegranate, plum and cherry trees, and sometimes groves, composed of the various fruit trees which the country produces. The gardens, those of Babullah excepted, are supplied from the river by means of Persian wheels. In most of the gardens, there are summer-houses, furnished with fountains, and with kiosks, or a kind of balconies, projecting over the river. The Aleppo gardens are spoken of with rapture by the natives. They supply the city with greens, and fruits, and contribute both to the health and amusement of the inhabitants, by affording scope for exercise and a pure air.

In the vicinity of the city are many extensive quarries, which afford a gritty stone, when first dug easily cut and indurated by exposure to the air; and the more ancient of these quarries have subterraneous excavations of great length, which serve the Bedoween Arabs for winter habitations, as stables for the camels, and as dens of debauchery to the Janizaries. The marble of Aleppo is of a yellowish colour, but by rubbing it with oil and exposing it to the moderate heat of an oven, it is made to resemble the red marble of Damascus. Aleppo is supplied with salt from an extensive plain at the distance of about 18 miles, called the valley of salt, or salt lake.

Aleppo, though encompassed by hills, is well ventilated, and enjoys a pure penetrating air, which is reckoned so salubrious, that from the end of May to the middle of September, the inhabitants are accustomed to sleep exposed in their terraces, without receiving any injury. The spring here commences early in February, when the fields are covered with an agreeable verdure; the almond tree blossoms about the middle of the month, and is soon followed by the apricot, peach and plum. Early in May the corn begins to be yellow; and a few weeks bring on the harvest, and when the grain has been plucked up by the roots, the whole country bears a parched and barren aspect. Some showers commonly fall in the beginning of June; but from the middle of this month to the middle of September, it is extraordinary to see any rain. The heat of July and August is mitigated by the westerly breezes; but when these fail, the weather becomes extremely hot. When the wind blows from the north, north-west,

north-west, east, north-east, or south-east, the heat is extremely oppressive, and the air is dry and scorching, as if it proceeded from an oven. The eyes, lips, and nostrils are parched, and it produces a lassitude, attended with an oppression at the breast, of which the natives are not less sensible than the Europeans. It is usual to exclude these hot winds by shutting the doors and windows. They do not, however, occur every year, nor do they produce such fatal effects as the desert wind, named *SIMOOLY*. At the end of August the Nile clouds, as they are called, make their appearance, and are often attended with dew. About the autumnal equinox the air is refreshed by showers, which are termed the first rains, and are usually preceded by irregular gusts of wind that raise the dust in vortices. These are succeeded in 20 or 30 days by the second rains, which are more plentiful than the first, and after them the weather becomes variable and much cooler. The transition from the Autumn to the Winter is slower than that from Spring to Summer. The trees retain their leaves till the beginning of December, and the most delicate persons have no fires till the middle of this month. The rigour of winter commences about the middle of December, and lasts forty days; but though there is almost always some frost in winter, many years pass without snow. The narcissus is in flower during the greatest part of the winter, and violets and hyacinths are plentiful in January. Although violent storms of wind are rare at Aleppo, squalls accompanied with heavy showers, and sometimes with thunder, are frequent in the Spring and Autumn. Lightning, unaccompanied with thunder, is frequently seen in the night during the months of September and October; and it is sometimes seen in Summer; but the nocturnal sky, in the hot months, is almost always serene, exhibiting a glorious scene to the astronomer, who may indulge his study, and at the same time enjoy the cool air on the terrace. There are few years in which earthquakes do not occur at Aleppo; but they are generally slight and do no injury.

The nature of the soil near Aleppo has been already mentioned: in the more distant plains, it consists of a reddish, sometimes of a blackish, light mould, and produces the fruits of the earth in great abundance. The fields near the city yield, in consequence of much manure, two or three crops of different kinds every year; but without manure, they are sown only once a year with different sorts of grain alternately, but are seldom suffered to remain fallow. They begin to plough in September; and the plough is drawn by one or two small cows, or by a single ass, in furrows so straight, that one would imagine a line must have been used in tracing them. They sow wheat, barley, lentils, chiches, beans, chickling, small vetch, a small green kidney bean, and Indian millet. The earliest wheat is sown about the middle of October, and barley so late as the end of February. They seldom use the harrow; the grain being covered by reaping the plough along the edge of the furrow; in sandy soil, they sow first, and then plough. The barley harvest commences in May, about 10 or 14 days before that of the wheat, and early in June corn of every kind is taken off the ground. Amongst the reapers in Syria, a custom prevails of accosting a passing traveller and presenting to him a handful of corn, with a general shout; and a small present is expected in return. The corn, when reaped, is carried on asses to the summit of the nearest hill, and being laid on hard even ground, it is separated from the chaff, not by threshing, but by means of a sledge fixed on two or three rollers, and armed with several iron rings, with serrated edges, so sharp as to cut the straw. This machine is drawn by oxen, mules, or asses, and driven by a man seated on the sledge, and as it

passes circularly over the corn spread beneath, the grain, by repeated operation, is trodden out, while the straw is conveyed by the team along. The chaff and bran are then separated from the grain, by the winnowing, which into the air with wooden shovels, when the wind blows moderately. The spikes that have been imperfectly trodden are again sublated to the sledge. When the grain has been afterwards more perfectly winnowed and separated from the straw, it is thrown together in a large heap, and is then divided in a regulated proportion between the husbandman and the landlord. The cattle employed in the harvest are left unmuzzled at the heap, as the Scripture mentions. See Lowth's Com. on Isaiah, ch. xxviii. v. 27. 28. Notes, p. 130. The grain is then removed to granaries, which are subterraneous grottoes, with one round opening at top, which, when the magazine is full, is shut close and covered with earth, and thus completely concealed from the enemy. The corn is chiefly ground in mills wrought by mules, though there are some water-mills upon the river Kowick, and among the lower people by hand-mills. Wind-mills are unknown.

The olives produced at Aleppo resemble the Spanish olives, but are not so large, and the annual produce of them is inconsiderable. The city is supplied with oil from other parts, and particularly from Edlib and adjacent villages, where the olive plantations are more extensive. Large quantities are employed in making soap, and the olive employed in this manufacture are brought from the Desert by the Arabs. The gardens afford several varieties of grapes; those that are ripe appear in the market in September, but the vintage is not at its height till the middle of November. The dried fruit of the vine affords part of the food of the inhabitants; it is eaten with bread and used in sherbets; a large quantity of raisins is also consumed in the distillery, carried on both by Turks and Christians. Aniseed is added in the distillation, and the spirit, which is very strong, is called *araki*. The inspissated juice of the grape is much used by the natives; it is called *dibs*, and much resembles coarse honey in appearance. It is brought to town in goat skins, and serves for the common people instead of honey. The pistachio tree is diligently cultivated, and the nuts reckoned superior to those of any other part of the world. Pliny (lib. xiii. c. 5. lib. xv. c. 24.) says, that pistachios were first brought from Syria into Italy, by Lucius Vitellius, in the reign of Tiberius; and Galen (De Alim. Facult. lib. ii. c. 30.) mentions Berœa as famous for that fruit in his time. Large quantities are exported from hence to Europe. The nuts of the wild pistachio are brought to town from the mountains; the tree not growing near Aleppo. The white mulberry is common in the gardens, and brought to market in May, and the fruit of the red mulberry, which is not ripe till two months later, is delicious. Very little silk is made at Aleppo; that which is exported from hence to Europe, by way of Scanderoon, is chiefly the produce of Antioch and the adjacent mountains, or it is brought to Aleppo from places more distant. The pomegranate is common in all the gardens, and is ripe towards the end of August. The markets are plentifully supplied with several varieties of figs; but the middle sized yellow fig is the most esteemed. The gardens also produce other fruits, as cherries, apricots, peaches, plums, apples, pears, quinces, cornelian cherry, almonds, walnuts, hazelnuts, jujubes and sumach; the former of these two last being much valued as a medicine, and the latter as an ingredient in cookery. Oranges, lemons, and citrons, were formerly produced in the orchards of Aleppo; but as they are not now

cultivated. It has been inferred from this circumstance, that the winters in Syria are now more rigorous than they were in former times; and this is the opinion entertained by the natives. Among the vegetables, which form part of the diet of the inhabitants, the mad-apple (*Solanum Melongena* of Linnaeus), of which there are three varieties, claims a principal place. These are esteemed as vegetables, we shall not notice. Of the vegetables produced in the field without culture there are capers, borage, common mallow, sorrel, dandelion, water cress and truffles. Savory is much used to give a relish to their bread.

The number of inhabitants at Aleppo has been computed at 300,000; but Dr. Russell conjectures, that they do not exceed 150,000. *Journal of a Voyage to Aleppo and Turkey*, 3d. ed. 1780. (Mém. de l'Académie des Sciences, tom. vi. p. 424. Paris, 1785.) The number of houses and public buildings in 1683, amounted to somewhat more than 14,000, and the number of dwelling-houses 14,350. From an account previously given by Dr. Russell, and supposed to be obtained from the office of the Mohassil, the number of houses in 1752, amounted only to 10,742; so that, if these accounts be just, there had been a decrease from 1683 to 1752 of 2,628 houses. M. Volney observes, that as this city is not larger than Nantes or Marseilles, and the houses consist only of one story, it is not probable that the number of inhabitants should exceed 100,000. The language universally spoken by the natives is the vulgar Arabic; and the Turkish, which is spoken by people of condition, and which is the court language used in the seraglio, is said to be corrupted by the concourse of strangers from the northern provinces. The people are generally of a middle stature, rather meagre than corpulent, and neither vigorous nor active. Their complexion is naturally fair, their hair black, or of a dark chestnut colour, and their eyes for the most part black. The females affect to appear full and plump; they use no stays, and wear their girdles very loose. The men gird themselves tightly with a broad belt, and a long shawl cincture. The people that are exposed to the sun become swarthy.

The men dress in the long eastern habit, and during six months in the year wear furs. Under the furs their garments consist of a silk or linen shirt, and drawer; wide trowsers of red cloth, to which are sewed socks of yellow leather, serving for breeches, stockings, and within doors, for shoes; but in walking, they use slippers without heels. They also wear a waistcoat, called a *kunbaz*, that comes lower than the knee, and a long veil reaching down to the heels, which covers all, and is named a *dulaman*. Above the *dulaman*, they have a long Persian shawl, and a belt under the waistcoat, and to this cincture they attach a small dagger or knife, and with men of business it serves to support a silver inkhorn. For an account of the turban, see *TURBAN*. The *Abai* is a silk, or camelot gown, with large sleeves, laced down the seams with a narrow gold lace, which is worn in summer instead of the *kurk*, or loose gown trimmed with furs. *Abai* is the name of the ordinary vestment of the Arabs. The dress of the ladies in many respects resembles that of the men. But their *dulaman* and *kunbaz* fit closer to the shape, and not folding over the breast, leave the neck uncovered. Instead of the costly, long-haired furs of the men, they use sable or ermine, and they are formed in a different fashion. The ladies are fond of thick long hair; and their head-dress, consisting of a warm cloth cap, under cotton and muslin, which compose the rest of the attire, is much warmer than that of the men. They wear ear-rings, a necklace, or collar, of gold, large clumsy gold bracelets, on the wrist and ankles, a string of zechins close to the hair,

on the forehead, and another, very long, across the body in the manner of a sash. Both sexes wear rings on the fingers, and some women wear them on the toes. The use of rouge is very little known; but the women tinge their fingers, hands, feet and toes, of a dusky red or yellow colour, by means of a paste formed of the powdered leaves of henna and water. See *ALCANNA*. The hands and feet are afterwards covered with another paste, composed of flour and water, with crude sal ammoniac and quicklime, which changes the colour into a sort of black or very dark green. They also tinge the inside of the eye-lids with a powder, called *kohol*. See *ALCOHOL*. The women apply another composition called *khatat*, to the eye-brows, which tinges them of a fine black colour, and makes the hair smooth and glossy. It is the custom with the men to let the beard grow, after a certain age, or after performing the pilgrimage to Mecca, and much pains are bestowed upon dressing it; but many of the Turks wear whiskers only. Some conceal the appearance of grey hair by tinging the beard with a black or red dye; the practice, however, is not deemed reputable, and is not common. Persons of both sexes use a variety of perfumes, composed of musk, sandal wood, and spikenard, which they sew up in small bags and carry in the breast pockets. Women of every class, when they go abroad, wear thin yellow boots, reaching up half the leg, and over these yellow babooge or slippers, or in wet weather wooden clogs, called *kabkal*. They never appear in the streets without their veils. The ordinary Aleppo veil is a linen sheet, covering the whole habit from head to foot, and concealing the whole face, except one eye. The veils of the Christians and Jewish women, are formed of plain white callico, which the Turkish women checker with blue and red, and the Jewish women have one arm free, somewhat in the manner of the Scots plaids.

As to the ordinary diet at Aleppo, it consists of a considerable proportion of animal food, which is cut in small pieces and blended with rice, herbs, and strong sauces. The lower people live mostly on rice, butter, milk, new cheese, greens and summer fruits, with a very small proportion of mutton. Their ordinary bread is formed into flat cakes, and made of wheaten flour, not well fermented and ill baked. Loaves of a superior quality are strewed over with the seeds of scumum, or fennel flower. The *PILAW* and *BURGLE* are common dishes. M. d'Arvieux remarks, that a greater quantity of fruit is consumed at Aleppo, than in any three cities in Europe of equal size. The butter brought to Aleppo is made of the milk of goats, cows, sheep, and buffaloes, and is churned in goat-skins, and thus brought to market. Coffee, without sugar or milk, is in use among people of all ranks; this is drank constantly after meals, and in all familiar visits presented with the pipe. It was introduced into Syria about the middle of the 16th century. See *COFFEE*. Tobacco is smoked immoderately by all the men, and by many of the women. Their tobacco is brought from different parts of Syria, particularly from Latachia, and is much milder than the American. See *TOBACCO*. The tobacco pipes are made of the twigs of cherry-tree, almond, rose or jasmine, dexterously straightened and bored, in length from three to six feet, and decorated with silver or gilt ornaments, with mouth-pieces of amber or ivory; the bowl is made of reddish clay and often changed. See *KALIAN* and *NARGEELI*. The practice of taking snuff, though the Porte, about the year 1760, granted a monopoly for making and vending *Rappee* snuff at Aleppo, is much less common than that of smoking. The custom of taking opium is held at Aleppo almost equally scandalous

with that of drinking wine, and is practised by few openly, except by persons regardless of their reputation. The bagnio, or hammam, is much resorted to by persons of both sexes. The people of Aleppo in general lead a sedentary life. Dancing is not reckoned a genteel accomplishment for people of condition, and even among the vulgar it is seldom practised, unless by such as make it their trade. Chess, and a kind of back-gammon, which they are said to have learned from the Persians, are played by both sexes. They have two other games unknown in England, called *mankada* and *tab-waduk*. The former is played by two persons, and the success depends chiefly on memory and a readiness in counting. The latter is a mixed game; the movement of the pawns on the board being determined by casting four small flat sticks, on one side white and black on the other. They are particularly described by M. d'Arvieux and Niebuhr. The Turks play merely for amusement; gaming being prohibited by the Koran. The natives of every denomination observe very regular hours. They rise with the sun, and are in bed between nine and ten at night. The women never appear in the street after it is dark. The coffee-houses, as we have before observed, are not frequented by persons of the first rank, but by all others indiscriminately. They are entertained by a band of music, a puppet-show, and a story-teller. The Aleppens have, in general, a correct ear, and are fond of music. The instrumental music is of two kinds; martial and loud, intended for the field, and the other less sonorous, adapted to the chamber. A band of music, belonging to the castle, smaller than that of the bashaw, performs regularly twice a day from the battlements; and the bashaw's band performs also twice a day in the court of the seraglio. The feasts of the natives, who are frugal in their domestic economy, have every appearance of plenty and hospitality; and all great entertainments are commonly attended by a set of buffoons, who are partly musicians, and others, who for hire assume the character of professed jesters.

The first class of the inhabitants of Aleppo consists of Turks, comprehending all Mahometans, and they amount according to Russell, to about 200,000. These are a mixed race, partly descended from those who inhabited the city before it was subdued by the emperor Selim in 1516; partly from such as came to settle in the new conquest, and from others drawn thither by commerce from most of the Ottoman provinces. They are united under the same government and belong to the sect of **SONNITES**. The merchants at Aleppo are numerous, and some of them are esteemed opulent. The trades are divided into different companies, under their respective masters, or *sheihs* or *sheiks*. The mechanics are, in general, industrious and frugal; and the Aleppens possess the art of tent-making unrivalled; the tents for the sultan and great officers of the Porte being usually made in this city; and many hands are employed in the silk and cotton manufactures. The *keisarias*, or small mean houses, in the city and suburbs, are inhabited by a considerable number of Arabs. These are called *Bidowens* or *Bidouins*, and the men are employed in various kinds of manual labour.

In the suburbs of Aleppo there are many families of **TURKMANS**, who are a stout hardy people, chiefly employed in agriculture, or as camel drivers in the caravans; and there are also a great number of **KURDEENS**, who are similarly employed.

With regard to nuptial contracts and ceremonies at Aleppo, they are similar to those generally observed among the Turks. When a matrimonial engagement is projected, the proposal is intimated to the mother of the intended bride, and the relations on both sides proceed to make the necessary inquiries. If the result prove satisfactory, the young woman

is formally demanded of her parents by the father of the young man. Substitutes are then appointed to stipulate the necessary conditions; and these proxies adjust the sum to be paid to the bride's father, with other articles of the marriage contract. When the money is paid, the contract is regularly signed and sealed, and then the Cadi grants his licence for the marriage. About ten days before the wedding, the bride is invited by her female relations to the bagnio, and there she is entertained till the day preceding the marriage, when they proceed to apply the henna. At Aleppo it is customary for the father of the bride to make some addition to what is paid by the bridegroom, and to lay it out for the benefit of his daughter; but among the Bidowen inhabitants and in the villages, the father usually retains a part of what he received for his daughter; and in this respect they may be said to sell their daughters. The custom of purchasing wives is practised by all the oriental Christians, as well as the Turks, and appears from the sacred writings, to have been the ancient practice. Accordingly, among the Arabs, daughters constitute the riches of a family. On the nuptial day, the women go in procession from the bridegroom's house to fetch the bride, who is brought home amidst the acclamations of the women, accompanied by her mother, and several other female relations. The procession is in the day time, and at Aleppo, they do not carry tapers, as some travellers have reported. On their arrival in the house, the remainder of the day is spent in feasting and music. When the bride, covered with a veil of red gauze, and dressed in her wedding garment, has been introduced to her husband, the relations withdraw, and continue singing and feasting till morning; and the nuptial rejoicings last several days. The mother for the most part suckles her child, unless prevented by incapacity, and the child is seldom kept at the breast less than two years, sometimes three or four; and the mother often suckles during the whole time of pregnancy. During the first week the child is swaddled, and then dressed in clothes which are more loose and easy; and as soon as they are able, they are left at liberty to crawl about on the carpet. When children can support themselves, they are usually carried astride on the shoulders; and the expression used by Haisah, ch. lx. v. 4, upon which bishop Lowth comments (Notes on Haisah, p. 258.), viz. **על כתף** is literally that which is now used by the Arab women. The difference of carrying a child in the bosom or on the shoulder, referred to Is. xlix. 22, and noticed by Harmer (Obs. on Scripture, vol. ii. p. 266.), may be owing to their different ages, without regard to sex.

In the funeral ceremonies practised at Aleppo, the women perform a conspicuous part. When a person is dangerously ill, one or two sheiks are employed to read portions of the Koran, and to pray by the bed-side. At the approach of death, the attendants turn the face of the dying person towards the keblah, that is, towards Mecca. When he expires, the women in the chamber give the alarm, by shrieking as if they were distracted, and are soon joined by all the other females in the harem. This conclamation is termed the *Wulwaly*, and is so shrill as to be heard, especially in the night, at a prodigious distance. Schultens in his Commentary on Job x. 15, (tom. i. p. 278.), considers the Arabic *Wulwaly* as corresponding to the Hebrew **וֹלְוֹל** and to the Greek *ολολίζω* and *ολολάζω*, and he supposes that the former Greek word was applied in a joyful sense. However, the Arabic *wulwaly* is applicable only to distress and affliction, and seems to have a greater affinity to the latter term than to the former, which was commonly used by the Greeks on sacred or joyful occasions. See Mark, v. 38. Plutarch refers to this practice in his account of Portia's fainting

fainting on the day of Cæsar's death, when her maids, apprehending that she was dead, weiled over her. (Brutus, *Over-tom.* 991.) We also learn from Cicero, (*de legibus*, lib. ii. cap. tom. iii. p. 221, ed. Olivet.), that the extravagant exclamation of woe at funerals was prohibited by the twelve tables. See PRÆTOR. In a few hours the corpse is prepared for interment by ablution, and by stopping all the natural passages with cotton, sprinkling parts of it with a powder composed of spikenard and other aromatic herbs, and wrapping it up in a cotton winding-sheet. Over the bier, at the head of which is fixed a baton, on which the man's turban, or the attire of the female head, is placed, is thrown a black pall, and over this the best wearing apparel of the deceased. The funeral procession is attended by the acquaintance and kindred of the deceased: a number of the slaves, some of whom incessantly repeat Ullah, Ullah, and others chant verses of the Koran; and one person is the chief mourner, who manifests her grief, real or fictitious, by the most extravagant and frantic cries and gestures.—Other mourners are sometimes hired, who, at intervals, join in the general wulwaly. A funeral service is performed by the imam in some neighbouring mosque, and the corpse is then deposited in the grave, in a reclining posture, with the head to the west, and the face turned towards Mecca. A handful of earth is then thrown by the imam, or sheik, after a funeral service, into the grave, which is also done by others who stand near, and who at the same time pronounce a short benediction; after which the grave is filled up. The funeral service in use among the Kurdeens is very laconic, and is as follows: "If thou hast taken away, thou shalt restore; if thou hast given, it shall be restored to thee; and if thou doubtest this, thou shalt now be convinced." The funeral service, recited by the imam at the grave, is as follows: "O man! from earth thou wast at first created, and to the earth thou dost now return: this transitory abode being the first step of thy progress to the mansions of eternity. If, in thy actions in life, thou hast been beneficent, God will pardon thy transgressions; and if thou hast not, still the mercy of God has no bounds. But remember what thou didst profess in this world, that God is thy Lord, and Mahommed thy prophet—and thy belief in all the prophets and apostles, and that God's forgiveness is amply extended." The sepulchre is visited by the near relations on the third, seventh, and fortieth day after the interment: they also celebrate the anniversary: solemn prayers are offered at the tomb for the repose of the deceased, and victuals and money are distributed to the poor. The tomb is bestrewed by the women, in their visits, with flowers and aromatic herbs; and the wulwaly is repeated. The men make no alteration in their dress as a mode of mourning; but the women lay aside their jewels, dress in their plainest garments, and wear on the head an embroidered handkerchief of a dusky brick-dust colour. They commonly mourn 12 months for a husband, and six for a father.

The governor of Aleppo is usually a vizir bashaw, or a bashaw with three tails; though sometimes the province is conferred on an inferior bashaw of two tails. He seldom remains in office for more than 12 months at a time, though the office may be renewed in the same person; and instances occur, in which he has been continued for several successive years. The regular revenue of the bashaw is barely sufficient to defray two-thirds of his annual expence, including the sums which he is obliged to remit to Constantinople, in order to secure the interest of friends at the Porte. To this circumstance is owing the nefarious practice of making *avanas* upon the people, or raising money by false pretences, in order to supply the deficiency. According to M.

d'Arvieux, the bashaw's regular salary was 80,000 dollars, or above 8,300 *l.* of which 25,000 is allowed for the maintenance of his troops, consisting of 4 or 5000 men. But by extortions, presents, and other means, they raise their revenue to 200,000 dollars, or about 25,000 *l.* In 1769, the revenue of the bashaw fell short, of 200,000 dollars, though *avanas* were as common as ever. In 1783, Volney gives nearly the same account with d'Arvieux; but he mentions an instance of one bashaw, who, within 12 or 13 years, raised, by extraordinary extortions, in 15 months, 160,000 *l.*

A *cadi*, or judge, appointed by the Porte for one year, is sent annually from Constantinople, who brings with him his principal officer. A deputy, called *Naib*, sits in the outer court, to hear inferior causes, while affairs of moment are decided by the *cadi* in person. There are three or four subordinate tribunals in different parts of the town, which are farmed of the *cadi* by certain *effendees*, who, under his authority, determine petty suits; but from these an appeal lies to the superior court of the *cadi*, or the great *Mah-kamy*, which is the name of the old palace, where he resides. The *cadi* has no established salary; but he finds means to raise a handsome revenue, though not merely from the legal perquisites of office, which, however, are very considerable. The *mufti* is nominated annually by the Porte; and he gives a *fitwa*, or an opinion upon all cases that are laid before him; for which his fee is little more than a shilling. The *nakub*, or chief of the *shereefs* or *greenheads*, is nominated at Constantinople, and either annually confirmed, or changed. He judges in particular cases, and to his tribunal the *shereefs* are amenable. The *mohaffil*, formerly called *differ-dar*, is reckoned the second person of the city in the civil line, and is usually appointed by the *Divan*, a temporary governor on the demise of the bashaw, till orders are received from the Porte. He is farmer-general of the land-tax, the customs, and the capitation-tax; his influence is extensive; he is much courted by the *agas* or land-renters, as well as by the merchants; and he lives splendidly. Volney states the *mohaffil's* annual farm at 40,000 *l.* besides 4 or 5000 *l.* which he is obliged to pay to the officers at the Porte. The bashaw, *mohaffil*, *cadi*, *mufti*, *nakub*, and *fardar* or *aga* of the *janizaries* are, by their offices, members of the *DIVAN*, or council. The *janizaries* of Aleppo are mostly persons who live in a domestic manner, in the exercise of their respective trades. They have no pay, but being enrolled in one of the *odas* or chambers at Constantinople, they enjoy in time of peace several privileges and exemptions. In war-time they are liable to be called out, and are obliged to provide themselves with arms, and to march to the camp at their own expence, as they receive no regular pay till they arrive there. Out of these is formed a city guard, under the command of the *fardar*, who holds his appointment from the *janizary* *aga* of Constantinople. They have a peculiar dress, and the attendants of the *fardar*, when he appears abroad, as well as himself, are distinguished by particular turbans.

These *janizaries* were formerly subject to regular exercise and discipline; but within the last 60 or 80 years, says Volney, there no longer remains the slightest trace of their ancient good order. When the bashaw or pacha abuses his authority, they are always the first to erect the standard of sedition. The Turkish government revenges itself, it is true, by ordering the most active mutineers to be strangled; but, on the first opportunity, the *janizaries* create other chiefs, and affairs return to their usual course. The pachas, thus thwarted, have taken foreign soldiers into their service, who have neither friends nor families in the country. These are

of two forts cavalry and infantry. The cavalry, who alone merit the name of soldiers, assume for this reason the appellation of Daoula or Deleti, and likewise that of Delibaibes and Lawend, from whence we have formed *Leventi*. Their arms are short sabres, pistols, muskets, and lances. They wear a kind of felt cap, nine or ten inches high, without any projecting rim; and their saddles are made in the English manner. In the rest of their clothing and accoutrements, they resemble the *MAMALUKES*. Indeed, they are more like banditti than soldiers, and frequently act as such. Almost all the cavalry in Syria are Turkmans, Curds or Caramanians, who, after exercising the occupation of robbers in their own country, seek employment and an asylum near the person of the pacha; and they often lay waste the country and pillage the peasants by open force. The infantry are a corps in every respect inferior to the former. Within the last 50 or 60 years, the peasants of Tunis, Algiers, and Morocco, have, under the name of Mograbians, or Men of the West, sought employment in Syria and Egypt; and they compose the infantry of the pacha. Their whole accoutrements and baggage are confined to a rusty firelock, a large knife, a leathern bag, a cotton shirt, a pair of drawers, a red cap, and sometimes slippers. Their pay is about 10s. and 10d. per month, out of which they furnish themselves with arms and clothing; but they are maintained at the expence of the pacha. The pay of the cavalry is double, besides which each horseman has his horse and ration, which is a measure of chopped straw and 15 pounds of barley a day. These troops are divided by bairaks or colours, consisting of about 10 men each, under the command of an aga, who reduces their number in order to purloin their pay. The superior agas tolerate this abuse, and the pacha overlooks it for the sake of the emolument derived from this species of fraud.

On the demise of a bashaw, the mohassil takes possession of his effects till a capugi-bashaw, from Constantinople, comes to receive them in the name of the sultan. The estates of merchants, and of other private persons, descends to the heirs, agreeably to established laws, which allow a certain portion only to be devised by will, and the *cadi* is supposed to see strict justice done to the heirs. The property of merchants, strangers, who die in the public khans, is subject to the inspection and care of the mohassil, who detains it till it is claimed by the legal heir.

Crimes of a capital kind are very rare at Aleppo. The usual capital punishments are hanging, beheading, strangling, and impaling. Janizaries are strangled, not with a bow-string, but by a cord put round the neck, and then twisted with a stick in the manner of a tourniquet. The bodies of all who are executed remain for some days exposed to public view. Theft is uncommon; when it occurs, it is sometimes punished by amputation of the hand, but more commonly with the *bastinado*, which is performed with rods about the size of a small walking-stick; and this is the usual punishment for offences of an inferior kind. Banishment to the island of Cyprus, and the maritime towns of Syria, is chiefly employed for removing turbulent members from the city or the divan.

The agas are those who chiefly farm the lands; and the peasants are entitled to one-third of the produce, from which are annually deducted a part of what may have been advanced by the aga to stock the farm, and also a certain proportion of the *avanas*, that are from time to time imposed on the villages. These peasants are simply clothed, indifferently lodged, and live chiefly on coarse bread, leban, or a preparation of milk, pulse, barley and melons; but seldom taste animal food. However, habit and ignorance

mitigate the rigour of their condition, which they bear with patience, exercising out of the scanty pittance of the fruits of their labour, a spirit of hospitality.

The Europeans, or Franks, as they are called, residing at Aleppo, are English, French, Venetian, Dutch, and Tuscan, or Imperial subjects. The language in common use is the Italian. The English factory consists of a consul and 10 merchants, a chaplain, chancellor, physician, and an officer named a *chaufe*, who walks before the consul, carrying a staff tipped with silver, and takes care of all letters and dispatches. The number of English houses in 1772 was reduced to four, and in 1783 to two. There are two druggomans or interpreters, Greek natives of Aleppo, who speak the Italian, but can seldom read or write any other language, besides the Arabic and Turkish. They have salaries from the *Levant company*. Two janizaries are also kept in constant pay, who attend at the house of the consul, and walk before him when he goes abroad. The French factory is more numerous than the English, each merchant having a clerk or writer, or a person under that title, who afterwards becomes a partner in the house. The residence of the French in the Levant is limited to a certain number of years, after they take the name of factors, or merchants; and they are therefore sent early in life from Marseilles, under the denomination of *Scrivains*, and they evade taking the name of factor after they have a share in the business, that they may prolong their stay in the country. The number of French houses of trade was reduced in 1772 to six, or seven, the number in 1783. The consul has his chancellor, *chaufe*, and janizaries, and maintains the same state with the English consul; but he has precedence on all public audiences, on account of the prior establishment of the French factory at Aleppo. Under the protection of the consul are two or three French surgeons, who practise physic; the druggomans are French subjects of the Levant, or native Frenchmen. Besides the merchants, a number of French subjects find their way here, and by intermarriage with the native Christians, produce a half French race, called *mezza razza*. There are four convents, under the protection of the French consul. The Dutch consul, being the sole person of that nation at Aleppo, exercises also the profession of a merchant; but the English and French consuls are prohibited engaging, directly or indirectly, in commerce. However, since the year 1772, the Dutch consul has regular appointments, without benefit of trade. The Venetians were established at Aleppo before any other European nations. For several years preceding 1751, the Venetians had no consul, but they, as well as the Tuscans, were under the protection of the French or the English; but soon after 1754, a consul of their own nation came to reside at Aleppo. The emperor appointed a consul there in 1784, who was a rich Jew merchant, and who shaved his beard to assume the uniform and the sword: Russia has also very lately sent one. The houses of the Franks are as commodious as their situation in the khans will admit; and their tables are well supplied. Although they have little or no social intercourse with the Turks, they live together in harmony. The English gentlemen keep excellent horses, and usually take an airing every day; in the month of April they retire to the gardens, in the vicinity of Babullah, where they reside till towards the end of May, coming to town for business in the morning, and returning at night. The French natives at Aleppo are equally protected by government, and they enjoy considerable privileges. The consular houses are respected as sanctuaries: the officers of justice cannot enter the houses of private

pharmaceuticals without exception: but custom on goods being introduced, and the necessity of some of the machinery being the subject of an inextinguishable fire, they have been able to derive the competency of the court, and to render the courts to Greek temples. In consequence of the high tribute paid by the government to the Europeans, they are commonly treated with civility by the people of Aleppo.

The Christians of Aleppo are led by Ruffil, a native of the city, who is a Greek composite nation, the Armenians, the Syrians, and the Maronites, and the remainder of the Christians, occasionally resident in the city. Each of the four Christian nations has a church, and enjoys perfect toleration under the Mohammedan government. The Greek nation was once opulent and flourishing; but it has long declined, and is now reduced to a very low condition. This decline is ascribed partly to the decay of commerce, and principally to the contest that have subsisted between those who adhere to the patriarch of the Greek church, and those who acknowledge the supremacy of the pope. The Greek language is almost extinct at Aleppo. The ARMEINIANS are divided into two parties, the orthodox and the schismatic; besides their own language, they speak the Arabic and Turkish: but their church service is performed in the Syriac Armenian, which is different from the language of the Armenians. The Syrians of Aleppo are mostly reckoned to be Maronites. The MARONITES are more connected with the Turks than the other sects. They acknowledge the supremacy of the pope, and have added many rites, borrowed from the church of Rome, to their own. Divine service is performed in Arabic. The native Christians have no monasteries at Aleppo, but contribute towards the support of several in ancient Lebanon and its vicinity. For the regulation of expences, and the transaction of business at the seraglio, each of the Christian nations has a public agent or wakeel; who, being elected in an assembly of the principal persons of the respective nations, is confirmed in his office by the bashaw, and invested by him with a pelice, as a mark of honour. The turban, usually worn by the Christians, differs somewhat in form from that of the Turks, and the face is blue and white striped; their slippers are red, and their dress is, upon the whole, more plain. In their mode of eating, they generally imitate the Turks. Their women, when they appear abroad, wear a veil of white linen, and keep more at home than the Turkish ladies. They are extravagant in the article of dress, which varies in some circumstances from the Turkish fashion. They are more formal in their address, and their courtesy borders too much on servility. The men are generally rather fawning than affable; but those in easy circumstances are hospitably social. Those of them who have obtained protection, under the appellation of honorary interpreters, are distinguished by a peculiar furred cap and yellow slippers.

The computed number of Jews at Aleppo, says Ruffell, is about 5000. They have one synagogue, which possesses a MS of the Old Testament, which, as they pretend, is of high antiquity. For its antiquity, they urge the concurrent tradition of their rabbies, and their submission to its authority in disputed passages, and also a prayer at the end of it for the preservation of the temple; from which they conclude, that it must have been written before the expedition of Titus, their prayers afterwards having been offered up for the restoration, and not the preservation of the temple of Jerusalem. A specimen of this MS was examined by Dr. Kennicott, who did not find sufficient reason for af-

firming such high antiquity to it as the Jews do. The Jews are distinguished by their violet-coloured babarog and their turban, which is lower than that of the Christians. Few of them apply either to manufactures, or to manual trades: most of them are bankers or merchants; the others are brokers, grocers or pedlars. The established banker of the seraglio is a Jew, and the private bankers of most of the grandees are likewise Jews. The Jews are generally more sober than the Christians. The lower people live chiefly on bread, pulse, herbs, and roots, dressed with the expressed oil of sesamum; and they are of all people the most slovenly and dirty. Some of the women are handsome, but the proportion of such is small. Their head-dress differs considerably from that of the Turkish and Christian ladies; and is commonly richly decked with pearls. Their boots and slippers are of a violet colour. Their veil is white, and in the presence of strangers they always wear it. The chief priest of the Jews is, by way of eminence, called the Khakan; and the priests are distinguished from the other Jews by the size and colour of the turban, and by the long wide sleeves of their outer garments. The khakan exercises temporal as well as spiritual authority, and his decisions are generally more respected than those of the bishop-are by the Christians, but his civil jurisdiction is very limited.

The state of literature at Aleppo is much degenerated from that of ancient times, when it was more respectable. There are indeed public day-schools adjoining to some of the principal mosques, but their colleges for students in advanced life are few in number, and poorly encouraged. They are more properly seminaries of pedantry and superstition than of science, and they are chiefly frequented by the studious of the poorer class, who dedicate themselves to the service of the mosque. Grammar and school-divinity are the subjects chiefly taught at college. The effenders, who assume an appearance of respect for learning, have no liberal notion of science. Astronomy, which was once a favourite study among the Arabs, is at present wholly neglected. Although they have books on the subject in their libraries and some instruments, yet little is known of the science at Aleppo, that a person who is found capable of calculating eclipses has, on this account, the reputation of a most profound astronomer. Almanacks are seldom constructed at Aleppo, but are brought thither from Constantinople or Cairo. As to mathematical studies, they are little attended to by the modern Arabs; nor have natural history and the experimental part of philosophy made any progress amongst them for several centuries. History is little regarded by the literati at Aleppo. Their knowledge of distant states, and of the revolutions of empire in the western world is very partial and imperfect; and even their own history, before the appearance of their prophet, remains in great obscurity. Their geographical knowledge also lies within very narrow bounds; nor have they any good maps, except such as have been imported from Europe. Superstition has banished painting from Syria, and music, degraded by fashion to a mercenary profession, is rather tolerated than encouraged: poetry, which was formerly much cultivated among the Arabs, has very perceptibly declined and languished; so that the modern Aleppo bards never attempt any performance beyond a dirge, a ballad, or an epigram. Although the medical practitioners at Aleppo are numerous, their knowledge of medicine is superficial, perverted by prejudice, and accompanied with pedantic affectation, arrogance and obstinacy. A very competent judge affirms their general practice to consist in specious trifling. Their knowledge of anatomy

is acquired by reading, and not from dissection; and both anatomy and physiology remain precisely in the state in which they were transmitted by Galen. Their ignorance of the circulation of the blood leaves them quietly in possession of the ancient doctrines, which were held sacred before that important discovery. With a copious *Materia Medica*, and a large collection of compound remedies, their practice is confined to a few official preparations. The precious stones, pearls, bezoar, and leaf gold are in high esteem. The principal cordials are the confections of Alkermes and Hyacinth. The few chemical preparations that are in use are brought from Constantinople, and the Aleppo pharmacy is chiefly confined to the distillation of simple waters, and the preparations of syrups, conserves and decoctions; for spirituous waters, tinctures and elixirs are proscribed by the law of Mohammed. Some few individuals, however, are to be found, who are not only more learned, but in their practice sagacious, active and rational; and who, allowing for the disadvantages under which they labour, are entitled to merit in their profession. Surgery is less cultivated than physic.

Of the quadrupeds found in Aleppo and its vicinity, we may mention two varieties of the cow, buffaloes, two varieties of sheep, as many of the goat; wild hogs, gazelles or antelopes; two sorts of hare, the hedge-hog, the jerboa; four varieties of the camel; three varieties of the ass; various breeds of mules, horses, dogs, cats, varieties of mice, the mole, two varieties of bats, foxes and wolves; an animal called the sheeb, the hyæna, the lynx, and the panther. The markets of Aleppo are plentifully supplied with poultry; the cock and hen, turkeys, geese, ducks and pigeons. They have also abundance of game in the different seasons, &c. Dr. Russell has given an ample catalogue of the ornithology of Aleppo. The conspicuous situation of Aleppo brings thither a great number of sea-birds, and affords the curious a singular amusement. If, from the terraces after dinner, a motion be made of throwing bread, numerous flocks of birds, which were floating in the air, at a height which rendered them invisible, will descend and fly about the place: having been accustomed to receive morsels of bread which have been scattered for amusement. For an account of the carrier pigeons of Aleppo, see *CARRIER PIGEON*.

The river Kowick supplies several species and varieties of fish; but it does not afford a sufficient quantity for the Aleppo markets: so that the Christians, in their great lent, are supplied from the rivers Orontes and Euphrates, from the lake of Antioch, and also from another lake near Marash. Amongst the reptiles, we might enumerate the frogs, which abound on the banks of the Kowick, and from the croaking of which it is said to have derived its name. These are of a large size, and so delicious, that some European epicures have declared it was almost worth while to make a journey to Syria, for the sole purpose of regaling on them. The Kowick also furnishes a particular kind of crab, (*cancer fluviatilis*) which is much esteemed. This river likewise affords tortoises in abundance. The silk-worm is a most material object to Syria, being the chief source of its commerce with Europe. The bee is also of great importance, on account of the consumption of honey and wax. Among the noxious animals, the scorpion is the principal. The scolopendra, snakes and serpents, are found in Aleppo and its vicinity. Few houses are exempt from bugs, fleas, and musquitoes. The common fly and horse fly are troublesome; but of the insect tribes, the locust is the most dreadful in its depredation: this sets all the defensive arts of man at defiance; and de-

stroy, in a few days, the beautiful verdure of extensive tracts of cultivated country. Dr. Russell has given a catalogue of the reptiles, serpents, insects, and worms that are found in this country, and also a catalogue of Aleppo plants, with apposite remarks.

The epidemical diseases most prevalent in Aleppo are continual fevers, intermittent and remittent fevers, regular and anomalous, eretic fevers, commonly attended with diarrhoea; the dysentery, quinsy, pleurisy, peripneumony, rheumatism and ophthalmia. The febrile and chronic diseases are, with few exceptions, nearly the same as in Britain. Those which are most common at Aleppo, are pulmonary complaints, spitting of blood, and consumptions, obstructions of the abdominal viscera, ascites, jaundice, dropsy, inguinal ruptures, the hæmorrhoids and worms. The tinea is common, and various other cutaneous eruptions; but the true or confirmed leprosy is now become obsolete in Syria. The venereal disease is, also very common in this country. The Europeans soon after their arrival at Aleppo are subject to a fever, which has been distinguished by the name of *fever of Aleppo*. The disease attacks but once; and the English are rather more liable to it than the Provençals and Italians. The natives of Aleppo and European strangers, after some residence here, are subject to a singular kind of eruption; which, from the supposed time of its duration, is denominated the *botch of a year*, or the *ring-worm* or *pimple of Aleppo*; but by the Europeans and Turks, it is called *d'Aleppo*, the *Aleppo evil*, and the *Aleppo ulcer*. No part of the body or limbs is exempt from this eruption, but it most commonly fixes on the face and leaves a scar, with which almost all the inhabitants are disfigured. Volney suspects that it proceeds from the quality of the water. Dr. Russell has particularly described it; and he observes, that the mercurial plaster was the most efficacious remedy. The most calamitous and destructive disease to which Aleppo and its vicinity have been subject is the *PLAGUE*. The means which are practised by the Europeans for their preservation, consist either in a retreat from the city, or in shutting themselves up in their town-houses, in such a manner as effectually to prevent all intercourse or communication, by which the infection might be received from without. Besides the common regulations adopted by the Europeans at Aleppo, and which have the sanction of long experience, Dr. Russell recommended some further precautions, which we shall here transcribe for the information of those who have no access to his comprehensive and valuable work. The first of these precautions is, in the general regimen of life, to guard against excesses of all kinds, violent passions of the mind, and immoderate evacuations. 2. In respect to diet, not to live more sparingly than at other times, nor to lessen the quantity of wine: perhaps one or two glasses extraordinary might rather be beneficial; and the free use of acid liquors (such as very weak four punch) was, in the summer, found not only grateful to the palate, but salutary. 3. Never to venture abroad in the morning fasting. 4. When in the chamber of the sick, or in passing near a corpse, or any thing suspected of infection, carefully to avoid breathing the odour; and, at the same time, to breathe through the double folds of a handkerchief moistened with plain vinegar, or vinegar impregnated with rue. 5. To restrain inspiration as much as possible, while employed in examining the pulse, or such other circumstances of the sick as require drawing close to the bed, and upon coming out of the chamber, to wash the mouth, face and hands with vinegar. 6. On the return home, after visiting the infected, or

passing through the Bazars, to undress and expose the body in the open air; and before dressing in fresh clothes, to wash once more with vinegar. 7. The only preservative used internally, was a large dose, twice a day, of extract of bark; drinking after it a draught of wine and water, and diluted with chaser of vitriol. These precautions, observed by the Doctor himself, were attended with success.

Aleppo, slightly elevated by the raised walls and towers of its castle, and exposed to the approach of robbers by the rising grounds that environ it, is a place of no importance in time of war, though it be the key of Syria to the north: but, considered as a commercial city, it is the emporium of Armenia, and the Diarbekir; sends caravans to Bagdad and into Persia; and communicates with the Persian Gulf, and India by Basra, with Egypt and Mecca by Damascus, and with Europe by Scanderoon or Alexandretta and Latakia. Commerce is here principally carried on by barter. The chief commodities are raw or spun cotton, coarse linens, fabricated in the villages, silk stuffs, manufactured in the city, copper, coarse cloths like those of Rouen, goat's hair, brought from Natolia, the gall-nuts of the Curdistan, the merchandize of India, such as shawls and muslins, and pistachio nuts of the growth of the neighbourhood. The articles supplied by Europe are the Languedoc cloths, cochineal, indigo, sugar, and some other groceries. The coffee of America, though prohibited, is introduced, and serves to mix with that of Mocha. Russell's *Natural History of Aleppo*, 2 vols. 4to. 1794, passim.—Volney's *Travels into Syria*, &c. vol. ii. p. 139, &c. For the coins, weights, and measures of Aleppo, see SYRIA.

ALEPPO, OLD, NOW KINNASSERIN, the ruined remains of the ancient CHALCIS, of which there are vestiges of the foundation of walls without a single house standing. This ancient city surrendered on capitulation to the Saracens, in the 17th year of the Hegira, A. D. 630, soon after their invasion of Syria.

ALEPPO, BASHAWLICK or PACHALIC of, one of the five pachalics of Syria, is a province of great extent, reaching eastward from the bay of Scanderoon to the banks of the Euphrates, and from 40 miles north of the city, extending about 50 miles to the south east. But it is not now nearly so extensive as it was in former times. Khillis, which was formerly dependent on Aleppo, is erected into a distinct province, on account of the frequent depredations of the Kurdeens, who inhabit the neighbouring mountains; and since the year 1752 an alteration has taken place with respect to Bylan, which, together with Caramoot, Scanderoon, Byas, and the adjacent mountains, has been put under the government of a native of Bylan, who for that purpose was created a bashaw of two tails. At present the pachalic on the north is bounded by the village Bailik, situated in the road to Aintab, eastward, by the Desert, Bab at the distance of ten hours east-north-east, and Haglah, about the same distance to the south-south-east, being among the last inhabited villages: on the south it is bounded by the Great Desert, between the skirts of which and the west, or west north-west, are situated the most fertile and populous parts of the forest. Sirmeen is the last town southward; and Antioch, with its dependencies, may be reckoned the western boundary, which, till a late period, reached to the sea: Scanderoon and Byas being then the two frontier maritime towns. About one half of the villages which stood formerly on the books of the province, are said to be totally deserted. Many of the inhabitants of this mountainous tract acknowledge scarcely any authority but that of their own chieftains; and the campaign, in many places, is either desert, or only occupied transiently by the wander-

ing tribes of Turkamans, Bedgdees, and Rushtwans, from the north, or by the Didoowens and Chingana; who, though they pay an annual tribute, can hardly, in other respects, be reckoned subjects of the province. The oppression of the agas, the destructive marches of the grandes through the province, and the roving of the ruffian troops of Levants out of pay, oblige the peasant tenants to remove; so that vast tracts of the beautiful plains in the bashawlick, are shamefully overrun with thistles, whilst the mountainous parts, better secured from oppression, are finely cultivated, full of people, and present on every side thriving hamlets.

Such is the account given of this pachalic by Dr. Russell. Volney describes it, as extending from the Euphrates to the Mediterranean, between two lines, one drawn from Scanderoon to Beer, along the mountains, the other from Beles to the sea by Mare and the bridge of Shogar, and as consisting of two plains, that of Antioch to the west, and that of Aleppo to the east: the north and sea coast being occupied by considerably high mountains, known to the ancients by the names of Amanus and Rhofus. The soil of this pachalic is generally fat and loamy: the greatest part of the lands lies waste, and the traces of cultivation are scarcely discernible in the environs of the towns and villages.

Those European merchants, who have resided at Aleppo 20 years, have witnessed the depopulation of the greater part of the environs of the city. The traveller sees nothing in this and other pachalics of Syria, but houses in ruins, cisterns rendered useless, and fields abandoned. Those who cultivated them are fled into the towns where the population is absorbed, and where the individual conceals himself among the crowd from the rapacious hand of despotism. Its principal produce consists of wheat, barley, and cotton, which are found in the flat country: in the mountains they cultivate the vine, mulberry, olive, and fig-trees. The sides of the hills, towards the sea-coast, are appropriated to tobacco, and the territory of Aleppo to pistachios. The pasturage is abandoned to the wandering Turkmen and Curds. For other particulars, see the article of ALEPPO. Russell's *Hist.* vol. i. p. 314. 339. Volney's *Travels*, vol. ii. p. 139, &c.

ALER, a river of Siberia, which joins the Atiga at Aleurska.

ALEREA, *Ardantes*, in *Ancient Geography*, a city of Gaul, belonging to the Bituriges Cubi, and placed by M. d'Anville between Ernodurum and Argentomagus.

ALERIA, a town of Corsica, situated on an eminence in the east side of the island, near the mouth of the river Rotarus, according to Ptolemy. Herodotus (lib. i. c. 165. p. 78.) mentions it under the name of Alalia, and says it was founded by the Phocæans. Diodorus Siculus (lib. v. c. 13. tom. i. p. 340.) calls it Καλαρίς, Calaris, and says that it was built by the Phocæans. Sylla established a colony in it, and, on this account, has been represented as its founder. It is now in ruins, and altogether abandoned on account of its unhealthy situation, though in former times it has been a considerable city, and the see of a bishop.

ALERION, in *Heraldry*. See ALLERION.

ALES, ALEXANDER, in *Biography*, a divine of Augsburg, was born at Edinburgh, April 23d, 1500, and having made a considerable progress in the school of divinity, engaged in the controversy of the day against Luther. He also took a part in the dispute with Patrick Hamilton, and endeavoured to profelyte him to the catholic religion; but in the progress of the conference, he himself began to entertain doubts, which were increased by the constancy of this Scots martyr at the stake. The persecution he suffered drove him into Germany, where he was at length converted to the protestant

ant faith. Encouraged by the national change of religion, which took place on the marriage of Henry VIII. with Anna Bullen, he removed to London in 1535: and here he was highly esteemed by Crammer, Latimer, and Thomas Cromwell. When these favourites lost their interest at court, Ales retired to Germany, and was appointed professor of divinity by the elector of Brandenburg, at Frankfort upon the Oder, in 1540. Upon some disgust he withdrew to Leipzig, where he was chosen professor of divinity, and where he died in March 1555. He was much esteemed by Melancthon, and is extolled by Camerarius as a very great divine, a subtle disputant, and a man of distinguished worth and learning. He wrote Commentaries on the Gospel of St. John, and the Epistles to Timothy; an Exposition of the Psalms; a Justification against Osiander; on the Trinity; and an Answer to the thirty-two Articles of the Louvain Divines. Gen. Dict.

ALESA, ALOESA, or HALESA, in *Ancient Geography*, a very ancient city of Sicily, built, according to Diodorus Siculus (lib. xiv. c. 16. tom. i. p. 651.), by Archonides of Herbita, about the 2d year of the 94th Olympiad, or 403 years before Christ. It stood, he says, upon an eminence, about eight stadia from the sea; near the place, as Fazellus conjectures, where the city of Caronia now stands, on the river Alefus, or Fiumi di Cafonia. The inhabitants were called Alefni and Helesni, and, as Diodorus and Cicero inform us, were exempted by the Romans from taxes. Near Aloesa was a fountain, which, as Solinus pretends, used to bubble up at the sound of a flute, so that it could not be kept within the basin.

ALESBURY, in *Geography*. See AYLESBURY.

ALESENI, in *Ancient Geography*, a people of Arabia, whom Strabo places in Babylonia towards the Persian gulf.

ALESHAM, or AYLISHAM, in *Geography*, a town of England, in Norfolk, near the river Thyrn; 12 miles north from Norwich, and 121 north-north-east from London.

ALESIA, or, as it is sometimes written, ALEXIA, in *Ancient Geography*, a considerable town of Celtic Gaul, belonging to the Mandubii, situated, according to Cæsar, (Bell. Gall. lib. vii. c. 68.) on a high hill, washed on two sides by two rivers, and of such antiquity, that Diodorus Siculus (lib. v. c. 24. tom. i. p. 349.) ascribes the building of it to Hercules in his war against Geryon. It was so strongly fortified, that when Cæsar besieged and took it, Velleius Paterculus represents the undertaking as more the work of a god than of a man. After Cæsar destroyed this city, it was rebuilt, and maintained a considerable rank under the Roman emperors. Pliny (H. N. tom. ii. p. 669.) says, that the art of silvering the ornaments of horses was invented in this city. It is supposed to be the present *Alise*. The mountain on which it stood is said to be Mount Auxois, which is 150 toises high, and the foot of it is washed by two rivers, viz. the Oze and the Ozerain.

ALESIAS, a village of Laconia, in the road from Therapnes to Taygetas, where, as Pausanias informs us (lib. iii. Lacon. c. xx. p. 260.), Myles, the son of Lelex, first taught the art of grinding corn by a mill; and where an heroic monument was erected to Lacedæmon, the son of Taygetas.

ALESIIUM, a town of Greece, in the interior of the country, at some distance south-east from Elis.

ALESONE, in *Geography*, a town of European Turkey, 20 miles north-west of Larissa.

ALESONNE, a town of France, in Languedoc, in the generality of Toulouse and diocese of Lavaur.

ALESSANDRIA. See ALEXANDRIA.

ALESSANO, a small town and bishop's see of Naples,

in Italy, in the district of Otranto; 12 miles south-south-west of Otranto. N. lat. 40° 12'. E. long. 18° 14'.

ALESSI, GAFFAZZO, in *Biography*, a famous architect, was born at Perugia, in 1500, and arrived at such eminence, that he was applied to from France, Spain, and Germany for plans of public buildings. His plan for the monastery and church of the Eternal was preferred to those of the ablest architects in Europe. Genoa has acquired the denomination of *superb*, partly from the buildings which he has erected in it. He died in 1572. Nouv. Dict. Hist.

ALESSIO, ALESSIO, or LISSUS, in *Geography*, a town of European Turkey, in Albania, on the Adriatic gulf, near the mouth of the Drin, and 16 leagues south-west of Albanopolis. This is the see of a bishop, suffragan of Durazzo; and it is famous for having the tomb of Scanderberg, king of Albania, who died in 1467. N. lat. 41° 48'. E. long. 29° 29'.

ALESUS, in *Ancient Geography*. See ALESA.

ALESUS, *Sanguinaria*, a river of Italy, in Etruria.

ALET, Lat. ALECTA or ELECIA, in *Geography*, a city of France, in the department of the Aude, and district of Limoux, situate at the foot of the Pyrenees, on the river Aude. Before the Revolution it was the see of a bishop, suffragan of Narbonne, and the diocese contained 80 parishes. It is 15 leagues south-west of Narbonne, and 175 south of Paris. N. lat. 42° 59'. E. long. 2° 6'.

ALETA, in *Ancient Geography*, a town of Dalmatia.

ALETON, signifies meal, as Erotian and Hesychius explain it. It seems derived from *αλεω*, to grind, and to import the meal of any sort of corn. The word is frequently used by Hippocrates.

ALETRIS, formed from *αλεω* or *αλεω*, to grind, in *Botany*, a genus of the *hexandria monogynia* class and order, of the natural order of *lilia* or *liliaceæ*, the *coronariæ* of Linn. and *asphodeli* of Juss. Its characters are, that it has no calyx; that the corolla is one-petalled, ovate-oblong, hexangular, funnel-shaped, semisefid, very much wrinkled, the divisions lanceolate, acuminate, spreading, erect, and permanent; the stamina have awl-shaped filaments of the length of the corolla, inserted into the base of the divisions, the anthers oblong and erect; the pistillum is an ovate germ, the style subulate, of the length of the stamens, and stigma trifid; the pericarpium is an ovate, three-cornered, acuminate, three-celled capsule; and the seeds are very many. Professor Martyn enumerates eight, and Gmelin nine species, viz. 1. *A. farinosa*, American A, stemless, leaves lanceolate, membranaceous, flowers alternate, which grows in North America, and was cultivated here in 1768, by Mr. Miller. The natives frequently use it as a bechic and incisive in coughs and in the pleurisy. 2. *A. capensis*, waved-leaved A, veltheimia of Gleditsch, stemless, leaves lanceolate waved, spike ovate, flowers nodding; a native of the Cape of Good Hope, flowering with us from November to April, and brought here in 1768, by Mr. W. Malcolm. 3. *A. glauca*, stemless, leaves lanceolate glaucous, flowers nodding with a spreading border; a native of the Cape of Good Hope, flowering in January, and introduced in 1781, by Mr. G. Wynch. 4. *A. uvaria*, aloe uvaria of others, great orange-flowered A, stemless, scape longer than the sword-shaped keeled leaves; a native of the Cape of Good Hope, cultivated at Chelsea in 1707, and flowering in August and September in large spikes of a fine appearance. There is a variety with narrower leaves, and longer spikes of flowers. 5. *A. pumila*, small orange-flowered A, stemless, scape shorter than the linear sharply-keeled leaves; a native of the Cape, introduced in 1774, and flowering from September to November. 6. *A. hyacinthoides*, stemless, leaves lanceolate, fleshy, flowers geminate; having two varieties, reckoned by La Marek as distinct species,

A. guianensis, Ceylon *A.* or *aloe*, with some of the leaves for use and composed of 4; and *A. guianensis*, Guiana *A.* or *aloe*, with all the leaves lanceolate, of which the base is kept at Rhod is considered by Linnaeus as a variety. The first of these is common in gardens, where exotic plants are preferred; the second was cultivated here in 1760; its flowers, which are of a pale length, are of a clear white, but seldom continue so long as they are in the garden; and it never produces fruit in England. 7. *A. fragrans*, sweet-scented *A.* or *aloe*, leaves lanceolate, toothed; it is in Africa, and cultivated in 1763 by Mr. Miller. 8. *A. reticulata*, or *aloe*, leaves lanceolate-linear, reflex, flowers paniculate; cultivated in the gardens of Cochinchina, where it is a common plant; the juice of the leaves are used to dye green, and the flowers are eaten. The eighth species of Gmelin is *A. zeylanica*, *aloe*, with leaves petiolated, ovate-lanceolate, seven-nerved, and spiked flowers. The ninth species is *A. guianensis*. The second, third, fourth, and fifth species are referred by Willdow to the genus *Feltidia*.

Alum. The first species may be preferred through the warm under a hot-bed frame. The roots of the second sort may be planted in pots filled with light earth, and sheltered in winter in a dry airy glass-case. In May they may be placed abroad in a sheltered situation, and often refreshed with water in warm weather. The fourth sort is sufficiently hardy to live abroad in mild winters, when planted in a warm border and dry soil. It is propagated by seeds, sown in pots, and sheltered under a hot-bed frame; the plants, when they come up in spring, should be gradually exposed to the open air; and when they are large enough, some may be planted in pots, and others in a warm border, where they should be sheltered during the ensuing winter. The Ceylon, Guinea, and sweet-scented species are too tender to live through the winter in England, unless they are placed in a warm stove; and they will not produce their flowers, if the plants are not plunged into a tan-bed. The creeping roots of the Ceylon and Guinea sorts send up many heads, which should be cut off in June, and, after having been laid in the stove for a fortnight, that the wounded part may heal, they should be planted in small pots of light sandy earth, and plunged into a moderate hot-bed of tanner's bark, giving them but little water till they have put out good roots; they should then be treated like other tender succulent plants, and be never set abroad in summer. The seventh species is easily propagated from the side heads, which it puts out after flowering.

ALETUM, *GUICH-ALET*, in *Ancient Geography*, a town of the Gauls, mentioned in the *Notitia Imperii*, and placed by M. d'Anville upon the sea-coast, north-west of the territory of the Rhodones. It was formerly a bishop's see, which, in the 12th century, was transferred to St. Malo, about a mile from it.

ALEVAIA, in *Geography*, a river of Siberia, which runs into the Penzinskoi sea. N. lat. 62°. E. long. 157° 14'.

ALEURITES, *Αλευριτες*, *farinaceous*, of *αλευρον*, *meal*, parts of the tree having a meal scattered over them, in *Botany*, a genus of the *monocelia monadelphia* class and order, of the natural order of *Ericaceae*, and *euphorbia* of Jussieu; the characters of which are, that the flowers are male and female: the calyx of the male is a perianthium, three-cleft, very short, the clefts ovate and obtuse; the corolla has five petals, oblong, spreading, obtuse, much longer than the calyx; the nectary has five scales somewhat cornered, very short, at the bases of the petals; the stamens are numerous filaments, connate into a conic columnar receptacle, the anthers roundish. The female flowers are few, in the same corymb; the calyx, corolla, and nectarium as in the male, but larger; the pistillum has a

germ conic superior, the style none, the stigmas two, very short; the pericarpium a large, globose, two-seeded berry; the seeds are two, globose, coated with a double bark. There is one species, viz. *A. triloba*, which is a tree of the islands of the South Sea.

ALEUROMANCY, *ΑΛΕΥΡΟΜΑΝΤΙΑ*, derived from *αλευρον*, *meal*, and *μαντις*, *divination*, in *Antiquity*, is the same with what was otherwise called *Alphitomantia* and *Crithomantia*, and means an ancient kind of divination by means of meal or flour.

ALEURSKA, in *Geography*, a town of Siberia, at the conflux of the Agila and Aler, 64 miles north-east of Nertchinsk.

ALEUTIAN, or **ALEUTSKY ISLANDS**, a group or chain of islands, on the north-east of Kamtschatka, and near the continent of America, belonging to Asiatic Russia. These islands were partly discovered by Behring in 1741, and the rest at several periods since his time. The most considerable of them amount to 40 in number, and they may be justly considered as a branch of the Kamtschadale mountains continued in the sea. Some have erroneously included *BEHRING'S-ISLAND* and the *COPPER-ISLAND* in this group; but they are usually distinguished from them. South-east of the Copper-island, within 150 or 200 versts between the 54th and 55th degrees of north latitude, lie three small islands, known by the names of *ARTAK*, *SHEMYA*, and *SEMITSKI*; and these, with a few others, were denominated by the Russians *Aleutikie Ostrova*, because a bold rock, in the language of these parts, is called *aleut*. In the sequel this name was extended to the whole chain; though a part of it, namely, as far as the island *Yamblak*, is named the *ANDREANOFSKOI*, and the rest, lying further towards America, the *FOX-ISLANDS*. The Russian charts divide the long Archipelago, known under the name of the Aleutian and Fox-islands, into several Archipelagoes under different names. On these Aleutian islands, and on upwards of 300 leagues of coast, which extend beyond the polar circle, the indefatigable Russians have formed those numerous settlements or factories that support the fur-trade, from which the empire of Russia derives such great advantages in its commercial concerns, and exchanges with the empire of China. This Archipelago, known, in the most extensive sense, by the collective name of the Aleutian-islands, forms with the north-west coast of America and the north-east coast of Asia a large basin of about 1,200 leagues in circuit, which communicates towards the south with the great Boreal ocean, by as many straits as the islands form channels between them; and towards the north, under the 66th parallel, with the Arctic Frozen Ocean, by Behring's strait alone. The survey of these islands, more anciently discovered by the Russians, and of the adjacent parts of the two continents, was made by Captain Cook in his third voyage in 1778. If the Russians, then, can deservedly claim the priority of the discovery, no one can withhold from the adventurous and persevering Captain Cook the glory and the merit of having fixed the distance of the two continents, and their respective extent, to the east for Asia, and to the west for North America; and, by his researches and observations, of having opened a career to the navigators of the European nations, who should be desirous of availing themselves of the benefits which the discovery of these coasts presents to the speculations and enterprizes of commerce. We shall here add, that in ascending towards the north-west, Cook made Behring's Mount St. ELIAS towards the latitude of 60° 30'. He anchored in a large bay, which he named *PRINCE WILLIAM'S* sound; and thence steering again to the south-west, he discovered and ascended a river, on which, after his death, the gratitude of his nation imposed the name of *COOK'S RIVER*.

RIVER. He then coasted the east shore of the peninsula of ALASKA, and touched at the island of OONALASCHKA, which is separated from the south-west point of the peninsula only by the island of OONEMAX; these two islands are the nearest to the continent, and the most eastern of that Archipelago, or long chain of islands of various sizes, which extends from east to west, on a line bearing towards the south, to within 350 leagues of the main land. If we consider BEHRING'S island as the extremity of the chain, Capt. Cook extended his course into the north of Behring's basin, and made alternately the coasts of America and Asia; in the former he perceived the outline of a large bay, which he called BRISTOL BAY; and standing toward the middle of the basin, he saw the MATWEIA island of the Russians, which he named GORE'S ISLAND, and farther to the northward he distinguished the islands called CLERKE'S ISLANDS. To the east-north-east of these, on the continent of America, he discovered NORTON sound; he then passed BEHRING'S Strait, and advanced into the Arctic Frozen Ocean, as far as the parallel of $70^{\circ} 44'$. A plain of ice obstructed his progress nearer towards the pole. Here he might say with the poet Regnard, when he reached the northern rocks of Lapland:

"Hic tandem stetimus nobis ubi deficit orbis."

From comparing Cook's progress northward with that of Captain Phipps it appears, that the ocean is navigable much further towards the north, between Europe and America, than between America and Asia; for Captain Phipps, in his "Voyage to the North Pole," reached very near the 81st parallel, whereas Captain Cook could not penetrate beyond the latitude of $71^{\circ} 10'$. See Marchand's Voyage round the World in 1790, 1791 and 1792, by Fleurieu. Vol. i. Introduction passim. A Russian expedition for making discoveries in the north-east sea was proposed by Catherine II. in 1784, and the conduct of it entrusted with Capt. Billings, an Englishman, Capt. Behring, the grandson of the Behring already mentioned, and some others. After wintering at Kamtschatka, these navigators explored, in the summer of 1790, the whole chain of the Aleutian islands, which seem to be of volcanic origin; and they proceeded to explore the large eastern islands explored by Capt. Cook, Oonalaschka and Kadjak, the bay of Cape St. Elias, &c. and returned to winter at Kamtschatka. In the summer of 1791 they renewed their search for a northern passage through the Frozen Ocean, and pursued their route from Gore's and Clerke's islands to the continent of America. From the account of their expedition, published at Gottingen by Blumenbach, we learn, that a principal ornament of the ladies of the Aleutian islands consists of a pair of the long tusks of a wild bear, cut down to a smaller size, which are stuck into two holes, one on each side of the under lip, from which they project, and give the wearer an appearance similar to that of the Walrus; and this is considered as a beauty almost irresistible. In these islands, when they were first discovered, more than 60 families were found, whose language had no relation either to that of Kamtschatka, or to any of the oriental languages of Asia; it is a dialect of the language spoken in the other islands adjacent to America, which seems to indicate that they have been peopled by the Americans, and not by the Asiatics. They have no wood in these islands besides that which is floated to them by the sea, and this wood seems to come from the south; for the camphor-tree of Japan has been found on the coasts of these islands. The inhabitants of these islands are, in proportion to their dimensions, tolerably numerous, and they are at present tributary to the Russian empire. See Fox-islands.

ALEXANDER THE GREAT, in *Biography and Ancient*

History, was the son of Philip, king of Macedon, by Olympias, daughter of Neoptolemus, who was son of Alectas, king of Epirus. He was born at Pella, the capital of Macedonia, in the first year of the 126th Olympiad, B. C. 356. His natural disposition, which is said to have been excellent, was sometimes corrupted by the mercenary adulation of his first preceptor, Lysimachus, the Acarnanian; and neither the counsel and example of Leonidas, his mother's relation, nor the instructions of Aristotle, were sufficient to counteract its pernicious effects. It was, however, a singular advantage to Alexander that he was placed under the tuition of this great philosopher. Soon after his birth Philip wrote to Aristotle, informing him, that he designed to place this son that was just born under his instruction. "I return thanks to the Gods," says he, "not so much for having given him to me, as for his having been given during the life of Aristotle; and I may justly promise myself, that you will make him a successor worthy of us both, and a king of Macedonia." Accordingly, at the proper season, he invited his attention to him by the offer of a considerable stipend, and he afterwards recompensed it by rebuilding Strumica, the native place of Aristotle, which he had destroyed; reinstating the inhabitants who had fled from it, or who had been made slaves; and assigning them a fine park in its vicinity for their houses and gardens. The pupil seems to have conceived an early and strong attachment to his master, whom he thought himself bound to love as much as if he had been his father; and to this purpose he declared, "That he was indebted to the one for living, and to the other for living well." His progress in every kind of science corresponded to the natural talents which he possessed, and to the distinguished attention and abilities of his tutor. He devoted himself with singular assiduity to the study of metaphysics, mathematics, and morals; he was no less solicitous to be a master of rhetoric, both in the theory and practice of it; and to his solicitude in this respect we owe Aristotle's treatise on rhetoric, which, with a jealousy altogether unbecoming a great character, he requested the author not to communicate to any but himself. His taste for classical literature is likewise manifest in the very ardent esteem which he professed for Homer, whose poems he denominated, as Pliny (H. N. lib. vii. c. 29. tom. i. p. 391.) informs us, "the most precious production of the human mind." He particularly admired the Iliad, which might probably contribute to give his mind a decided direction to military glory. The passage, we are told, which pleased him most, was that (Il. iii. v. 172.) which represents Agamemnon as "a good king and a brave warrior." He had also a taste for the arts in general; he knew their importance and utility; and music, painting, sculpture, and architecture flourished in his reign, because they found in him a competent judge, and, as some say, a munificent protector. In his exercises he distinguished the useful from the fanciful; in his diversions he declined whatever was unmanly; and in his studies he despised whatever was trivial or pedantic. In early life he manifested a genius and disposition formed for great and splendid actions. Emulation and ambition were the predominant passions both of his youthful and riper years. When he conversed with the Persian ambassadors at his father's court, at the age of no more than seven years, the subjects of his enquiry were, not the palaces and retinue of their king, but the character and manners of their sovereign, the number and discipline of his army, the road that led into Upper Asia, and "the number of days' march from Macedonia to Susa." When he was requested to enter his name among the Olympic competitors, he replied, "So I would, if I were to have kings for antagonists." On occasion of his taming the famous horse Bucephalus, which none

...venture to marry. Philip was ... "My son, seek a kingdom ... Macedonia below thy merit." Being ... the youth of Alexander ... temperance, charity, and self-

... his mother, whom Philip divorced, ... between him and his father; and it ... which they entertained, that he ... one of Philip's children, by another wife, preferred to him. However, before this period, ... he was appointed regent of Macedonia during his father's absence; and his conduct manifested avarice and slavery, that he was afterwards employed in several military enterprises, in which he behaved with great honour to himself, and singular satisfaction to Philip, where he had preferred by his resolute and seasonable interposition. In the battle of Chæronea, at the age of 18, he signalized himself by his valour, and greatly contributed to the victory. Before Philip undertook his projected expedition into Asia, he recalled his son from Epirus, whither he and his mother had retired, and was apparently reconciled to him: but when his father was assassinated by Pausanias, whom he had grievously offended, Alexander and his mother were suspected of being privy to the conspiracy. The suspicion, however, seems to have been groundless; and the first act of his reign was the just punishment of the murderers. In the 20th year of his age, B. C. 336, he succeeded to the throne of Macedon; and commenced his military career by marching into Thessaly to overawe the Greeks, who were disposed to emancipate themselves from the Macedonian yoke, and by causing Attalus, who encouraged their revolt, to be put to death. Having succeeded in this enterprize, he marched into Thrace, defeated the Triballi, who inhabited the modern Bulgaria, and drove them beyond the Danube; he also made the Getæ to fly at his approach; subdued several barbarous nations, and established a treaty of peace, in which the Celtes, a fierce and high-spirited people, and others, were comprehended. During his absence in these expeditions, the cities of Greece, infligated by the eloquence and influence of Demosthenes, formed a powerful alliance against him. The report of his death had induced the Thebans to revolt; and, having murdered two officers of the Macedonian garrison, they were preparing to besiege the citadel. Alexander, receiving intelligence of this event, hastened to Greece, B. C. 335, passed the Straits of Thermopylæ, and entered Boeotia before the Thebans were undeceived as to his death. To those who accompanied him he spoke in the following manner: "Demosthenes, in his orations, called me a child when I was in Illyria and among the Triballi; he called me a young man when I was in Thessaly; and I must now shew him, before the walls of Athens, that I am a man grown." The city of Thebes, which was bravely defended by the inhabitants, animated by a love of liberty, was at length taken by storm, with a dreadful slaughter: the buildings were razed, the house of Pindar, the poet, excepted from a respect to its owner; the inhabitants were sold for slaves, and the lands distributed among the soldiers; this conduct struck the Greek states with terror. Athens sent a deputation to Alexander, imploring his clemency; but he demanded the surrender of ten orators, whom he supposed to have been the chief instruments in forming the league which Philip his father had defeated at Chæronea. On this occasion Demosthenes recited to the people the fable of the Wolves and the Dogs; in which it is supposed, "that the wolves told the sheep, that if they desired to be at peace with them, they must deliver up to them the dogs who

were their guard." Alexander having relented, by the intercession of Demades, whom he had honoured with his friendship, waved the enforcement of his demand. Having re-established the tranquillity of Greece he went to Corinth, where his office of generalissimo was recognized and settled. At Aegæ he held a grand council of state and war, in order to deliberate upon his expedition into Asia. Antipater and Parmenio recommended delay, but Alexander had formed his purpose; and having offered sacrifices, and entertained his friends with feasts, and distributed among them the crown-lands, Perdiccas asked him what he reserved for himself? "Hope," replied Alexander. "The same hope ought therefore to satisfy us," was the rejoinder of Perdiccas. Accordingly he assembled his army, and prepared for his march into Asia. When one of his attendants asked him why he succeeded so well in quieting the dangerous tumults in Asia, he answered, "It was by delaying nothing."

In the 22d year of his age, B. C. 334, Alexander crossed the Hellespont into Asia, with an army of about 30,000 foot, and 4 or 5000 horse. Parmenio, who commanded the infantry, passed over with the greatest part of the army from Sestos to Abydos; and Alexander crossed first the Strymon, afterwards the Hebrus, and after 20 days march arrived at Sestos. Having prepared for his expedition by a variety of superstitious ceremonies, to which he was attached, he proceeded to Ilium, where he sacrificed to the heroes buried in the neighbourhood, and particularly to Achilles, to Minerva, and to the ghost of Priam. In his march he preserved Lampfacus, which he had determined to destroy on account of its adherence to the Persians; and this he did in consequence of the interposition of Anaximenes. "I swear solemnly," says Alexander to Anaximenes, who met him on the road, and the object of whose interview he suspected, "that I will not do what you desire me." "My request, then," said the old man, smiling, "is, that you would burn Lampfacus." The Persians collected a large force to meet him on the banks of the river Granicus, May 22, B. C. 334; but, after an obstinate resistance, they were routed with great slaughter. The consequence of this victory was the surrender of Sardis, the chief town of Lydia, and the possession of the whole country as far as the river Hermus.

Alexander proceeded to Ephesus, and restored the democracy; and by an edict he established the popular government in all the Greek cities. At Miletus, which he besieged and took, he dismissed his fleet, and advanced to the siege of Halicarnassus, which was abandoned by the Persians, and then to Tralles, which he took and levelled with the ground. Having demolished Halicarnassus, he appointed Ada, who claimed the title of queen of Caria, and who delivered up to him Alinda, governess-general of all Caria; and this conduct induced many of the princes of the Lesser Asia to revolt from the Persians, and to put themselves under his protection. Alexander ingratiated himself with the army, by permitting the soldiers who were married to spend the winter with their wives in Macedonia; a practice conformable to the law of Moses, (Deut. xxiv. 5.) and which Aristotle probably learnt of some Jew, and recommended to his pupil. Whilst the king was busily preparing for the next campaign, an attempt was made upon his life by the corruption and treachery of an officer of his army; but it was discovered and prevented from taking effect.

The next campaign was opened early in the spring; and Alexander, taking possession in his march of the cities of Lycia and Pamphylia, proceeded to Phrygia; and at Gordium, the capital, he was desirous of seeing the famous chariot to which the Gordian knot was tied. The oracle had foretold, according to an ancient tradition of the country, that the

man who could untie it should possess the empire of Asia : Alexander, persuaded that this prediction related to himself, after many fruitless trials, exclaimed, "It is no matter which way it be untied," and cut it with his sword. Having subdued Paphlagonia and Cappadocia, he advanced by hasty marches into Cilicia, and arrived in the country called Cyrus's Camp. Through a narrow strait, called the Pass of Cilicia, he marched with his army to Tarsus, where Parmenio arrived just in time to prevent its being set fire to by the Persians. Alexander, heated and fatigued by this rapid march, plunged into the river Cydnus, which ran through this city, and was instantly seized with a shivering, which his attendants thought would prove fatal to him. His danger alarmed the whole army, and they expressed their apprehensions with lamentation and tears. In these circumstances, and whilst the speedy arrival of Darius was expected, Alexander consulted his friends and physicians, and intimated to them that the condition of his affairs would not admit either of slow remedies or timid physicians. "A speedy death," says he, "is more eligible than a slow cure." Philip, an Acarnanian, one of his physicians, who tenderly loved him, and had attended him from his youth, offered to give him a dose, which would be speedy in its effects, and desired three days to prepare it. In the mean while Alexander received a letter from Parmenio, who had been left in Cappadocia ; the purport of which was to bid him beware of Philip, because Darius had bribed him by the promise of a thousand talents, and his sister in marriage. But his confidence in a physician, whose fidelity he had experienced from his infancy, prevailed over his fears, and removed all his doubts. The contents of the letter he did not divulge. When Philip came to administer his medicine, Alexander took it from under his bolster and gave it Philip to read ; at the same time, fixing his eyes on the physician, he swallowed the draught without hesitation, or without discovering the least suspicion. The effects of the medicine were very violent, but the skill of the physician prevailed, and his fidelity was proved. Alexander recovered, and in three days presented himself to the joyful congratulations of the army.

During this interval Darius was on his march, and Alexander advanced to meet him near Issus, in the month of October, B. C. 333. The army of Darius consisted of 600,000 men ; but by infatuated counsels, and a vain confidence in the number of his forces, he had quitted an open and level country, and prepared to engage in a close and mountainous situation, where his multitude could only embarrass him in action. Victory was for some time obstinately disputed ; Alexander received a wound in his thigh ; but at length the Persian emperor fled, and his immense army was thrown into confusion. A dreadful carnage succeeded, and the tent of Darius, with his mother, wife, and daughters, came into the possession of the conqueror. When Alexander had performed the offices of duty and compassion to the dead and wounded, he entered the tent where the queens were lodged, accompanied only by his favourite Hephæstion. The queens, mistaking Hephæstion for the king, paid their respects to him as such ; but as soon as Syligambis, the mother of Darius, had discovered the mistake, she fell prostrate at the feet of Alexander, and begged his pardon. The king raised her from the ground, and said to her, "Dear mother, you are not mistaken ; he also is an Alexander." Alexander, after this respectful visit, declined exposing himself to the danger of human frailty, and solemnly resolved never to see the queen of Darius any more. At this time, the fourth year of his reign, Alexander was young, victorious, and free, or unengaged in marriage, as has been observed of Scipio on a like occasion—

"Et juvenis, et cœlebs, et victor."

After this victory, Alexander pursued his march to Syria. Parmenio went to Damascus, and possessed himself of the treasures of Darius. The king proposed to visit Tyre, that he might have an opportunity of sacrificing to the Tyrian Hercules : but the Tyrians resolved not to admit a Macedonian within their gates. Alexander was incensed, and determined to besiege the city ; and this siege, one of the most famous which history records, lasted for seven months ; at length the place was stormed and utterly destroyed. The king, on this occasion, incurred deserved reproach by his cruelty towards a people, who had only offended by bravely defending their country. Thousands were put to the sword, two thousand were crucified, and the rest sold for slaves. After having depopulated the city, he colonized it anew, and boasted of being the founder of a city which he had ruined. This event took place, August 20th, B. C. 332.

From Tyre Alexander proceeded to Jerusalem, with the intention of punishing the Jews for affording relief to the Tyrians during the siege ; but on his approach he met Jaddua, the high priest, in his pontifical habit, accompanied by the priests in their sacred vestments, and the people clothed in white. When the procession drew near, Alexander bowed before the priest, and paid him religious adoration ; alledging to Parmenio as the reason of this conduct, that the figure of a person in such habit had appeared to him at Dium, in Macedonia, and assured him of the divine guidance, and of ultimate success in his expedition. After this interview, Alexander accompanied Jaddua to Jerusalem, sacrificed in the temple, and conferred great favours on the Jewish nation. Such is the account given by Josephus, but the whole is rejected as fabulous by many judicious writers. Considering, however, the superstitious temper of Alexander, and his friendly conduct to the Jews, it is not altogether improbable. From Jerusalem Alexander proceeded to Gaza, beleaguered it, and took it by storm : from Gaza he marched to Pelusium, left a garrison in it, and sailed up the Nile. He afterwards marched through the deserts to Heliopolis, and crossing the river, he arrived at Memphis, where he offered pompous sacrifices not only to the Grecian gods, but to the Egyptian Apis. From Memphis he sailed down the river to the sea, and fixed on the place where he proposed to build a new city, which has since become so famous under the name of Alexandria. Here he formed the design of visiting the temple of Jupiter Ammon, situate on an oasis in the midst of the Libyan deserts. The senior priest of this temple flattered him with the title of the son of Jupiter, which Alexander joyfully accepted ; and he was farther assured that he should be the monarch of the world. From this journey, which had proved so successful, he returned as from a triumph ; and from this time, in all his letters and decrees, used the following style : "Alexander, king, son of Jupiter Ammon."

During his abode at Memphis, he settled the affairs of Egypt ; and in the spring marched towards the east against Darius. In his way to Tyre, which was the place appointed for the general rendezvous of his forces, he heard that Andromachus, whom he had appointed governor of Syria and Palestine, had been massacred at Samaria ; and, in order to avenge this audacious act, he put those that were concerned in it to death, banished the rest from Samaria, supplied their place with a colony of Macedonians, and divided part of their territories among the Jews.

From Tyre he directed his march to Thapsacus, and having passed the Euphrates, he advanced towards new conquests. On his march he was informed of the death of
Statira,

Soma, the mother queen of Darius; and this event decided the fate of the world. Darius, who had been long and anxiously preparing for the defence of his empire, and the safety of his people, was much gratified by the success of his arms, which Alexander had rendered to him. On a false report, during the siege of Tyre, he had made very able attempts to persuade him to accept of a large sum of money, but he would agree to them if he were Alexander. "And I would I," replied Alexander, "were I Parmenio." Parmenio now offered him all the provisions between the Euphrates and the Hellespont: but Alexander had more extensive views in his career of glory and empire. Darius prepared for battle, and pitched his camp near a village called Gurgamela, in a plain at some distance from Arbela. Alexander, at the sight of his formidable army, which stood forth like a wall, offered up victims to Fear, and joined in prayers addressed to Jupiter, Minerva, and Victory. These ceremonies being ended, he went to bed, and slept soundly through the whole night. Parmenio asked him in the morning, and expressing his surprise that he should be able to sleep so calmly, just as he was going to fight a battle in which his whole fortune was at stake: Alexander addressed him—"How could it be possible for us not to be calm, since the enemy is coming to deliver himself into our hands?" The army of Darius consisted of 600,000 foot, and 40,000 horse; some say of upwards of a million of men: but that of Alexander of no more than 40,000 foot, and 7 or 8000 horse. The Persians were totally routed: Parmenio, who was in great danger, was rescued by Alexander in person; and they both joined in the pursuit of Darius, and, passing the river Lycus, marched to Babylon, which was instantly delivered by Mazæus, the governor, into his hands. According to Arrian, the Persians on this occasion lost 300,000 men, besides those who were taken prisoners; but the loss of Alexander did not amount to more than 1200 men. Such was the issue of this battle of Arbela, fought in October, B. C. 331, which decided the fate of Asia.

From Babylon Alexander marched towards Susa, where he found treasures of various kinds, and of great value. Here he left Darius's mother and children; and having reduced the Uxii, whose country lay near Susa, and extended to the frontiers of Persia, he forced his way through the Persian straits, and arrived at Persepolis. Having destroyed the royal palace, to which he and his companions in the season of debauch and phrensy, and at the request of Thais the courtesan, and Ptolemy's mistress, set fire, and plundered the city, he pursued Darius first to Ecbatana, the capital of Media, and then as far as Rhages, a city one day's journey from the Caspian straits. But his progress was interrupted by the news of the death of this ill-fated and unhappy monarch, who was murdered by a conspiracy of his own subjects. Having settled the government of Parthia, he reduced Hyrcania, dispersed the Mardi, took possession of Zadracarta, the capital of Hyrcania, where for 15 days he celebrated solemn games, and offered magnificent sacrifices to the gods of Greece, and then entered Aria, and reduced the whole province to submission.

The relaxed discipline and unrestrained luxury which the manners of the Persians produced in an army flushed with success, terminated in faction and discontent, and even in a conspiracy against the life of Alexander. Philotas, the son of Parmenio, was forced by torture to confess his guilt, and punished with death; and his condemnation was soon fol-

lowed by the assassination of the father, at the age of 70 years, and after a life faithfully and zealously devoted to the service of his prince. The death of both Parmenio and Philotas, upon a suspicion of guilt, and without any direct proof, alienated the affections of the army from Alexander, and produced such a degree of dissatisfaction and disgust, that he separated those who were disposed to sedition from others, and proceeded without further delay to action. Having passed through Drangania, Arachosia, and the country of the Arimaspi, all which submitted to his arms, he arrived at a part of Mount Caucasus, called Paropamisus, where his army endured much toil and hardship; and where Bessus, whom he was pursuing, had laid waste the country, in order to deprive him of provisions and forage. This Bessus was a principal agent in procuring the death of Darius, and he had assumed the imperial purple, under the title of Artaxerxes. Alexander having found an opening that led into Media, directed a city to be built there, which he called Alexandria; and he also founded several other towns in its vicinity. From hence he penetrated into Bactria, and took Aornos and Bactra, the two strongest cities of the country: he then passed the river Oxus in pursuit of Bessus, who, although deserted by 7 or 8000 Bactrians, had withdrawn with a few adherents over this river to Nautacus, a city of Sogdiana. When Alexander arrived at a small city inhabited by the Branchidae, he was guilty of an act of savage cruelty, which fixed an indelible stain on his memory. The fact, though omitted by Arrian, is related by Curtius (lib. vii. c. 5. tom. ii. p. 520. Ed. Snakenb.) and referred to by Strabo (lib. xiv. tom. ii. p. 787.). Here Bessus, despoiled of all the ensigns of royalty, and stripped even of his garments, was brought in chains to Alexander; who, having ordered his nose and ears to be cut off, delivered him up to Oxatres, the brother of Darius, by whom he was sent to Ecbatana, where he suffered a cruel death: some say that he was crucified. Plutarch relates, that being fastened by his limbs to trees which were bent together, he was torn asunder by their elastic force, when they were allowed to return to their natural position.

Alexander pursued his march to Maracanda, the capital of Sogdiana, known by the modern name of Samarcand, and by long and dangerous stages advanced to the river Iaxartes, erroneously called by Arrian, Curtius, and others, Tanais. On the side of this river he was surprised by the barbarians, who, rushing suddenly from their lurking holes in the mountains, and fighting with bows and slings, killed many of the Macedonians, and took others prisoners. The king himself was wounded in the conflict; but the barbarians were at length overpowered and defeated with great slaughter. Soon after this transaction he formed a treaty with the Abian Scythians, who, from the time of Cyrus, had lived in freedom and independence, and who were distinguished by the equality and liberty that subsisted among them, and by their love of poverty and justice. Whilst he was forming a plan for building a city on the river Iaxartes, in order to curb the nations he had already conquered, and those he intended to subdue, he was diverted from the execution of his design by the revolt of the Sogdians and Bactrians; and, directing his arms against their combined forces, he took and destroyed in a few days seven of their cities. The capture of Cyropolis, which was one of them, and which was the greatest and most populous of the whole country, was vigorously resisted by the inhabitants; but it was at length taken, and razed to the very foundations. In these different sieges the enemy are said to have lost above 120,000 men; and in one of them Alexander, as well as Craterus and many of his principal officers, were wounded. He then returned to the Iaxartes, marked

marked a space of about three leagues in circumference, and built a city, which was called Alexandria. In less than 20 days the ramparts were raised, and the houses built; and, in order to people it, he ransomed all the prisoners he could find, settled in it several Macedonians, who were worn out in the service, and permitted many natives of the country, at their own request, to inhabit it. His next conflict was with the Scythians, whom he defeated with difficulty, and to whom, as he had other objects in view, he granted a peace on their own terms. The Sææ, who were a powerful nation, submitted to him, and, by an embassy, requested his friendship.

At this time Alexander received a reinforcement of upwards of 16,000 men from Macedonia and Greece, and was thus enabled to subdue all those who rebelled; and, to curb them for the future, he built several fortresses in Margiana. But he was gradually throwing off both the habit and manners of a Macedonian prince, and assuming those of an eastern despot. He was also surrounded by a number of sycophants, who are, and ever will be, says one of his biographers, the bane of princes, and the curse of nations. These, by indulging his humour and soothing his passions, precipitated him into extravagances of conduct, and deprived him of that equanimity and moderation, which were necessary for preserving the acquisitions he had made. One faithful friend declined concurring in this general adulation. At a banquet which succeeded the sacrifices performed at the anniversary festival of Bacchus, the honour of which Alexander had transferred to the Dioscuri, *i. e.* to Castor and Pollux, some of the attendants extolled the actions of the Macedonian prince above those of Castor and Pollux, and even of Hercules. Clytus remonstrated, alledging, that "he could not bear to hear such indignities offered to the gods, or the credit of ancient heroes undervalued, to tickle the ears of a living prince." As to Alexander's actions, he allowed they were great and glorious, but he maintained that they were not supernatural; that the army had shared in them, and that they had a right to participate in the praise belonging to them. Alexander was indignant; and as Clytus proceeded in the same strain, and affirmed that he had preserved the life of the king at the battle of the Granicus, stretching out his arm and saying, "this hand, O Alexander, saved thee;" the king rushed upon him, and endeavoured to kill him, but was prevented by the interposition of friends. At length, however, when his friends retired, he seized a lance, or long Macedonian pike, and laid Clytus dead on the spot. His passion soon subsided, and reflecting on the deed he had perpetrated, he indulged excessive grief, refused food for three days, neglected his apparel, and, as some say, would have slain himself with the pike that killed Clytus. Flattered, however, by the army, and perverted by the detestable doctrine of Anaxarchus of Abdera, the sophist, who taught him, "that let a sovereign prince do what he will, all his actions are just and lawful," he soon became more composed and tranquil; and lectures of this kind were more acceptable to his mind, already corrupted, than the honest and moral discourses addressed to him, with a view of settling his mind, by Callisthenes, the disciple and relation of Aristotle. His servile attendants renewed their adulation, attempted to persuade him that he was more than man, and that it was unjust and disloyal in his subjects not to own his divinity; and some of the most officious of them, amongst whom Anaxarchus was the chief, endeavoured to engage the Greeks as well as the Asiatics to pay him adoration. Alexander was pleased; and was highly provoked by a speech of Callisthenes, who attempted to awaken in his mind more sober

thoughts. His reasoning was ineffectual; and it was determined that when the king drank to any god, he should immediately rise, adore him, and having received a kiss from the king, depart.

The several circumstances that have been now related, produced a new conspiracy against the king; and the conspirators, being discovered, were stoned to death by the army. Callisthenes was apprehended, and, as some say, carried about in chains, till he died a natural death, but according to others, he was first racked and then crucified. The death of Callisthenes, says Seneca (*Nat. Quæst. lib. vi. c. 23.*), is an eternal reproach to Alexander, and a crime of so horrid a nature, that no quality, however excellent, nor military exploit, however illustrious, can ever efface its infamy. In favour of Alexander it is said, that he killed many thousand Persians; that he dethroned and killed Darius, the most powerful king of the earth; that he conquered innumerable provinces and nations, penetrated as far as the ocean, and extended the bounds of his empire from the most remote part of Thrace to the extremities of the east. In answer to each of these particulars, "Yes" says Seneca, "but he murdered Callisthenes;" a crime of so heinous a nature, that it entirely obliterates the glory of all his other actions.

The only strong hold which the rebels still retained was the Sogdian rock, or the rock of Oxus, into which Oxyartes, the Bactrian, had conveyed his wife and family. It was defended by Arimazes, with 30,000 soldiers under his command, and furnished with provisions for two years. It was deemed by its situation impregnable; and therefore, when Alexander, before he commenced the siege, summoned the garrison to submit, the commander insulted him, and asked "whether Alexander, who was able to do all things, could also fly; and whether nature, on a sudden, had given him wings?" Alexander was highly exasperated, and selected from the mountaineers in his army 300 of the most active and dexterous, directing them to seek a path to the top of the rock; to which the greater number of them at last ascended by means of wedges and ropes. When Alexander perceived the appointed signal, he sent a message to the commander, summoning him to surrender, and informing him, "that he had now a corps of winged soldiers." The whole Macedonian camp resounded with the shout of "victory," and the Barbarians surrendered the place at discretion. Alexander's resentment was invincible, and regardless of the dictates of humanity, he ordered Arimazes and the principal nobility of the country who sought shelter in his camp to be scourged with rods, and afterwards to be fixed to crosses at the foot of the rock. After the reduction of Sogdia, he marched into the country of the Parataæ, where was another fortress, called the rock of Chorienes, which was also deemed impregnable. After the siege was begun, Chorienes, the commander, was induced by Oxyartes to surrender it; and having been enrolled in the number of Alexander's friends, he was entrusted with the charge of it, and in return for this honourable treatment, supplied the Macedonian army with provisions. On one of these occasions, Roxana, the daughter of Oxyartes, who was esteemed the most beautiful woman in Asia, after the death of the wife of Darius, fell into the hands of the conqueror; and such was the influence of her charms, that he publicly espoused her.

India was the next object to which Alexander directed his attention. Accordingly he dispatched a herald to Taxiles, and the other princes on this side the river Indus, enjoining their submission; and Hephestion, with part of the army,

was dispatched to join Taxiles and the rest of the Indian princes, who were come out to meet them, and to reduce the country as far as this river. This commission was easily and speedily executed. Alexander bent his march towards the river Choumpes, and reduced several places in his progress, among which Andaca was one of the most considerable. He proceeded against the Afii and Affaceni, whom he successively defeated, notwithstanding obstinate resistance; but having invested Magaza, the capital of the latter people, he was wounded in the siege, and the army was repeatedly repulsed. At length, however, the Indians were compelled to submit; and by an act of perfidy, which Diodorus Siculus severely condemns, they were all put to the sword. Plutarch also reproaches the king for this barbarous action. Ora and Bazra, and the rock of Aornus, to which the inhabitants of the latter place retired, were next reduced; and Alexander proceeded to the river Indus, where Hephæstion and Perdicas had already provided a bridge of boats for the passage of the army. Having refreshed his troops in the territory of his friend and ally, Taxiles, Alexander passed the Indus, B. C. 327; and advanced forward to the Hydaspes, known in modern times by the name of the Betah or Chelum, or, according to the orthography of Major Rennell, Behut and thylam, where Porus with a large army lay encamped to dispute his passage. When he approached the banks of this river, he found that the people with whom he had to contend were not to be subdued so easily as the Persians, and other Asiatics. The Indians were not only a very tall and robust, but also a very hardy and well disciplined people; and their king Porus, a prince of high spirit, invincible courage, and good conduct. Alexander, however, after encountering great difficulties, on account of the inundations to which the Indian rivers are subject at the time of his march, which was Midsummer, or about the height of the rainy season, passed the Hydaspes; and having vanquished a detachment under the command of the son of Porus, who was slain in the action, he encountered Porus himself at the head of 4000 horse, 30,000 foot, 300 chariots and 200, or as Q. Curtius says (lib. viii. 13.) 85 elephants. The dispute, though short, was very bloody. Porus behaved with singular prudence and intrepidity; but the Indians were completely routed after a great slaughter. Porus, compelled to submit, was conducted to Alexander, who received him with respect, and treated him with kindness. When he was asked "how he wished to be treated?" Porus replied, "as a king." "That for my own sake," said Alexander, "I shall do." "And therein," rejoined Porus, "is comprehended all that I can ask." Alexander gave him his liberty, restored his kingdom with additional provinces; and Porus, in return, became his true friend and constant ally. For perpetuating the remembrance of this victory two cities were built; one called Nicæa, and the other Bucephala. Passing the river Acesines, he entered the territories of another Porus, and in pursuit of him crossed the Hydraotes; and having conquered the whole kingdom of this prince, he gave it to Porus his ally. In the midst of this success Alexander received advice, that the Cathi, Oxydracæ, and Malli, the most warlike nations in India, were confederated against him, and had assembled a great army. He determined immediately to attack them; and though they made a vigorous defence, they were put to flight; and soon after, their city of Sangala was taken by storm and razed. He then prepared to pass the Hyphasis, having nothing in view, as Arrian says, but to seek new enemies. Here he was told that after passing this river, he must travel 11 days through deserts, and that he would then arrive at the Ganges, the

largest river in India; and that farther in the country were the Gangaridæ and Praii, who were collecting a great force in order to oppose his entering into their dominions. Rumours of this kind were spread through the army, and produced no inconsiderable degree of discontent and murmur. Unable to allay the ferment that was prevailing among the troops and to satisfy them, that they had any object in view which could warrant their being led on to new difficulties and toils, he was constrained to terminate his progress, and to prepare for his return. When his purpose was made known to the army, he was saluted with loud acclamations and received the thanks of his followers; "because," they said, "he who was invincible had suffered himself to be overcome by their prayers." On the banks of the Hyphasis, the modern Beyah, which were the limits of his conquests, he caused to be erected 12 altars, on which sacrifices were offered. These altars, if we may believe the biographer of Apollonius Tyanæus, were still remaining, with legible inscriptions, when that fantastic sophist visited India, 373 years after Alexander's expedition. Philostrat. vita Apollon. lib. ii. c. 43. ed. Olearii.

Having exhibited public shows in the Grecian manner, he added all the conquered country to the dominions of Porus, and began his retrograde march towards the river Hydraotes. From thence he proceeded to the Acesines, and marched on to the Hydaspes, proposing to embark on the river Indus, and to pass by this river to the ocean. Whilst he was marching near these rivers, he observed many crocodiles, and that the country produced beans like those of Egypt; and hence he inferred, that he had discovered the source of the Nile, and prepared a fleet to sail down the Hydaspes to Egypt. Strabo. Geog. lib. xv. p. 1020. This circumstance shews, that the knowledge of the Greeks, in his age, did not extend beyond the limits of the Mediterranean. The breadth of the Panjab, as it is now called, through which Alexander passed, from Ludhana on the Setlege to Attock on the Indus, is computed to be 259 geographical miles, in a straight line; and his march, computed in the same manner, did not exceed above 200 miles. But in his advance and return, his troops were so spread over the country, and all his movements were so exactly measured and delineated by men of science, whom he kept in pay for the purpose, that he acquired a very extensive and accurate knowledge of that part of India.

Having prepared a fleet, consisting of 80 vessels of three banks of oars, and about 2000 lesser ships and transports, and having offered sacrifices to the gods, he embarked, and at the signal of the sound of a trumpet the fleet began to move. Having arrived at the confluence of the Acesines with the Hydaspes, where these united streams roll with great rapidity into the Indus, many of his vessels were lost, he himself was in danger, and Nearchus, the commander of the fleet, not a little perplexed. When the danger was past, and the fleet and army were joined, Alexander went on shore; and began his march through a desert country, in order to reduce the Malli and Oxydracæ, who were raising forces to oppose him. He surprised them, unprepared and unexpected his arrival; many of them were slain in the field, and the rest fled into the city and shut the gates. In storming their principal city, Alexander, with a romantic valour, which approached to fool-hardiness, scaled the walls, and leaped down into the city, accompanied by only three of his guards. Whilst he personally encountered a severe attack, he was wounded, and fainted through loss of blood; two of his guards, who were themselves wounded, covered him with their shields; till the soldiers from without ascended the walls, threw themselves into the city, and by an act of the

the most undaunted resolution, rescued their sovereign; though, when he was carried out upon his shield to the camp, his recovery was very doubtful. As soon as he was able, he rejoined his forces and was received in the camp with great joy.

His first thoughts were now directed to the increase of his fleet; and having accomplished this object, having given order for erecting a city in the commodious situation afforded by the confluence of two great rivers, and having conferred upon Oxyartes, the father of his wife Roxana, the government of Paropamisus, with some additional territories, he embarked on board his fleet and continued his voyage. But as he proceeded, he was occasionally employed in reducing some Indian princes, who were either negligent in paying him the attention and respect to which he conceived himself intitled, or who actually took up arms against him. Of this number were Musicanus, the sovereign of one of the richest and most populous kingdoms in India; Oxycanus, another Indian prince, who was taken prisoner, and Sambus, whose capital Sindomana opened its gates to receive him. Musicanus afterwards revolted; and Alexander directed him to be carried back into his own dominions, to be there crucified, together with all the Brachmans who were about him, and who had instigated him to this revolt. The king next sailed to Patala, the modern Tatta, an island formed by two branches of the river Indus, where he ordered an haven and convenient docks to be constructed for his ships; and when he had careened his fleet, he sailed down the right-hand branch of the river towards the ocean. As they approached the sea, they were exposed to great danger for want of skilful pilots; and therefore, after having gratified his vanity by entering the ocean beyond the Indus, performing religious rites in honour of Neptune, and surveying two small islands, he returned to Patala. Having surveyed the other branch of the Indus, and found a place of safety for his fleet, he gave directions to Nearchus to conduct the fleet, by the ocean, at the proper season, through the Persian gulf, up the river Tigris, to meet him and his army in Mesopotamia; and he departed with the army in order to march back by land to Babylon. From the researches of Major Rennell we learn, that the distance of that place on the Hydaspes, where Alexander fitted out his fleet, from the ocean, cannot be less than a thousand British miles. Considering the various operations by which he was retarded, and the slow navigation of such a fleet as he conducted, it is no wonder that he was above nine months before he reached the ocean. When we attend to the various movements of his troops, the number of cities which they took, and the different states which they subdued, he may be justly said to have explored the countries through which he passed.

Alexander, having left Patala, crossed the Arabis, and marched through the country of the Oritæ, whose capital he seized and converted into a new and noble city, which he committed to the government of Hephæstion. He then pursued his arduous march through Gedrosia; and in the whole of his progress suffered much from sickness, excessive heats and fatigue, and also from famine and thirst; so that he brought back from India scarcely the fourth part of his army, which had consisted of 120,000 foot, and 15,000 horse. In these circumstances, trying and distressing as they were, he maintained an invincible resolution and patience, and by his example encouraged the perseverance of his troops. Having rested and refreshed his army at the capital of Gedrosia, he prepared his march into Caramania, a very plentiful country, where his attendants were amply recompensed

for the hardships and fatigues they had endured. Here he punished those governors who were charged with mal-administration, some of whom were put to death; and redressed the various grievances which the people had suffered during his absence. He then continued his march through Caramania, and was joined by Nearchus, his admiral; and turning aside to Persia, he visited the tomb of Cyrus, at Pasargade; ordered Orines, the governor of Persia, who was charged with many atrocious crimes, to be crucified, and placed Peucedas, who had saved his life in a city of the Malli, in his room; and commanded Baryanes, a Mede, who had usurped the title and tiara of king, to be put to death. In these marches Calanus, an Indian brachman, who had accompanied Alexander, finding his health declining, requested to have a funeral-pile prepared; on the top of which he stretched himself at full length, and remained without voice or motion in the midst of the flames.

At Susa, to which Alexander next marched, he put to death Abulites and his son Oxathres, who were charged with enormous crimes in the administration of public affairs; and he attempted to unite the Macedonians and Persians by forming alliances between the noblest families of Persia and the principal persons of his own court; and he himself set them an example by taking two wives of the royal blood of Persia, *viz.* Statira, the daughter of Darius, and Parysatis, the daughter of Ochus. He also bestowed fortunes on those Persian ladies of high rank, who were married to his own principal officers. He likewise paid the debts of his army, and conferred rewards and promotions on those who had signalized themselves in his service, without distinction of country.

Alexander, having still a curiosity to see the ocean, and to explore the maritime parts of his empire, went down from Susa upon the river Eulæus; and having crossed the Persian gulf to the mouth of the Tigris, went up that river to the army, which was previously encamped, under the command of Hephæstion, on its banks, near the city of Opis. Here he issued an edict that those Macedonians, who were either unable or unwilling to make any more campaigns, might have their discharge, and return home, and that those who chose to remain with him should be duly encouraged. This edict which was intended to please the army, produced a contrary effect, and excited a mutiny, which was quelled by extraordinary resolution and intrepidity. Whilst the soldiers surrounded the tribunal on which he was seated, all clamouring for their discharge, reproaching him with the favours which he had conferred on the Barbarians, and insolently telling him, that his father Ammon and he might go and subdue the world by themselves, he leaped into the midst of them, ordered his guards to seize 13 of the ringleaders, whom he pointed out, and commanded their immediate execution. This act terrified them into silence and submission; and then remounting his tribunal, he pointed out to them, in an eloquent speech, the justice of his own conduct and the folly of theirs. He afterwards promoted the Persian nobility to the principal commands in his army; and by thus seeming to transfer his confidence to them, he humbled the Macedonians, and induced them to deliver up the authors of the sedition, and earnestly to seek reconciliation and favour; which they obtained, and which were succeeded by a solemn festival at which 9000 persons were present.

At Ecbatana, whither he next went, he offered sacrifices, and exhibited sports and games; which were followed by a royal banquet; but his joy on this occasion was unexpectedly interrupted by the sudden illness and death of Hephæstion.

From Babylon he marched against the Cossians, and subdued them; and he then pursued his course towards Babylon, where he formed a variety of projects, for improving the arts and extending his dominion. He proposed invading and conquering Arabia, draining the Babylonian seas, and constructing in the city a basin, capable of containing a thousand galleys. But before he could execute any of these grand schemes, he was seized with a fever, which, as some say, was occasioned, or at least aggravated, by excess of drinking, and which in a few days terminated in his death. He died on the 21st of April, in the second year of the 114th Olympiad, B. C. 323, after he had lived 32 years and eight months, and reigned 12 years and eight months. When his principal courtiers, perceiving his death to be inevitable, asked him to whom he left the empire, he answered, "to the most worthy;" and when Perdicas enquired at what time they should pay him divine honours, he replied, "when you are happy;" and having pronounced these words, he expired. When Alexander's corpse had been embalmed after the manner of the Egyptians and Chaldeans, Aridaeus, his bastard brother, who had been declared king, was appointed to convey it to the temple of Jupiter Ammon. Two whole years (see *Ælian*. lib. xiii. c. 30. tom. ii. p. 898.) were employed in preparing for this magnificent funeral, which made Olympias bewail the fate of her son, who having had the ambition to rank himself among the gods, was so long deprived of burial, a privilege allowed to the meanest of mortals. The funeral procession, conducted by Aridaeus, was singularly splendid; and some of our readers may probably be amused by the following brief account of it. It was preceded by pioneers, who cleared the way; and it consisted first and principally of a superb chariot in which the remains of the king were conveyed. The naves and spokes of the axle-trees of this carriage were covered with gold, and their extremities, made of gold, represented the muscles of lions biting a dart. It was drawn by 64 mules, harnessed to four draught-beams or poles; and these mules were adorned with crowns of gold, and collars enriched with precious stones and golden bells. On the chariot was erected a pavilion of solid gold, 12 feet wide and 18 feet long, supported by Ionic columns; and the inside was ornamented with jewels, disposed in the form of shells. The circumference was beautified with a fringe of golden net-work, to the threads of which were suspended large bells, the sound of which might be heard at a great distance. The external decorations consisted of four relieves. The first represented Alexander seated in a military chariot, with a splendid scepter in his hand, and surrounded on one side with a troop of Macedonians in arms, and on the other with an equal number of armed Persians; and these were preceded by the king's equeuries. In the second were seen elephants harnessed, with a band of Indians seated before, and a band of Macedonians, seated behind, and armed for battle. The third exhibited several squadrons of horse in military array. The fourth represented ships prepared for battle. The entrance of the pavilion was guarded by golden lions. The four corners were adorned with statues of gold, representing victories, with trophies of arms in their hands. Under the pavilion was placed a square throne of gold, adorned with the heads of animals, with golden circles round their necks, and to which were attached crowns, glittering with the most brilliant colours, and such as were carried about at the celebration of sacred solemnities. At the foot of the throne was placed the coffin of Alexander, formed of beaten gold, and half filled with aromatic spices and perfumes; and the coffin was covered by a pall of purple, wrought with gold.

The arms of the Monarch were disposed in the manner in which he used to wear them, between the coffin and the throne. The outside of the pavilion was covered with purple flowered with gold; and the top terminated in a large golden crown, resembling a cluster of olive branches. The rays of the sun, which darted on this diadem, as the chariot moved, caused it to emit a kind of rays resembling those of lightning. The chariot was followed by the royal guards, armed and magnificently arrayed. Among the numerous attendants and spectators, who were assembled on this occasion, Ptolemy advanced, with a numerous guard of his best troops, as far as Syria, to meet the procession. He prevented their depositing the corpse in the temple of Jupiter Ammon, and caused it to be conveyed, first to the city of Memphis, and thence to Alexandria. Here he reared a magnificent temple to the memory of Alexander, and rendered him all the honours which were usually paid to demi-gods and heroes by Pagan antiquity. Freinshemius, in his supplement to Livy (lib. cxxxiii. c. 65. tom. vi. p. 910. ed. Drakenb.), relates, after Leo Africanus, who lived in the 15th century, that the tomb of Alexander was to be seen in his time, and that it was revered by the Mahometans, as the monument not only of an illustrious king, but of a great prophet.

As to the issue of Alexander, we may observe in general, that by Barsina, or Arsinoe, the daughter of Artabazus, and the widow of Memnon, a lady of great beauty and merit, he had a son named Hercules, who was afterwards murdered; by Roxana, the best beloved of his wives, he had a posthumous son, named Alexander, who for a time enjoyed the title of king; by Cleophes, queen of part of India, he had a son named Alexander, who succeeded his mother in her kingdom; by Statira, the daughter of Darius, he had no children, nor by Paryfatis, the daughter of Ochus.

As to the extent of the Macedonian empire, and the distribution of it after his death; see *EMPIRE*.

As to his person, Alexander was of a middle size, with his neck somewhat awry, with full eyes, and a fierce majestic countenance. Either through taste or vanity he would never suffer any portraiture to be formed of him except by the greatest artists of his age; Praxiteles in sculpture, Lysippus in cast metal, and Apelles in painting.

As to his talents and character, they have been differently appreciated by his biographers. From his more ancient biographers, whose memoirs are in a great measure lost, five posterior writers have compiled the history of his life, namely, Diodorus Siculus, Plutarch, Arrian, Q. Curtius, and Trogus, abridged by Justin. The Baron de St. Croix, in his "Critical Inquiry into the Life of Alexander the Great by the ancient Historians," which first appeared in the memoirs of the French Academy of Inscriptions and Belles Letters, and obtained the premium of that society in 1772, and of which Sir R. Clayton published an English translation, with notes and observations, in 1793, has appreciated the merit and veracity of these historians. Historians, says another writer, have considered him either as an enterprising and successful prince, the glory of whose great actions scarcely suffered the blemishes in his personal conduct to be seen, which is the light in which Arrian has placed him; or they make his virtues and vices alike conspicuous, which seems to have been the view of Curtius. Philosophers and moral writers have dealt more strictly with him, and have therefore seldom run into high panegyrics, Plutarch only excepted; who in his orations on the fortune and virtue of Alexander, speaks as a rhetorician. The Satirist Lucian hath described him with great spirit and with consummate judgment; but

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he seems to have kept his eye too closely on the latter scenes of his life, when his fortune, not his merit, was at its greatest height. It is justly observed by Livy (lib. ix. c. 18.) that Alexander appears very different, according to the times or seasons in which we consider him. He discovers in him a kind of double Alexander; the one wise, temperate, judicious, brave, intrepid, but at the same time prudent and circumspect; the other immersed in all the wantonness of an haughty prosperity; vain, proud, arrogant, fiery; softened by delights, and abandoned to intemperance and excesses; in a word, resembling Darius rather than Alexander, and having made the Macedonians degenerate into all the vices of the Persians, by the new turn of mind, and the new manners he assumed after his conquests. M. Rollin, guided by this clue, contemplates him in two different periods of his life, and corresponding aspects of his character: first, from his youth to the battle of Issus and the siege of Tyre; and secondly, from that victory to his death. In the first period, we acknowledge and admire a happy disposition, cultivated and improved by education. He had a great, noble, and generous soul, which was delighted in bestowing favours and doing service. He was also actuated by a high degree of emulation and love of glory; he was betimes accustomed to exercises of body and mind, and to a sober and temperate mode of living. No prince in the world had a nobler education than Alexander; so that he was conversant in eloquence, poetry, polite learning, the whole circle of arts, and the most abstracted and sublime sciences; and in the progress of his years he was a favourer and promoter of literature and the arts, and attached to his train poets, orators, and philosophers. Under Aristotle he enjoyed singular advantages of instruction; nor was he insensible of their value; and he rendered essential service to science by the presents which he conferred on his preceptor, for enabling him to pursue his enquiries in natural history. He also employed men of talents of every description, and liberally rewarded them. In the early life of Alexander we perceive and admire the judgment manifested in his conversation with the Persian ambassadors; the wisdom with which he acted as regent during his father's absence, and by which he pacified the feuds that had broken out in Macedonia; and the valour by which he distinguished himself in the battle of Chæronea. The first years of his reign were, perhaps, all circumstances considered, the most glorious of his life. At 20 years of age, he appeased intestine feuds, subjected foreign enemies, disarmed Greece, when most of its states were combined against him; and in three years accomplished the plan which his father had projected. For effecting these purposes intrepidity and prudence, courage and presence of mind, those qualities which form the character of the true hero, were indispensable. In the former part of his expedition against Darius, the same qualities are manifest. When he was scarce 20 years old, with dangers, domestic and foreign, threatening him, with a treasury not only exhausted but encumbered with debts, with an army much inferior to that of the Persians, Alexander turns his eyes towards Babylon and Susa, and projects the conquest of a vast empire. The swiftness of the execution corresponded to the wisdom of the project. Having gained the affection of his officers by an unparalleled liberality, and the attachment of his soldiers by condescension and affability, he astonished his enemies by bold enterprises, terrified them by examples of severity, and won them by acts of humanity and clemency. The passage of the Granicus, followed by a famous victory; the two celebrated sieges of Miletus and Halicarnassus, exhibited to Asia a young conqueror, to whom no part of military sci-

ence was unknown. When he allowed to those whom he conquered, and who readily submitted, the enjoyment of their liberties and ancient laws, observers were led to believe, that the conqueror had no other view than to make nations happy, and to procure them an easy and lasting peace. The two battles of Issus and Arbela, with the siege of Tyre, proved, that Alexander possessed the qualities of a great soldier; skill in chusing the field of battle; presence of mind in issuing proper orders even in the heat of action; courage animated by pressing dangers; impetuous activity, tempered and guided by caution and circumspection; and an invincible firmness and constancy, neither disconcerted by unforeseen obstacles nor discouraged by difficulties. The circumstance which raises Alexander above most conquerors, and, as it were, above himself, was his conduct toward the mother, wife, and daughters of Darius; all of them princesses, whose beauty was not to be paralleled through the whole of Asia. If this conduct towards the family of Darius had been accompanied with the grant of a peace, which he speculated on terms so humiliating to himself, and so advantageous to Alexander, the conqueror would have risen still higher in our esteem. Alexander, it is said, had a soul capable of friendship; he endeared himself to his officers and soldiers, by his attention and familiarity; he grieved for them when they were sick, rejoiced in their recovery, and participated in whatever befel them.

If we follow Alexander to the second period of his history, after the battle of Issus, we shall see the virtues and noble qualities of this prince degenerate on a sudden, and make way for the greatest vices and the most brutal passions. Was ever enterprise more wild and extravagant than that of crossing the deserts of Libya, and interrupting the course of his victories, in order to purchase a title, that of the son of Jupiter Ammon, which, in reality, only served to render him contemptible. The drunkenness and debauchery to which he addicted himself, and the follies and crimes of which he was guilty in his seasons of intoxication, degrade his character, and expose it to just abhorrence and contempt. What shall we say of his marking his footsteps with fire and blood, of his burning cities and slaughtering their inhabitants? of his burning Persepolis, murdering Clytus, putting Philotas to the torture, disgracing Parmenio, an old, tried, faithful friend, and putting both father and son to death, and of permitting Callisthenes, the philosopher, to die in a dungeon, or in a worse mode? what apology can be made for his wanton cruelties? the devastation of whole countries, the slaughter of millions of inhabitants, the crucifixion of an Indian prince, and the punishment of many Brahmins, whose only crime had been that of encouraging their countrymen to defend their liberties against a lawless invader? well might the Gentoo annals call him "a most mighty robber and murderer." How justly does the author of the first book of Maccabees characterize him, by saying that "he butchered kings," *εφαρξε βασιλεις της γης*. His debaucheries, his abominable revellings, his more than Asiatic luxury, his Sardanapalian effeminacy, were so flagrant, that his warmest encomiasts have not been bold enough to deny nor even to palliate them.

As to his magnanimity and generosity, which have been wonderfully extolled, these, upon close examination, would probably appear to be the fruits of that same vain-glorious ambition, which was the main source of all his actions. His liberal presents to writers and artists were the price of the grossest adulation; the most pitiful scribbler, if he was lavish in his flattery, was as lavishly repaid for his grateful incense; and a Charilus, a Cleo, and an Agis, (the very

days of their respective countries, as Q. Curtius calls them) were as fire of being recompensed as an Aristotle or a Xanthophon, and were preferred by this famous hero, even to his own relations and generals. He was not less liberal to singers, harpers, and poets; on whom he bestowed at one casual, above 10,000 talents, as we may naturally suppose, for chanting his bloody victories and retounding his praise.

If we examine his character as a warrior and a conqueror, and trace his military exploits to their moving spring; it is natural to direct our enquiry to the justice of the war in which he engaged, without a regard to which he is not a conqueror and a hero, but an usurper and a robber. If we allow that the Persians were the avowed enemies of the Greeks, what right had Alexander over the great number of nations who did not even know the name of Greece, and had never done or designed him the least injury? The Scythian ambassador spoke justly, when he said: "What have we to do with thee? we never once set our foot in thy country. Are not those who live in woods allowed to be ignorant of thee, and the place from whence thou comest? Thou boastest, that the only design of thy marching is to extirpate robbers; and thou thyself art the greatest robber in the world!" To the same effect was the answer of the pirate, when Alexander questioned him, what right he had to infest the seas? "The same that thou hast to infest the universe; but because I do this in a small ship, I am called a robber; and because thou artest the same part with a great fleet, thou art entitled a conqueror." Upon the principle now stated, what idea ought we to form of Alexander's last conquests? Was ever ambition more extravagant, or rather more furious, than that of this prince? It is related that Alexander, when he was told by Anaxargus the philosopher, that there was an infinite number of worlds, wept in thinking, that it would be impossible for him to conquer them all, since he had not yet conquered one. Val. Max. lib. viii. c. 14. Is it wrong in Seneca, (Nat. Quest. lib. iii. in pref.) to compare these pretended heroes, who have gained renown no otherwise than by the ruin of nations, to a conflagration and a flood, which lay waste and destroy, or to wild beasts who subsist merely by blood and slaughter? Alexander, continues this writer, (De Benef. lib. i. c. 13.) an unjust robber from his youth, a cruel ravager of provinces, an infamous murderer of his friends, makes his happiness and glory to consist in rendering himself formidable to all mortals; forgetting that, not only the fiercest animals, but even the vilest, make themselves feared by their poisons. If the conquests of Alexander are examined in themselves separately from their moving spring, we shall find that they are frequently effected by a kind of valour nearly allied to a boldness that is blind, rash, and impetuous; that has no other guide besides a senseless ardour for false glory and a wild desire of distinguishing itself by any methods, let them be ever so unlawful. To form an accomplished general, prudence must soften and direct the too fiery temper of valour; as this latter must animate and warm the coldness and slowness of prudence. Do these characteristics belong to Alexander? When we follow him to sieges and battles, are we not perpetually alarmed for his own safety, and that of his army? and do we not conclude, that they are every moment upon the point of being destroyed? Plutarch, in pronouncing the eulogy of Alexander, as an accomplished hero, gives a long detail of the various wounds he received; and intimates, that his courage was thus rendered more conspicuous. But it has been observed in praise of Hannibal, that he was never

wounded in all his battles. It ought also to be observed, in estimating the character of Alexander, as a conqueror and warrior, what Livy has suggested (lib. ix. c. 17.), who were the enemies with whom he combated. "Had he marched," says this writer, "against the Romans, he would soon have found, that he was no longer combating against a Darius, who, encumbered with gold and purple, the vain equipage of his grandeur, and dragging after him a multitude of women and eunuchs, came as a prey rather than as an enemy; and whom Alexander conquered without much blood, and without wanting any other merit, than that of daring to despise what was really contemptible. He would have found Italy very different from India, through which he marched in a riotous manner, his army quite stupified with wine; particularly when he should have seen the forests of Apulia, the mountains of Lucania, and the still recent footsteps of the defeat of Alexander his uncle, king of Epirus, who there lost his life." Alexander, therefore, partly owed his conquest to the weakness of his enemies. After all it cannot be denied, that Alexander possessed very great qualities; but they were those which were fitted to inspire admiration rather than esteem; while the worst rendered him a pest of mankind, and resembled him, as an excellent biographer observes, "to one of those baleful meteors, which dazzle as they fly, but ruin where they fall." He possessed talents, says Dr. Robertson, (Hist. America, vol. i. p. 20.) which, notwithstanding the violent passions that incited him, at some times, to the wildest actions and the most extravagant enterprizes, fitted him not only to conquer, but to govern the world. If we throw into the scale of his errors and vices, the presumptuous idea he entertained of his merit; the high contempt he had for other men, not excepting his own father; his ardent thirst of praise and flattery; his ridiculous notion of fancying himself the son of Jupiter; of ascribing divinity to himself; of requiring a free, victorious people to pay him a servile homage, and to prostrate themselves ignominiously before him; his abandoning himself so shamefully to wine; his violent anger, which rises to brutal ferocity; the unjust and barbarous execution of his bravest and most faithful officers, and the murder of his most worthy friends in the midst of feasts and carousals: Can any one, says Livy, (lib. ix. c. 17.) believe, that all these imperfections do not fully the reputation of a conqueror? But Alexander's frantic ambition, which knew neither law nor limits; the rash intrepidity with which he braves dangers, without the least reason or necessity; the weakness and ignorance of the nations, totally unskilled in war, against whom he fought; do not these enervate the reasons for which he is thought to have merited the surname of *Great*, and the title of *Hero*? Rollin, in closing the estimate of Alexander's character, observes, that we do not find that he possessed the first, the most essential and most excellent virtues of a great prince, so as to be the father, the guardian, and shepherd of his people; to govern them by good laws; to make their trade, both by sea and land, to flourish; to encourage and protect arts and sciences; to establish peace and plenty, and not suffer his subjects to be in any manner aggrieved or injured; to maintain an agreeable harmony between all orders of the state, and make them conspire, in due proportion, to the public welfare; to employ himself in doing justice to all his subjects, to hear their disputes and reconcile them; to consider himself as the father of his people, consequently as obliged to provide for all their necessities, and to procure them the several enjoyments of life. He adds, Alexander seems possessed of such qualities only as are of the second rank

rank, those of war, and these are all extravagant. They are carried to the most rash and odious excess; and to the extremes of folly and fury; whilst his kingdom is left a prey to the rapine and exactions of Antipater, and all the conquered provinces abandoned to the insatiable avarice of the governors, who carried their oppressions so far, that Alexander was forced to put them to death. And as for his own soldiers, when they had plundered the wealth of the east, they became so licentious, so debauched, and abandoned to vices of every kind, that he was under a necessity of paying their debts, amounting to fifteen hundred thousand pounds. Although the Romans held Alexander's memory in great veneration, it is very doubtful whether, in the virtuous ages of the commonwealth, he would have been considered as so great a man.

Upon the whole, if an impartial person of good sense reads Plutarch's *Lives of Illustrious Men* with attention, they will leave such a kind of impression on his mind, as will make him consider Alexander one of the least valuable among them. But how strong would the contrast be found had we the lives of Epaminondas, of Hannibal, and of Scipio? How little would Alexander appear, set off with all his titles, and surrounded by all his conquests, even if considered in a military light, when compared with those heroes, who are truly great, and worthy of their exalted reputation! Diodorus Siculus, lib. xvii. tom. ii. p. 160.—253. Ed. Wesseling. Plutarch. Oper. tom. i. p. 664.—707. Ed. Xyland. Q. Curtii de Rebus gestis Alex. Mag. Pafsim. Ed. Snakenb. Arriani Exped. Alexandri. Pafsim. Ed. Gronov. Strabo. Geog. tom. i. & ii. Ed. Amst. 1707. Rollin's Anc. Hist. book xv. vol. iv. and v. Anc. Un. Hist. vol. vii. p. 280—437. 8vo.

ALEXANDER SEVERUS, the Roman emperor, was born at Acra, in Phœnicia, according to one account, in the year 208, but, according to another preferred by Gibbon, Dec. 12, 205. His father was a Syrian, and became a consul. His mother was Mamaea, daughter of Julia Mæsa, the sister of Julia, wife to the emperor Severus; and as another daughter of Mæsa was married to Heliogabalus, Alexander, or Alexianus, which was his family name, was first cousin to that emperor. His mother, who was a woman of excellent talents and character, and who is supposed to have imbibed Christian principles, paid particular attention to his education, and employed such persons for this purpose as were eminent for their probity and learning. His application and improvement corresponded to his advantages; and every day was devoted to literary acquirements, and to martial exercises. With a robust and graceful form and considerable mental accomplishments, he combined a mild, humane, and generous temper, so that he not only abhorred every kind of cruelty, but made it his chief study to please and oblige his parents and relations, and even his domestics. When Mæsa, his grandmother, perceived the approaching termination of Heliogabalus's career of profligacy, she embraced a favourable opportunity of persuading him to adopt Alexander. Accordingly he assumed this name instead of that of Alexianus, with the addition of Severus, and was invested with the title of Cæsar, A. D. 211. The young prince soon gained the affections of the people to a degree which excited the jealousy of the emperor; and he therefore resolved to destroy the envied and dangerous competition, either by corrupting the manners, or by taking away the life of his rival. Mamaea and her mother defeated his design in both these respects; and by means of the Prætorian guards, whose attachment they had secured, Heliogabalus's attempt against the honour and life of the young Cæsar terminated in his own premature and

ignominious death. By these guards Alexander was advanced to the throne, A. D. 218. The senate concurred, and immediately invested him with the various titles and power annexed to the imperial dignity. At the same time they offered him the name of Antoninus, and the surname of Great; but these he modestly declined. Alexander was a dissident and duntul youth, of only 17 years of age; the reins of government were in the hands of his mother and grandmother; and after the death of the latter, Mamaea remained the sole regent of her son and of the empire. With her consent he married the daughter of a patrician, who afterwards became the object of her jealousy and cruelty, and was banished by her instigation, which Alexander durst not oppose, into Africa. It has been said, indeed, by Lampridius, that the father was detected in a conspiracy, and that the repudiation of the daughter was the consequence of his crime. But Herodian represents him as innocent. Under her direction, and with the approbation of the senate, a council of state was appointed, consisting of 16 of the wisest and most virtuous senators. At the head of this number, as prætorian præfect, was Ulpian, distinguished by his knowledge and respect for the laws of Rome; and the prudent firmness of this aristocracy restored order and authority to the government. The city, by their influence, was purged from the superstition and luxury, which Heliogabalus had introduced; his worthless creatures were also removed from every department of public administration; and their places were supplied with men of virtue and ability. Learning, and the love of justice, became the only recommendations for civil offices. Valour, and the love of discipline, were the only qualifications for military employments. But the most important object of Mamaea's solicitude was that of forming the character of the young emperor. His excellent understanding encouraged cultivation, and led him duly to value the advantages of virtue, the pleasures of knowledge, and the necessity of labour. The natural mildness and moderation of his temper preserved him from the assaults of passion and the allurements of vice. His unalterable affection for his mother, and his respect for the wife Ulpian, guarded his unexperienced youth from the poison of flattery. As Mamaea had probably embraced the profession of Christianity, it is no wonder that Alexander was very indulgent to the Christians, and would not suffer them to be persecuted on account of their religious tenets. He himself seems to have been well acquainted with the Christian morals; for he frequently repeated the golden rule of the gospel, "Do as you would be done by;" caused it to be inscribed over the gates of his palace, and on several public edifices: and observed it in his own conduct, with the greatest exactness.

"The simple journal of his ordinary occupations," says a popular historian, "exhibits a pleasing picture of an accomplished emperor, and with some allowance for the difference of manners, might well deserve the imitation of modern princes. Alexander rose early: the first moments of the day were consecrated to private devotion, and his domestic chapel was filled with the images of those heroes, who, by improving or reforming human life, had deserved the grateful reverence of posterity. But, as he deemed the service of mankind the most acceptable worship of the gods, the greatest part of his morning hours was employed in his council, where he discussed public affairs, and determined private causes, with a patience and discretion above his years. The dryness of business was relieved by the charms of literature; and a portion of time was always set apart for his favourite studies of poetry, history, and philosophy. The works of Virgil and Horace, the republics of Plato and Cicero, formed

formed his table, ordered his undertaking, and gave him the management of man and government. The exercises of the body descended to those of the mind; and Alexander, who was tall, strong, and robust, improved most of his capital in the general arts. Refreshed by the use of the bath and a good dinner, he resumed, with new vigour, the business of the day; and, at the hour of supper, the principal of the Romans, he was attended by his secretaries, with whom he read and answered the multitude of letters, memorials, and petitions, that must have been addressed to the master of the greatest part of the world. His table was served with the most frugal simplicity, and whenever he was at home to consult his own inclination, the company consisted of a few select friends, men of learning and virtue, among whom Ulpian was constantly invited. Their conversation was familiar and instructive; and the pauses were occasionally enlivened by the recital of some pleasing composition, which supplied the place of the dancers, comedians, and even gladiators, so frequently summoned to the tables of the rich and luxurious Romans. The dress of Alexander was plain and modest, his demeanour courteous and affable: at the proper hours his palace was open to all his subjects; but the voice of a crier was heard, as in the Eleusinian mysteries, pronouncing the same salutary admonition: "Let none enter these holy walls, unless he is conscious of a pure and innocent mind."

His mother, though a princess of sound judgment and good disposition, and though he owed many of the excellencies he possessed to her wisdom and attention, was more fond of pomp than himself; and did not approve the plainness and popularity of his behaviour. "Take care," said she to him one day, "you weaken not your authority, and render it contemptible." "I render it," he answered, "more secure and more durable." While he was strict, and sometimes severe, in his administration of public justice, and in the punishment of those who oppressed the public, he was naturally mild and gentle: and though he practised rigid economy, and exercised self-denial in every thing that pertained to his own gratification, he was liberal and beneficent. In the course of his reign he made three general distributions of provisions to the people, and three largesses in money to the soldiers. To the indigent and distressed he gave lands, slaves, cattle, and all necessary implements of husbandry; rightly judging, that this mode of exercising his liberality was more beneficial and less humiliating than the giving of gold and silver. If he granted pecuniary assistance, it was by way of loan; and he established a bank, where all who wanted money found it at a moderate interest, and on some occasion he lent without interest. It was a saying of this emperor; "Imperium in virtute, non in decore;" *i. e.* "The majesty of the empire consists in virtue, and not in an ostentation of riches." Although he was very religious, his offerings in the temples were not magnificent. He often repeated the words of Persius (*Sat. ii. v. 69.*) "In sancto quid facit aurum?" "What has gold to do with sacred things?" His respect for virtue extended to the dead, as well as to the living. Accordingly he collected in Trajan's square the statues of the deified emperors of Rome, and of the famous Roman commanders, and adorned them with inscriptions, setting forth their great exploits and eminent virtues. In his palace he had two chapels, in which the principal objects of his veneration were ranged in two classes, the one destined to virtue, and the other to talents. In the first were placed the good emperors, among whom he very erroneously ranked Alexander the Great; and next to them the wise men, by whose useful lessons mankind had been benefited; and here were

blended Abraham, Orpheus, Apollonius Tyaneus, and Jesus Christ. The second chapel was destined to military heroes, and men conspicuous in the republic of letters, Achilles, Cicero, Virgil, whom he called the Plato of the poets, and some others. In order to encourage the progress of letters and of science in general, he allotted pensions to rhetoricians, grammarians, physicians, architects, men skilled in mechanics, and even to aruspices and astrologers. He established schools for all these arts, and provided for the instruction of the poor without expence to them. His life, however, has not been free from blemishes. His deference for his mother was considered as carried to a culpable excess, more especially as she, with all her good qualities, was addicted to vanity and avarice. He gave her name to several buildings, which, as we learn from Ammianus Marcellinus (*lib. xxviii. p. 372.*), they retained in the fourth century; and caused her to be honoured with the titles of Augusta, mother of her country, of the armies, and of the senate. He was also charged, and not altogether without foundation, with being of a suspicious and inquisitive temper; and with being inclined to vanity; which latter weakness he indicated by his avidity of praise and his affectation of being regarded as a Roman and of the family of Marcelli, and not a Syrian. His timidity likewise betrayed him into imbecility of conduct; particularly with reference to the pretorian guards, who by their mutiny produced a civil war in Rome, that lasted three days, and that terminated in the massacre of Ulpian. Although this wise man, who was the friend of the laws and of the people, sheltered himself from the seditious rage of this class of persons in the emperor's palace, and was murdered even in his presence, he had not resolution sufficient to avenge this atrocious crime in the manner it deserved. Such indeed was the weakness of government, that the tyranny of the army threatened with instant death his most faithful ministers, provided that they were only suspected of an intention to correct their intolerable disorders. The historian Dion Cassius, who had commanded the Pannonian legions with a spirit of ancient discipline, and whom the emperor recompensed by appointing him his colleague in the consulship, was compelled to retire, by his advice, from the city, and to spend the greatest part of his consulship at his villas in Campania, and the remainder of his days in Bithynia, his native country. *Dion. Cass. Hist. lib. lxxx. p. 1371.*

On another occasion, however, he manifested a becoming firmness and magnanimity. When some of the soldiers at Antioch had excited a sedition in the legion to which they belonged, and interrupted his mild expostulations by their clamours, he addressed them in the following dignified and spirited language: "Reserve your shouts, till you take the field against the Persians, the Germans, and the Sarmatians. Be silent in the presence of your sovereign and benefactor, who bestows upon you the corn, the clothing, and the money of the provinces. Be silent, or I shall no longer stile you soldiers, but *citizens*; if those indeed who disclaim the laws of Rome deserve to be ranked among the meanest of the people." When their brandished arms threatened even his person; "your courage," resumed the intrepid emperor, "would be more nobly displayed in the field of battle; *me* you may destroy; you cannot intimidate; and the severe justice of the republic would punish your crime, and revenge my death." The clamour continuing, the emperor, with a loud voice, pronounced the decisive sentence: "*Citizens*, lay down your arms, and depart in peace to your respective habitations." Such was the effect of the sentence, that the clamour was instantly silenced; the soldiers confessed their crime, and supplicated forgiveness; nor were they restored to their rank in the army, till he had punished with death those

those tribunes, whose connivance had occasioned the mutiny. The grateful legion served the emperor, whilst living, and revenged him when dead. The difference of his temper and conduct on the occasions above recited must be ascribed to the different vigour of mind, which he possessed in his youth and in his riper age. When he became capable of taking the government into his own hands, and of exerting his genius and courage, no prince could more effectually command the awe, as no one ever more deserved the love, of his soldiers. It was a frequent declaration of Alexander, "the soldier does not fear his commanders, unless he be fed and clothed, and has some money in his purse." And whilst he furnished them with mules and camels to carry part of their baggage in their marches, he used to say, "that he took more care of his soldiers than of himself, because it was on them that the welfare of the republic depended;" and he perfected the plan which other emperors had concerted for securing to the troops a decent and comfortable retreat in their old age.

Whilst Artaxerxes, the restorer of the Persian monarchy, was preparing to invade the Roman dominions, Alexander sent ambassadors in order to dissuade him from engaging the two empires in a long and dangerous war. The message was received with contempt; nor did any of Alexander's remonstrances avail to prevent the Persian monarch from ravaging Mesopotamia and entering Cappadocia. The emperor, therefore, resolved to march against him in person. In the spring of the year 233, Alexander, with an army of the prætorian guards and part of the hardy legions of Europe, advanced towards the frontiers of the Roman dominions to meet the great king, which was the haughty style assumed by Artaxerxes in his embassies; whose force consisted, as history, scarcely credible, reports, of 120,000 horse, clothed in complete armour of steel, of 700 elephants, with towers filled with archers on their backs, and 1800 chariots armed with scythes. Of the event of the battle which ensued, historians have given very contradictory accounts. Herodian asserts, and Mr. Gibbon acquiesces in his account, that the plan of Alexander for the conduct of the war, however judiciously concerted, totally failed. The emperor himself, influenced by his mother's counsels, and perhaps by his own fears, deserted the bravest troops and the fairest prospect of victory; and after consuming in Mesopotamia an inactive and inglorious summer, led back to Antioch an army diminished by sickness and provoked by disappointment. But the Persian monarch, in several obstinate engagements against the veteran legions of Rome, lost the flower of his troops; and instead of expelling the Romans from the continent of Asia, found himself unable to wrest from their hands the little province of Mesopotamia. Crevier and many other modern writers chuse rather to follow Lampridius, whose account is entirely different from that of Herodian. The Persians, says this last author, were totally defeated, and Alexander approved himself an intrepid soldier and a skilful general. The great king fled before his valour; an immense booty and the conquest of Mesopotamia were the immediate fruits of this signal victory. Alexander, it is said, having taken care to guard Mesopotamia with several well garrisoned forts, returned to Rome, A. D. 234, to give the senate an account of his exploits, and was received by persons of all ranks with the greatest demonstrations of joy; and obtained a signal triumph. His triumphal car was drawn by four elephants; the air resounded with acclamations, and the shouting attendants unceasingly exclaimed, "Rome is happy, whilst she sees Alexander alive and victorious."

Soon after his triumph, Alexander, accompanied by his

mother, marched against the Germans, who had passed the Rhine, and who were making incursions into every part of Gaul. Upon his arrival in Gaul, he sent ambassadors to the barbarians in order to treat with them; and if Herodian may be credited, to purchase peace, which he preferred to the precarious issue of a war. Having passed the winter in the neighbourhood of the Rhine, he employed himself in introducing discipline among the licentious legions of Gaul. His attempts for this purpose produced discontent in the army, which were aggravated by a person, originally a barbarian of mean origin, whose father was a Goth and mother an Alan, and who had been raised from the lowest station to the rank of a general officer. This person was proclaimed emperor by the seditious soldiers; and made his way to the throne by the massacre both of Alexander and his mother. This event happened on the 19th of March, A. D. 235, when Alexander was in his 27th year, and after he had reigned 13 years. The untimely death of Alexander was universally regretted. The soldiers, who were not concerned in the plot, manifested their repentment by a speedy vengeance in immediately killing the murderers of their prince. The senate decreed both to him and his mother divine honours; appointed for them altars, priests and sacrifices; and instituted, in honour of the deceased emperor, an annual feast, which was celebrated on the first of October, the day of his nativity. Crevier's Rom. Emp. vol. viii. Book xxiv. p. 279—350. Anc. Un. Hist. vol. xiii. p. 432—449. Gibbon's Hist. vol. i. p. 238, 240, 337. vol. ii. p. 450.

ALEXANDER ÆGEUS, a disciple of Sosigenes, and preceptor of Nero, by whom he is said to have been corrupted, is known as the author of a commentary on Aristotle's Meteorology; which has been attributed to Alexander Aphrodisæus. Suidas. Fab. Bib. Græc. lib. iii. c. 11.

ALEXANDER ÆTOLUS, a grammarian of Pleuron, in Ætolia, was a contemporary of Aratus, and celebrated among the seven writers of tragedy, called the *pleias* in the time of Ptolemy Philadelphus. He also wrote elegies, cited by Athenæus (lib. xiv. p. 699.), and other poems, commended by Servius on the 10th Æneid of Virgil, and referred to by Athenæus (vii. p. 283, 296.) Suidas. Fabr. Bib. Græc. lib. ii. c. 19.

ALEXANDER APHRODISÆUS, so called from a city of Caria, where he was born, was an eminent philosopher of the school of Aristotle, about the close of the second or beginning of the third century. He was appointed public professor of the Aristotelian philosophy under the Roman emperors, Septimius Severus and Caracalla, either at Athens or Alexandria, and dedicated the first fruits of his labours, which is an excellent treatise, "On Fate," asserting the doctrine of Divine Providence, to these emperors. He was supposed to have so well understood the speculations of his master, and to have so satisfactorily explained them, that he was respected by his contemporaries as an excellent preceptor, and followed by succeeding Aristotelians among the Greeks, Latins and Arabians, as the best interpreter of Aristotle. He obtained the appellation of "The Commentator," on account of the number and value of his Commentaries. Hottinger and Herbelot affirm, that Arabic translations of his commentaries are still extant. In his book concerning the soul, he maintained, that it is not a distinct substance by itself, but the *form* of an organized body: he denied its immortality, and asserted, that to maintain the possibility of its existing separately from the body, was as absurd as to say that two and two make five. The works of this philosopher still extant are his book "De Fato," published from the press of Aldus, at Venice, in 1534, with a translation by Grotius, 12mo. at Amster-

dem, in 1638; and in London, with a new Latin translation, in 1684, 8vo; his Commentaries on Aristotle's *Topics*, *Analytics*, *Metaphysics*, *Physics*, *Rhetoric*, &c. first published at Venice, in the 15th century, and many of them afterwards reprinted in different places; but since the study of Aristotle has been neglected, his best commentator is forgotten. The principal of his medical works is his "Treatise on Fevers," translated into Latin by Valla, of which Haller has given an analysis; Bib. Med. Pract. vol. i. p. 227. Fabr. Bib. Græc. vol. iv. c. 25. Brucker's *Philos.* by Enfield, vol. ii. p. 104.

ALEXANDER, CORNELIUS, surnamed *Polyhistor*, on account of the numerous histories written by him, a celebrated historian and grammarian, was born, according to Suidas, at Miletus; but, according to others, at Cotyæum, a city of Phrygia, and having been a slave, was sold to Cornelius Lentulus, to whom he was preceptor; and from whom he obtained his freedom and the name of Cornelius. He flourished about 80 years before Christ. From Suidas we learn, that he was the disciple of Crates, and that he was at Rome in and before the time of Sulla. He perished in the flames of his house at Laurentum; and his wife became distracted by the event, and hanged herself. Suidas further adds, that he wrote innumerable works; and particularly five books concerning Rome, in which he says, that a Hebrew female, called Mose, was the author of the Hebrew law. His works in history and philosophy are cited by Plutarch, Laertius, and other ancient writers. Clemens Alexandrinus (*Strom.* lib. i. tom. i. p. 396, ed. Potteri) cites a book concerning the Jews, in which Alexander mentions letters of Solomon to Vaphres, king of Egypt, and to the king of the Phœnicia of the Tyrians, and their respective answers. He refers also (*tom. i. p. 538.*) to remarks made by Alexander on the mode of living in use among the Indian Brachmans; he reports (*tom. i. p. 357.*) from a book of Alexander concerning the Pythagoric Symbols, that Pythagoras was a disciple of Nazarus, an Assyrian, erroneously supposed by some to be the same with the prophet Ezekiel, and that he had also received instruction from the Galli and Brachmans. Eusebius, (in his *Præp. Evang.* lib. ix. c. 17.) makes a long extract from Alexander's book concerning the Jews, and extols the author's well-known great ingenuity and various learning. This is probably the work referred to by Justin Martyr, in his "Exhortation to the Greeks," when he mentions those who represent Moses as the leader of the Jews. Plutarch (*de Musica*, Op. tom. ii. p. 1132.) and Athenæus (*lib. xi.*) speak of him as a writer in music; and his acquaintance with natural history may be inferred from Pliny's frequent references to his works. Fabr. Bib. Græc. lib. v. c. 38. tom. ix. p. 439.

ALEXANDER PSEUDOMANTIS, an artful and profligate impostor, was born at Abonotichos, in Paphlagonia, and practised his delusions in the reign of the emperor Aurelius, towards the close of the second century. He possessed by nature a variety of talents and accomplishments, by the misapplication of which he was qualified for imposing upon the credulity of the vulgar. Destitute of principle, he engaged with a countryman and disciple of Apollonius Tyanæus, who, under the mask of a medical profession, exercised the trade of an impostor and magician, and deluded those who applied to him by pretending to reveal secrets in concerns of love, and of lost and hidden property. Alexander was an useful servant and an apt scholar; and when his master died, practised his lessons and followed his trade. Such was his success, that he infatuated a rich Macedonian woman, and induced her to follow him and his associate from Bithynia to Macedon and to Pella, and to contribute by her fortune to their support. Having procured, in the neighbourhood of

Pella, one of those large serpents, which are perfectly harmless and very tractable, and with which that country abounds, they determined by means of this animal to establish an oracle, which should impose upon those persons who were eager to gain the knowledge of futurity, and who by their credulity were susceptible of delusion. In their way to Abonotichos, the proposed scene of their operations, they visited Chalcædon and formed a party, by whose assistance they had access to the temple of Apollo, where they hid tablets of brass on which it was written, that Æsculapius, with his father Apollo, would soon make Abonotichos the place of their residence. The inhabitants of this place were so completely deluded, that they laid the foundation of a temple to Æsculapius, with whose presence they expected soon to be honoured. Alexander, by a pretended oracle, caused himself to be declared a descendant of the hero Perseus, and the son of Podalirius, which his stupid countrymen believed, though they well knew that his father and mother were persons of the meanest condition. With a dress and accompaniments, suited to this high original, he entered his native town. Having hidden a goose's egg, in which he had put a young serpent, near the foundations of the temple, and having previously performed a variety of superstitious ceremonies, he went with a crowd of attendants in search of his egg; and when he had found it, he declared that Æsculapius, who was worshipped under that form, was actually arrived, and the people received him with acclamation. Alexander proceeded with his imposture by exhibiting his serpent, prepared for the purpose, to the deluded multitude, who believing him possessed of the power of working miracles, and misled by his affected enthusiasm, were suitably disposed for every thing that followed. From Abonotichos the delusion spread through all the neighbouring nations, and the people hastened from Galatia, Bithynia, and Thrace, to see the new god, whom the prophet called Glycon. Money was procured to finish the temple, and the god was to make it the place of his abode, and to give oracular answers to those who consulted him. The oracle was consulted by a billet, which Alexander contrived to open secretly; and he adapted the answer to the purport of its contents. By degrees he made his god pronounce oracles with his own voice, by the assistance of a person that was concealed behind him; and these oracles were delivered only to the rich and powerful. This practice became a gainful trade, and the impostor derived from it a yearly income, which amounted to 7 or 800 thousand drachmas, and which enabled him to live sumptuously, and to pursue those debaucheries to which he was inclined, and to which he had been habituated from his youth. It was not long before the reputation of this profligate reached Rome; and Rutilianus, a superstitious senator of the first rank, was deceived by him, and thus the number of those who consulted him was prodigiously augmented. Rutilianus, who believed the doctrine of the transmigration of souls, desirous of being informed under what form he had lived in former ages, and whose soul he now possessed, received an answer which served the impostor's purpose, and which gave him such influence over the credulous senator, that he consented to marry his daughter, and conceived himself to be exalted to the rank of the gods. Lucian, who blends fiction with his humorous account of Alexander's impostures, relates, among other instances of his delusion, the following incident. Rutilianus, having procured for him access to the emperor, he delivered an oracle, commanding that, in the war between Marcus Aurelius and the Quadi and Marcomanni, two lions should be thrown alive into the Ister, with spices and a sacrifice, and promising, that the consequence would be victory, glory and peace. The order was executed, and

and the lions, who swam on shore into the enemies' country, were destroyed; but the Romans were soon afterwards totally defeated. Alexander, for preserving his reputation, calmly said, that the oracle had foretold a victory, but had not declared whether it would happen to the Romans or their enemies.

Amidst the successes of Alexander, he found himself attacked by two classes of adversaries, who determined to unmask his imposture. These were the Christians and the Epicureans. In order to counteract their influence, he began the ceremony of the pretended mysteries, which he instituted in imitation of the Eleusinian, with proclaiming, "Hence all Christians;" and the choir rejoined, "Hence all Epicureans." He also often repeated, that Pontus was full of Atheists and Christians, and that these enemies of the gods ought to be stoned; and what he advised, he endeavoured more than once to execute. Lucian, who once endeavoured to ensnare him, had nearly lost his life in the attempt. The impostor, however, determined to destroy him; and with this view he received him politely, and, at his departure, made him presents, and furnished him with a vessel and rowers. When he was at sea, he observed the pilot weeping, and disputing in a mysterious manner with the seamen. At length the honest pilot disclosed the secret, and with great concern informed Lucian, that he had received orders to throw him into the sea; but that he had lived with honour for 60 years, and that he could not prevail with himself to render his old age infamous, and to incur the displeasure of the gods by murder. Lucian was put on shore, and escaped the villainy of the impostor. This delusion lasted 20 years; but it is said, that Alexander terminated his life in a tragical manner; being destroyed by worms, which proceeded from a mortification in the foot, leg and thigh. Lucian's *Alexander seu Pseudomantis* apud oper. tom. ii. p. 207. Crevier's *Rom. Em.* vol. vii. p. 346—357. See imposture and truth admirably contrasted in the character and conduct of St. Paul, and this Alexander, by Lord Lyttelton in his "Conversion, &c. of St. Paul," Works, vol. ii. p. 54, &c. 8vo.

ALEXANDER, the *Sophist*, was born in Seleucia, a city of Cilicia, and educated under Favorinus, Adrian's great favourite, who taught him the art of speaking, in which he excelled, and for which he is highly commended by Philostratus. The first office he sustained was that of ambassador from Seleucia to the emperor Antonine; and he was afterward interpreter for the Greek tongue to M. Aurelius. He spent the greatest part of his life in the schools of Antioch, Rome and Tarsus; and he visited almost all the parts of Egypt. Whilst he was at Athens he acquired great fame by the extemporaneous orations which he delivered, and received very distinguished tokens of favour from Herod. He died, as some say, in Gaul, but according to others in Italy, at the age of 60, or by some accounts, 68 years. Philostratus *de Vitis Sophistarum*, apud oper. p. 570. ed. Olearii.

ALEXANDER TRALLIAN, a learned and ingenious physician of Tralles, a city of Lydia, flourished at Rome in the time of the emperor Justinian, about the middle of the sixth century. Friend is very copious in his account, and profuse in his encomiums on the works of this great man, whom he considers as one of the best practical physicians among the ancients.

Like Hippocrates he travelled over various countries, over Italy, France, Spain, and Egypt, to improve himself in knowledge; and is said to have acquired a competent acquaintance with the languages of the different countries through which he passed. He invented several compositions,

and improved many of those in common use. He was liberal in administering preparations of iron, internally, which before his time was little, if at all, done. He followed the practice of Hippocrates and Galen, though not fervently, but as preferring it to that of Aëtius and Oribasius, with whose works he appears to have been well acquainted. He was not however free from some of the errors of the age in which he lived, being credulous and superstitious, and having great faith in charms and amulets. He has given no account of the diseases peculiar to women, which Friend justly thinks, considering the general estimation he was in, and the extent of his practice, is very singular.

His works were first printed in Greek by Robert Stephens, at Paris, 1548, in folio; in Greek and Latin, at Basse, 1556, Johan. Guinthero interprete. For an account of various other editions, see Haller's *bib. Med. Pract.* vol. i. p. 305.—Haller's edition was printed at Lausanne, in 1772.

ALEXANDER JANNÆUS, king of the Jews, was the third son of Hyrcanus, and succeeded his brother Aristobulus in the year before Christ 106. Queen Salome, the widow of Aristobulus, took him and his two brothers out of prison, and placed Alexander on the throne. His fourth brother endeavoured to deprive him of the crown, and was put to death; but the youngest, whose name was Absalom, was favoured with his protection, as long as he lived. Alexander, being a subtle and warlike prince, began his reign with leading an army against Ptolemais; but his own dominions being invaded during his absence by Ptolemy Lathyrus, he was obliged to raise the siege and return to defend them. On the banks of the Jordan he was defeated, with the loss of 30,000 men, besides those that were taken prisoners, and if he had not been succoured by Cleopatra, Lathyrus would have forced his way into Judæa. Alexander, after an interview with Cleopatra at Ptolemais, returned to Jerusalem; and having recruited his broken army, he marched against Gadara and took it. He next proceeded against Amathus, and reduced it after a very short siege; but he was soon obliged to relinquish it in consequence of a defeat by Theodotus, the son of Zeno, tyrant of Philadelphia, in which he lost many men, his baggage, and the whole of the treasure which he had taken possession of at Amathus. The next place against which he directed his arms was Gaza, which had afforded protection and assistance to Lathyrus; and on this account, as soon as the town was betrayed to him, he revenged himself on the inhabitants after leading them to expect clemency and moderation, by abandoning them to the fury of his soldiers. However, this act of vengeance, executed with singular severity, provoked the citizens to resist to the utmost of their power; so that he lost of his own men as many as he destroyed of the enemy. He then reduced the city to a heap of ruins. On his return to Jerusalem, the people, exasperated by the Pharisees, who were constantly caballing against him, insulted him with the most opprobrious language, exclaiming that such a slave as he was unworthy of either the pontifical or regal dignity, and proceeded even to violence against his person. Although he took effectual measures to secure himself from further insult and injury, he was wearied with their clamours and marched out of Jerusalem, in order to gratify his inclination for war. Having taken and destroyed the city of Amathus, he proceeded against the Arabians, whom he subdued, and then laid the Moabites and Mountaineers of Gilead under tribute. Near Gadara he fell into an ambush, and it was with great difficulty that he escaped and regained his own capital. During his absence, his inveterate enemies, the Pharisees,

caused a rebellion, which brought on a civil war, that lasted six years. Demetrius, surnamed Eucærus, assisted the rebels with a considerable force; and after some previous skirmishes Alexander was defeated, and forced to retire for shelter to the mountains. This defeat, however, induced the Jews who had joined Demetrius to desert him, and join the army of Alexander; and Demetrius, alarmed by this defection, left Judæa. This circumstance afforded Alexander an opportunity to march against the rebellious Jews; but though he defeated them in every engagement, the fury of their resentment continued till a decisive battle put an end to the war. In this last action he cut off the greatest part of their army, and drove the rest into Bethome, which he besieged and captured. Josephus, who being a zealous Pharisee, may possibly have exaggerated, informs us, that he caused 800 of the principal captives to be carried to Jerusalem, where they were all crucified at the same time and place; and that whilst they were hanging on the cross, he ordered their wives and children to be butchered before their faces. It is added by the historian, that a banquet was prepared for himself and his concubines, so near to this horrible scene, that they might behold and enjoy the torture and distress of the sufferers. After this event, the rebels dispersed; nor were the Pharisees able to make any effort against him as long as he lived. The succeeding years of his life were employed in extending his conquests through Syria, Idumæa, Arabia and Phœnicia; and in establishing his character as a warlike and victorious prince. His return to Jerusalem, after an expedition of three years' continuance, was the occasion of loud acclamations on the part of his subjects. But from this time he devoted himself to drinking and other debaucheries; which at length brought on a quartan ague, that prevailed till the day of his death, which happened about three years after his return. His ambition for making new conquests still continued; but his strength being exhausted both by fatigue and intemperance, he died in his camp before Regaba, a fortress in the Gerasene territory beyond Jordan, which he was besieging, in the 27th year of his reign, in the year before Christ 75. He left two sons, Hyrcanus and Aristobulus; but decreed by his will, that his wife Alexandra should govern the kingdom during her life, and appoint for her successor either of them, according to her own pleasure. Alexandra, by conciliating the Pharisees, according to the advice of her husband, secured their influence with the people; so that they celebrated the funeral of the deceased king with great pomp, and confirmed her as a sovereign administratrix of the nation. Her eldest son Hyrcanus was appointed high priest, and the direction of all affairs of importance was committed to the Pharisees. Their resentment against those who had opposed them in the late reign still continued; and they contrived every method that was practicable for destroying them. This conduct, to which they saw no end, induced them to assemble, and with Aristobulus at their head to wait on the queen and to implore her protection. The queen, having surrendered herself and the government to the Pharisees, could devise no means for their liberty, that were likely to be effectual. At length she complied with their request, and consented that they should disperse themselves into places where she had garrisons. In the year before Christ 70, Alexandra was seized with a disorder which threatened her life; and when Aristobulus perceived her danger, he repaired to his friends, in the garrisoned towns, and they arranged themselves in great numbers under his standard; hoping that he would exert himself for abolishing the odious and oppressive tyranny of the Pharisees, and well knowing, that no service

of this kind could be expected from his brother Hyrcanus, who had been educated by his mother in a blind submission to this sect. The Pharisees were alarmed, and accompanied Hyrcanus to the queen, in order to represent what had occurred, and to demand her assistance. The impaired state of her health would not admit of her interference, and having left the care of the government to them, she appointed Hyrcanus her heir general, and soon after expired. Accordingly he took possession of the throne, and raised an army to oppose his brother, who was supported by the people. A battle near Jericho decided the quarrel. Hyrcanus, abandoned by the greatest part of his troops, who went over to his brother, was obliged to fly to Jerusalem, and afterwards to seek an asylum in the castle of Baris, whilst his partisans, who were chiefly of the sect of the Pharisees, took refuge in the temple. In a little while they, as well as Hyrcanus, submitted to Aristobulus, and in the year before Christ 69, he obtained both the high-priesthood and the crown. Josephus Ant. lib. xiii. c. 12—15. tom. i. p. 666—675. Bell. Jud. lib. i. c. 4. tom. ii. p. 59—62. Anc. Un. Hist. vol. iii. p. 114—123. Rollin's Anc. Hist. vol. viii. p. 4—11.

ALEXANDER, BALAS, king of Syria, was, as some say, the natural son of Antiochus Epiphanes, but according to others, a young man of mean extraction at Rhodes, named Balas, suborned by Heraclides, at the instigation of Ptolemy, Attalus, and Ariarathes, to personate the son of Antiochus Epiphanes, and under that title, to lay claim to the crown of Syria, in opposition to Demetrius. After he had been acknowledged by the three kings above-mentioned, Heraclides, who conducted the imposture, took him to Rome, in the year before Christ 153, and together with him Laodicea, the real daughter of Antiochus Epiphanes, and presented them to the senate, who received them graciously, and passed a decree in their favour; though, as Polybius asserts, (Legat. cxlii. p. 966.) the whole city was convinced of the imposture. The senate not only acknowledged Balas under the assumed name of Alexander, but decreed, that their allies should assist him in his endeavours for recovering the rights of his father. Thus countenanced by the Roman senate, he landed in Syria, and found no difficulty in raising troops, which, together with the succours afforded him by Ptolemy, Attalus and Ariarathes, enabled him to make himself master of Ptolemais, the reduction of which induced a great number of persons who were disaffected to Demetrius to join him. Demetrius and Alexander were competitors for the favour and support of Jonathan, who had succeeded Judas Maccabæus in the command of the Jewish forces, and strove to outvie each other in their alluring offers. Alexander, however, prevailed; and with him Jonathan formed an alliance. These two competitors took the field at the head of their respective armies; and though Alexander was defeated, he maintained his ground; and being supplied by his powerful allies with fresh succours, he succeeded in a second battle, in which Demetrius was killed, before Christ 150. Alexander, having gained possession of the whole Syrian empire, sent an embassy to Egypt, demanding Cleopatra, the daughter of Ptolemy, in marriage; and the king not only complied with his request, but attended her in person, and the nuptials were solemnized at Ptolemais in a very splendid and magnificent manner. Alexander could not bear his elevation and prosperity, but became indolent and debauched, and committed the management of his affairs to a profligate and tyrannical favourite, whose name was Ammonius, and who conducted himself with a degree of despotism and cruelty, which exposed him

and his master to the hatred of the whole nation. Demetrius, the eldest of the deceased king's sons, availed himself of this opportunity for recovering his right; and was acknowledged by Apollonius, governor of Cæleſyria and Phœnice. When Alexander was roused out of his lethargy, and perceived the danger of his situation, he applied to his father-in-law, Ptolemy, for assistance; and he marched to his relief with an army, which the author of the second book of Maccabees compares to the sand of the sea-shore. Upon his arrival at Ptolemais he was informed, or as others say, he pretended, that Alexander was plotting against his life, and that Ammonius had charged himself with the execution of this detestable scheme of treachery. Ptolemy complained to the king of Syria of this plot, and demanded the criminal to be delivered up to him; but Alexander refusing to comply, Ptolemy concluded that he was privy to the design, and that Ammonius was only executing his master's orders. Upon this real or feigned plea, Ptolemy determined to turn his arms against his son-in-law, and sent ambassadors to young Demetrius, offering him his daughter Cleopatra, the wife of Alexander, and promising to settle him on the throne of his ancestors. Demetrius accepted the offer, and when the news of this event reached Antioch, Ammonius was put to death by the populace; but the inhabitants of the city refused to declare in favour of Demetrius. However, such was the hatred they had conceived against Alexander, that they entered into a confederacy against him, and opened their gates to Ptolemy, offering to put the crown on his head. This prince, says Josephus, knowing how to set bounds to his ambition, rejected the proposal, and with singular self-denial and generosity, declared, that he could not, without the most flagrant injustice, place himself on the throne of Syria, by excluding the lawful heir. He proceeded to recommend Demetrius by an eulogy on his character, and by pledging himself as guarantee for his future conduct, at the same time undertaking to assist him, and to teach him the art of governing. These disinterested representations of Ptolemy had the desired effect. Demetrius was proclaimed king of Syria, and placed on the throne of his ancestors. Alexander, who was then in Cilicia, assembled a numerous army and advanced to Antioch. Ptolemy met him, and a bloody engagement ensued, in which Alexander was defeated; and his adherents abandoning him, espoused the cause of Demetrius. Upon this Alexander fled to Arabia, and seeking refuge in the house of Zabdiel or Zabel, or as Diodorus Siculus (in *Excerpta Photii* cod. 244.) calls him, Diocles, was murdered by his treacherous host. Ptolemy was wounded mortally by Alexander's friends; and when the head of the murdered prince was brought to him as a present from the Arabian, the joy he felt on the occasion soon put an end to his life. Demetrius, without any further opposition, took possession of his father's dominions, and styled himself from this victory *Nicator*, or the conqueror. Alexander Balas had reigned, according to Josephus, five, but according to the history of the Maccabees, six years, reckoning from the 160th year of the æra of the Seleucids to the 167th, which was the first year of the reign of Demetrius Nicator. This happened in the year before Christ 145. Such is the account which Josephus gives of the troubles of Syria, and the death of Alexander Balas. But the author of the history of the Maccabees varies much from him, especially in what relates to the character of Ptolemy Philometor, whom Josephus highly commends; whereas the author of the first book of the Maccabees represents him as an ambitious and perfidious prince, who trampled under foot the most sacred laws of nature and

justice, to raise himself on the ruins of his son-in-law. Josephus *Ant. lib. xiii. c. 2. 4. tom. i. p. 634—643. Diodorus Sic. tom. ii. p. 592. 1 Maccabees xi. 4—12. Anc. Un. Hist. vol. viii. p. 224—233.*

ALEXANDER, bishop of Jerusalem, was a disciple of Pantænus and Clement of Alexandria, towards the close of the second century, and distinguished in his maturer years by the firmness and zeal with which he maintained his Christian profession at a period of severe persecution. In the 12th year of the emperor Severus, A.D. 204, when he was bishop of the church in Cappadocia, he was imprisoned for his profession of the Christian faith; and his fidelity and fortitude on this occasion induced the church at Jerusalem to chuse him as colleague to Narcissus, whose advanced age of 116 years rendered him incapable of performing the duties of his office. His imprisonment seems to have continued from the year 204 to the year 211, at which time it appears from a letter written by him to the church of Antioch he was not released from confinement. About this time, however, or soon after, he visited the church at Jerusalem, and was promoted to the bishopric of that church. Of the revelation and visions which are said to have preceded his election, it is not necessary to give any account in this place; as they are not likely to obtain much credit. His known character and tried integrity obviously recommended him to this choice, and he approved himself worthy of it by a course of service and suffering that lasted 39 years. When the persecution of the Christians was renewed under the emperor Decius, Alexander, now venerable for his old age and grey hairs, as Eusebius expresses himself, was summoned to the governor's tribunal at Cæsarea, and about the year 250, avowing his profession, before the tribunal, he was cast into prison, where his confinement and sufferings terminated in his death, A.D. 251. From the fragments of his history that remain, and that are chiefly preserved by Eusebius in his "*Ecclesiastical History*," (p. 212. 216. 222. ed. Vales.), we learn, that Alexander erected a library at Jerusalem, which continued in his time, and furnished materials for his history. It appears also from the testimony of Origen, with whom Alexander was intimate, that he was not only eminently pious and devout, but peculiarly distinguished by his humility, meekness and gentleness; that he was a frequent and agreeable preacher; that he was a person of competent knowledge and learning, having been educated by Pantænus and Clement, and maintaining an intimate friendship with Origen and Clement, two of the most learned men that ever lived, and that he was also a patron of learning. We are also indebted to him for his glorious testimony to the truth of the Christian religion, and his own remarkable example of steadiness in the faith of Christ, of which he made two confessions before heathen magistrates, at the distance of above 40 years from each other, for the last of which he suffered an imprisonment, under which he made a happy end. And certainly the succession of bishops and churches in the land of Judea, where the preaching, miracles and sufferings of Christ and his first apostles, are placed by the evangelists, under so many difficulties and troubles, affords a strong argument for the truth of those great and extraordinary facts, upon which the Christian religion is founded. Lardner's Works, vol. ii. p. 391—397. Cave. Hist. Liter. Sæc. iii. tom. i. p. 100. ed. Oxon.

ALEXANDER, bishop of Alexandria, succeeded Achilles in this see, in the year 312 or 313. In his time commenced the Arian controversy, in which he appears to have engaged with an ardour that was blended with a very considerable degree of bitterness of spirit. He calls Arius and his fol-

lowers ap. Apostles, enemies of Christ, and impious; and adds, that they had done then what to exceed all past heresies, and that which later to Antichrist; accordingly he excommunicated them from the church. He is called, however, by Theodoret (Ecl. Hist. p. 7. ed. Vales.) the "Great Alexander," and "a very excellent defender of the evangelical doctrine." Alexander was present at the council of Nice in 325, and died at Alexandria, before the end of that year, or some time in 326, within five months after the breaking up of the council, or after his return home from it. His writings consisted of epistles sent to bishops in several parts of the world, which, according to Epiphanius, (H. lxxix. n. 4.) amounted to 70 in number, and were extant in his time. Of these two now remain; one in Socrates (Hist. Eccl. lib. i. c. 6. p. 10. ed. Vales.) addressed to the bishops of Alexandria, and another in Theodoret (H. E. lib. i. c. 4. p. 8.) to Alexander, bishop of Byzantium, with fragments of some others. Fabr. Bib. Grec. tom. viii. p. 341. In these epistles several books of the New Testament, particularly St. Paul's epistles, are frequently quoted, and the epistle to the Hebrews was received by Alexander as Paul's. He expresses a high respect for the scriptures, which he calls "divine;" and though he professes great regard to the wisdom and piety of ancient writings, near the days of the apostles, he seems not to have considered them as decisive and of authority in matters of religion, as he has not frequently cited them. Lardner's Works, vol. iv. p. 103—105. Cave H. L. tom. i. p. 173.

ALEXANDER, of Lycopolis, a city of Thebais, was, as Fabricius (Bib. Græc. tom. v. p. 290.) supposes, first a Heathen and Manichee, and afterwards a Catholic Christian, in which opinion Cave (De Scriptoribus Eccl. incertæ ætatis, p. 2. H. L. tom. ii.) concurs, and a writer, probably of the fourth century. Photius calls him archbishop of Cyropolis; but Beaufobre argues, that he was a mere Heathen or Pagan philosopher, and Tillemont adopts the same opinion. Dr. Lardner observes, that if he was ever a Manichee, he must have been at that time a Christian, as the Manichees were Christians; but it is not easy to determine what he was afterwards, when he wrote against them. This excellent writer inclines to think that he was a Gentile, and places him at the year of Christ 350. He seems to have been well acquainted with the Manichees and other Christians; and to have had some knowledge of the scriptures of the Old and New Testament, to which he occasionally refers. He expresses himself, with respect and commendation, concerning Christ and the Christian philosophy, which he represents as "simple, and intended, by plain precepts, without nice disquisitions and intricate reasonings, to promote virtue among all sorts of men, and even among the lower ranks, and common people." He was evidently, says Lardner, a learned and rational man. His work, intitled, "προς τας Μανιχαicas δοξας," "against the opinions of the Manichees," was published in Gr. and Lat. by Combefisius, in tom. ii. Anæctarium Patr. Græc. Novissimum, at Paris, in 1672, fol. It is extant also in MS. in the Cæsarean library. Fabricius, *ubi supra*. Cave. H. L. *ubi supra*. Lardner's Works, vol. iii. p. 384. vol. viii. 349—351.

ALEXANDER was the name of one of the martyrs of Lyons, A. D. 177. He was a Phrygian by nation, and by profession a physician; he had lived many years in Gaul, and was known almost to all men for his love of God and boldness in preaching the word. When he stood before the tribunal, to which he was cited, he boldly confessed that he was a Christian; upon which the enraged president condemned him to the wild beasts. When he had undergone

all the instruments of torture in the amphitheatre, which were invented to torment him, and his associate Aitalus, they were both run through with a sword. Alexander neither sighed, nor said any thing at all: but in his heart conversed with God. Such is the account given by Eusebius, Eccl. Hist. lib. v. c. 1. p. 163. ed. Valesii.

ALEXANDER, BENEDICTUS, of Verona, physician to the emperor Maximilian, taught anatomy and medicine with great reputation, et maxima frequentia auditorum, Castallonus says, at Padua, towards the end of the 15th century. Of him we have the following, "Alexandri Benedicti physici Anatomie, sive Historia Corporis Humani, ejusdem collectiones seu aphorismi, 1527." The dedication to the emperor is dated 1503. This work has been several times reprinted. See Bibliog. Anat. Specimen Jacobi Douglas, p. 60. Alfo, Pet. Castallani Vitæ Illustr. Medicorum, p. 159.

ALEXANDER, MASSARIAS, of Vicenza in Italy, practised medicine there for twenty-five years. In 1578, he was made principal of the college of medicine at Venice. Having held this office, with great reputation, nine years, he went to Padua, ubi senio confectus, Douglas says, obiit, 1598. This physician was used to say, "se malle cum Galeno errare, quam cum recentioribus vera dicere." He left a treatise, "De Urinis et pulibus," published 1608, at Frankfort, and "Opera Medica," published at Lyons, 1634. Douglas Bibliog. Spec. p. 197.

ALEXANDER, bishop of Lincoln, in the 12th century, was by birth a Norman, educated under his uncle, bishop of Salisbury, and by his interest promoted to the episcopal see in 1123. Having been accustomed in early life to a splendid mode of living, he affected a degree of state, and indulged to expences which were suitable neither to his character nor fortune. Henry of Huntingdon, in the dedication of his history to him, which is penned in the language of servile adulation, calls him "the flower and top of the kingdom and nation;" and he informs us, that at the court of Rome he was styled "the Magnificent." St. Bernard, in a letter addressed to him about a year before his death, acts the part of a more honest friend, and cautions him "not to be dazzled with the lustre of secular grandeur, nor to look upon any worldly advantage as permanent; nor value his fortune more than himself; to guard against the flattery of prosperity, for fear of a turn of misfortune, which will last longer; not to be charmed with the transient satisfactions of life; for that scene will quickly be shut up, and make way for another both lasting and uncomfortable." He also advises him "not to deceive himself with any distant prospect of death; for such delusive hopes lead directly to danger and surprise, and are the likeliest way to hurry a man into the other world without preparation." In the course of his life these prudent and salutary lessons did not seem to have been duly regarded by the ostentatious prelate. In imitation of the barons and some of the bishops, he built three castles; one at Banbury, another at Sleaford, and a third at Newark. He likewise founded two monasteries. King Stephen was, not without reason, offended by these stately edifices and strong fortresses; and when he determined to take the castles from the barons, he seized that at Newark; in consequence of which the bishop was imprisoned for seven months, and with difficulty obtained his liberty. From this time he employed his thoughts and time in ornamenting his church, which he had rebuilt with a stone roof the year after his consecration; increasing the number of its prebends, and augmenting its revenue with several manors and estates; and at length he rendered it the most stately and flourishing of any in the kingdom. He went twice to Rome, viz. in 1142 and

1144; and after his first visit, he returned as the pope's legate, and called a synod, in which he published several useful canons. In 1147 he visited the pope in France; and there fell sick, so that he returned with difficulty to England, where he soon died, in the 24th year of his prelacy. *Biog. Brit.*

ALEXANDER I. pope, was a Roman by birth, and bishop of Rome during the reigns of Trajan and Adrian, from the year 109 to the year 119. He is said to have introduced the use of holy water and other ceremonies. He was enrolled as a martyr, and canonized as a saint. *Bower's Hist. Popes*, vol. i. p. 21.

ALEXANDER II. pope, was a native of Milan, of the name of Anselm, and removed from the see of Lucca to that of Rome, in the year 1061. He was elected pope by the influence of Hildebrand, who was at the head of the ecclesiastical faction at Rome, in opposition to the empress Agnes, widow of Henry III. who was regent during the minority of her son Henry IV. and who supported the lay-faction, in the contest that subsisted between the clergy and laity. By her influence Cadalous, bishop of Parma, was elected pope, under the name of Honorius II. The dispute was terminated by a council at Mantua in 1064, and Alexander, by a signal triumph of the church over the civil power, was declared lawful pope. The discipline and privileges of the clergy were the principal objects of this pontiff's attention; and the subordinate instrument of conducting his measures was Peter Damien, a monk, and a zealous defender of the monastic orders. Having acquired a power thus paramount to every other, Alexander laid hold of every opportunity that occurred for interposing in the secular concerns of kingdoms and princes. With a view of extending the influence and increasing the emoluments of the papal see, he sanctioned the project of William, duke of Normandy, for the conquest of England; denounced excommunication against Harold as a perjured usurper; and sent William a consecrated banner, and a ring with one of St. Peter's hairs in it; thus, as Hume says (*Hist.* vol. i. p. 186.) "covering over safely all the ambition and violence of that invasion with the broad mantle of religion." His views were accomplished; William succeeded; the authority of the pope was confirmed; and his legates, till this time unknown in England, exercised arbitrary power.

Alexander extended his authority to other countries as well as to England. He not only prohibited the young emperor from divorcing his wife Bertha, but, in 1073, summoned him to appear at Rome, and to account for his conduct in the disposal of church benefices for providing his army with supplies. Henry was indignant; but the dispute was closed by the death of the pope in 1073. The increase of papal tyranny, under the direction of Hildebrand, to whom this pope was subservient, and by whom he was succeeded, discriminates his pontificate. Many of his letters on public affairs are extant; and one of them, addressed to the bishops of Spain for the purpose of restraining the cruelties which they exercised towards the Jews, does honour to his humanity. For an account of these letters, amounting in number to 45, see Dupin's *Eccl. Hist.* vol. iv. p. 29; and also *Bower's Hist. Popes*, vol. v. p. 224.

ALEXANDER III. Pope, was born at Sienna, where he was bishop under the name of Roland, and succeeded Adrian IV. in 1159. At the time of his accession to the papal chair, Frederic I. was making vigorous attempts for reducing the power of the Roman see; and cardinal Octavian was elected pope under the name of Victor IV. in opposition to Alexander. After the death of Victor, in 1164,

cardinal Guy was chosen by the influence of the emperor, and denominated Paschal III. But the whole interest of the Roman clergy was exerted in favour of Alexander, who, in the former pontificate, had been compelled to retire into France, and he now returned to Rome, and was restored to his see. Councils were summoned to settle the dispute. The council of Wurtzburg, convened by the emperor in 1166, produced an union of the nobility and clergy in support of the rights of Paschal; and the council of Lateran, called by Alexander in 1167, deposed the emperor, and abrogated the oath of allegiance by which his subjects were bound to him as their lawful sovereign. At length an appeal was made to the sword; and though Frederic was at first successful, and upon the death of Paschal procured the election of John, Abbot of Strum, as his successor, under the name of Calixtus III., he was in the issue obliged to give up the contest, and in a treaty of peace, made with Alexander at Venice in 1177, to acknowledge him as lawful pontiff. The pride of Alexander knew no bounds on occasion of this triumph. When Frederic was prostrate at his feet, he addressed him with the words of the Psalmist, "Thou shalt tread upon the lion and adder; the young lion and the dragon thou shalt trample under foot;" and when the emperor replied, "Not to you, but to Peter;" the pope answered, "To me, and to Peter." This story is discredited by some writers, but believed by others, and the truth of it is confirmed by concurring circumstances, for which we refer to Dupin. After the establishment of Alexander, he treated his rival Calixtus III. with condescension and kindness, and appointed him to the see of Benevento. The pope, securely seated in the papal chair, directed his attention towards securing the independence, and maintaining the prerogatives and privileges of the triple crown; and in order to prevent the disorders likely to arise in future from equal factions, he obtained a canon in the third council of Lateran, held at Rome in 1179, which enacted, that the right of election to the pontifical dignity should not only be vested in the cardinals alone, but that two-thirds of the votes of the electors should be necessary for rendering it legal. Thus the people, and even the Roman clergy, were entirely excluded from all participation in the honour of conferring this important dignity. At this council, the right of recommending and nominating to the saintly order was taken away from councils and bishops, and canonization was ranked among the greater and more important causes, the cognizance of which belonged to the pontiff alone. In this year he exercised that tyranny over princes, which had been usurped by the popes from the time of Gregory VII. in conferring the title of king, with the ensigns of royalty, upon Alphonso I. duke of Portugal, by an arrogant bull, in which he treats him as a vassal. Whilst he was in France, he had supported the cause of Thomas Becket against his sovereign Henry II., and in 1164, when the constitutions of Clarendon, which asserted the king's jurisdiction over the clergy, were sent to him for confirmation, he rejected and annulled them. When Becket was banished, he received him kindly; obtained for him a pension from the French king, abrogated the sentence that had been passed upon him; reinvested him with his dignity, and appointed him his legate in England. After the murder of this arrogant prelate, Alexander, who had kept the king in awe during the whole of the contest, by the terror of excommunication, compelled him to undergo a very severe penance; and having forgiven him, issued bulls at his desire, against his son, and canonized the archbishop. Alexander, as a rigorous defender of the catholic faith,

fect, exerted his power on a variety of occasions, and with a severity which no circumstances can justify. With a view of restoring order and tranquillity in the church, he convened a solemn and numerous assembly of the clergy in 1171, in which the licentious rage of disputing about religious matters was condemned; and in the council of Lateran, of 1179, a spiritual war was declared against heretics, and more particularly against the ALBIGENSES.

Having enjoyed the uncontested and undisturbed possession of the pontifical chair scarcely four years, Alexander III. died in the year 1181, with the character of having exhibited more proofs of ambition to obtain, than of moderation in exercising, the supreme ecclesiastical authority. Dupin, *Eccl. Hist.* vol. iv. p. 116. Bower's *Popes*, vol. vi. p. 11. Mosheim, vol. ii. p. 481. vol. iii. p. 53, &c. Hume's *Hist.* vol. i. p. 381, 396, &c.

ALEXANDER IV. pope, was Raynald or Roland, bishop of Otranto, and succeeded Innocent IV. in 1254, at the time of the contest between the Guelphs and Gibellines. The right of the Roman see to the disposal of the crown of Sicily was supported by a war, in the pontificate of Innocent IV. against Mainfroy or Manfred, regent for Conradine, the son of the emperor Conrad; and this pope, in order to engage the assistance of a powerful ally, had conferred the crown on Edward, the second son of Henry III. of England. Alexander IV. pursued the plan of his predecessor, and published a crusade against Sicily, and for defraying the expences of it, induced Henry to levy a tenth on all ecclesiastical benefices in England for three years. Upon the demand of farther supplies, though it was enforced by a legate and solemn of excommunication, Henry resisted; and the nominal possession of the crown reverted to Alexander; but Mainfroy having defeated the crusaders became the real possessor of it, A. D. 1258. This pontiff was equally unsuccessful in his attempts to oppose the progress of Ezzelin or Ecelin, who, at the head of the Gibellines, and on the part of the heirs of Frederic II., had made himself master of Lombard. The pope's army was defeated, and his legate imprisoned. In defiance of the banner of the cross, and anathemas fulminated by the apostolic see, Ezzelin pursued his victories; and Mainfroy kept possession of the throne of the two Sicilies, which he had usurped.

Alexander, in the exercise of his ecclesiastical authority, maintained the cause of the mendicant dominican friars, against the members of the university of Paris, who refused to admit them to a participation of the rights and privileges of their society; and he condemned a book written by William de Saint Amour, one of the doctors of the Sorbonne, and entitled, "The Perils of the Last Times," in which the character of the dominicans was described, and their pride, hypocrisy and licentiousness, indirectly but cruelly censured. In the council of Arles, held in 1260, he condemned another book, written by the abbot Joachim, under the title of "The Everlasting Gospel;" and at the same time proscribed those who, under the denomination of JOACHIMITES, had adopted the doctrine which this book promulgated. Differences of another kind having arisen between the states of Venice and Genoa, a council for settling them was summoned to meet at Viterbo; but in the mean time Alexander IV. oppressed by the dissensions of the church, and by the vexation which his ineffectual attempts for composing them produced, closed his life in the year 1261. "He appears to have been a narrow-minded bigot, more concerned to preserve and enlarge the privileges of a monastic order, than to correct abuses and encourage improvements." Dupin, *Eccl. Hist.* vol. v. p. 50, 118, 138, &c.

Bower's *Popes*, vol. vi. p. 225. Cave II. L. tom. ii. p. 303. Hume's *Hist.* vol. ii. p. 173, &c.

ALEXANDER V. pope, was born in the isle of Candia, about the year 1339. His original name was Philargio, and his parents were so poor, that in his childhood he was under a necessity of begging his bread. An Italian monk took him under his protection and instruction, and procured his admission into his order of friars minors. By his recommendation he became a student at Oxford, and afterwards took his degree of doctor in divinity at Paris. Having passed through several gradations of preferment, being first bishop of Vicenza, then of Novara, and at length archbishop of Milan, cardinal, and legate of pope Innocent VII. in Lombardy, he was unanimously elected pope by the cardinals, at a council in Pisa, in the year 1409. This pontiff was good-humoured and liberal; and having no needy relations and dependants, for whom he was under an obligation of providing, he had the means of extending his generosity to those that were connected with the church, particularly to the mendicant orders of monks, who were distinguished by his patronage and favour. Such was his munificence during his pontificate, that he used to say, "When I became a bishop, I was rich; when a cardinal, poor; and when pope, a beggar." He seems, however, to have counteracted the mildness and liberality of his natural disposition by the orders transmitted to the archbishop of Prague, enjoining him to proceed with rigour against Huss and his followers. This zealous reformer, confiding in the known candour of the pontiff, instead of personally appearing at Rome, in compliance with the summons that had been sent him, commissioned two friends to plead his cause, saying, on his own part, "I appeal from Alexander ill-informed, to Alexander well-informed." When Alexander proposed to visit Rome, where he was expected, he was persuaded by Balthasar Cossa to accompany him to Bologna. Whilst he was at this city he died, as some say, by the contrivance of Cossa, in the year 1410, having possessed the papal see little more than ten months; and Cossa, by his influence with the cardinals, and a recommendation from Louis of Anjou, king of Sicily, was chosen to succeed him. Dupin, *Eccl. Hist.* vol. v. p. 8, &c. Bower's *Popes*, vol. vii. p. 123.

ALEXANDER VI. pope, was born in 1431, at Valencia in Spain, and by the interest of his uncle, pope Calixtus III. was appointed cardinal in 1455; and afterwards archbishop of Valencia, and vice-chancellor of Rome. The emoluments of this last office enabled him to maintain the state of a prince, and supplied him with the means of licentiousness and extravagance, to which he was addicted from his youth. Under pope Sixtus IV. he was legate in Spain; and at last by assuming a sanctity, which his conduct did not justify, and by bribing the cardinals, he was elected, at the age of 61, to succeed pope Innocent VIII. in 1492. He then changed his original name of Roderic Borgia for that of Alexander VI. By Vanozza, a Roman lady, with whom he had continued an illicit connection for many years, he had five children. His second son was Cesar Borgia, who was a monster of debauchery and cruelty, and who is said to have quarrelled with his elder brother for the favour of his sister Lucretia, and to have killed him, and thrown his body into the Tiber. Notwithstanding his infamous character he was the favourite of his father, who trampled with contempt on every obstacle which the demands of justice, the dictates of reason, and the remonstrances of religion laid in his way, in order to aggrandize his children, and enrich himself. In his political connections he was faithless and treacherous; and formed alliances with the purpose of violating them. Having engaged

Charles VIII. in an enterprize for the conquest of the kingdom of Naples, he entered into a league with the Venetians and with Maximilian, to rob him of the fruits of his victory; and, after having obtained a large remittance from the sultan Bajazet, in order to enable him to carry on war against this king of France, he delivered up to him Zizom, the brother of Bajazet. His perfidy was only exceeded by his hypocrisy; for, notwithstanding his notorious vices, he proposed to the Christian princes to march at the head of an army against the Turks; and under this pretext he issued a bull for a jubilee in 1500, by which he contrived to enrich his treasury. Of his presumption, as well as of his hypocrisy, we have a curious specimen in his division of America between the Spaniards and the Portuguese. For this purpose he appointed that a line, supposed to be drawn from pole to pole, a hundred leagues to the westward of the Azores, should serve as a limit between them; and, in the plenitude of his power, he bestowed all to the east of this imaginary line upon the Portuguese, and all to the west of it upon the Spaniards. At the same time he professes, that zeal for propagating the Christian faith, which was the consideration urged by Ferdinand in soliciting a bull for this purpose, was his chief motive for issuing it. In consequence of this bull, a great number of Franciscans and Dominicans were employed, with the avowed design of instructing and converting the Americans, both in the isles and on the continent.

The profligate career of this execrable hypocrite and tyrant was continued till the year 1503, when the poison which he and his son Cæsar had prepared for others, and particularly for Adrian, a wealthy cardinal, who stood in the way of their avarice and ambition, by a happy mistake, terminated his own days. Some writers, amongst whom is Voltaire, have disputed this account of Alexander's death; but Guicciardini and other reputable historians attest it. The life and actions of this pontiff shew, says Mosheim, that there was a Nero among the popes as well as among the emperors. The crimes and enormities which history has imputed to this papal Nero, evidently prove him to have been not only destitute of all religious and virtuous principles, but even regardless of decency, and hardened against the very feelings of shame. Besides other instances of infamous licentiousness with which he is chargeable, he is accused of incest with his own daughter. And though it may be possible that the malignity of his enemies may have forged false accusations against him, and in some instances exaggerated the horror of his real crimes, yet there is upon record an authentic list of undoubted facts, which, by both their number and atrocity, are sufficient to render the name of Alexander VI. odious and detestable in the esteem of such as have the smallest tincture of virtuous principles and feelings. His insatiable avarice is pointedly expressed, says one of his biographers, in the following lines:

"Vendit Alexander claves, altaria, Christum,
Vendere jure potest; emerat ille prius."
"Christ's altars, keys, and Christ himself,
Were barter'd by this pope for self:
But who shall say he did not well?
'That which he bought, he sure might sell."

Dupin's Eccl. Hist. vol. vi. p. 14. Bower's Popes, vol. vii. p. 328. Gen. Dict. Gordon's Life of Alex. VI. by Gordon. Amst. 1732. Mosheim's Eccl. Hist. vol. iii. p. 431. Robertson's America, vol. i. p. 162. 8vo.

ALEXANDER VII. pope, was born of the illustrious family of Chighi, at Sienna, in 1599, and recommended by

the marquis Pallavicini to pope Urban VIII. Having been inquisitor at Malta, and legate at Ferrara, he was nuncio in Germany, and employed at Mantua in conducting the conferences that were intended to restore the peace of Europe. Some writers relate, that at this time he had formed the design of abjuring popery, and embracing the protestant religion, but that he was deterred from executing his purpose by the fate of a civilian, who had been poisoned on a similar account; and that he was confirmed in his religion by the elevation to the cardinalship. Upon his return from this embassy, he was appointed bishop of Imola, in Romagna, and afterwards cardinal and secretary to the pope. His next advancement was to the papal chair, to which he was introduced by the unanimous suffrage of the 64 cardinals, which he contrived to obtain by that dissimulation and address, of which he is said to have been complete master. After his election, in 1655, he ordered his coffin to be placed under his bed in his apartments in the Vatican, that it might serve to him as a memento of mortality; when he was robed in the pontifical habit, he appeared to have a hair-cloth under his shirt; and when a wealthy female, signora Olympia, waited upon him with congratulation, he dismissed her with a cold repulse, saying, "It is not decent for a woman to enter the dwelling of the father of the church." That the whole of this appearance of humility and self-denial was a farce, was sufficiently verified by his future conduct. The distinguishing feature of his character, next to his craft and dissimulation, was an attachment to his relations, for whom he provided by all the offices and honours which he could command. His zeal for religion, and his concern for terminating the wars which distracted the Christian world, seem to have subsided after his elevation to the pontificate; nor did he take any pains to conciliate the crowns of France and Spain. The five propositions of Janseus, which contained the sum of his doctrine, had been condemned by Innocent X.; but the Janseists had contrived to evade this sentence by a subtle distinction, which allowed them to acknowledge that these propositions were justly condemned by the pope; but at the same time to maintain, that they were not contained in the book of Janseus in the sense in which they were condemned. The benefit of this artful distinction they were not permitted long to enjoy. At the instigation of their enemies, Alexander VII. the successor of Innocent, issued a bull, in 1656, declaring, that the five propositions which had been condemned were the tenets of Janseus, actually contained in his book. He proceeded, in 1665, to send into France the form of a declaration to this purpose, which was to be subscribed by all those who aspired to any preferment in the church. This declaration produced the most deplorable divisions and tumults. It was vigorously opposed by the Janseists, who maintained, that in matters of fact the pope was fallible, especially when his decisions were personal, and not confirmed by a general council; and, consequently, that they were under no obligation to subscribe this papal declaration, which had merely for its object a matter of fact. Notwithstanding this unwise and intolerant bull, Alexander is said to have been liberal in his sentiments; to have disapproved the severities exercised towards the Vaudois in Piedmont, and to have treated the protestants who visited Rome with condescension. It is further related, that when some English gentlemen presented themselves at his feet to pay him the customary homage, upon finding that they were protestants, he courteously said, "Rise, you shall not commit what you think an idolatry: I will not give you my blessing, but I pray God you may be worthy to receive it." To the Jesuits this pontiff manifested a peculiar partiality; for though Innocent X. had, in 1645, condemned the indulgence which these artful missionaries had

shown to the Chinese superstitions, Alexander virtually annulled, in 1656, the sentence of his predecessor, and allowed the Chinese converts the liberty of performing several of the rites to which they had been accustomed, and to which they were principally attached.

Alexander VII. whatever were his principles and personal character, approved himself a friend to literature and the fine arts, and expended considerable sums in promoting them. He embellished the city of Rome, and erected the magnificent college, "Della Sapienza," which he furnished with a fine library, and a botanical garden. He appointed six new professorships, and increased the salaries of the former professors. As an author, this pontiff has been highly extolled by his panegyrists; a volume of Latin poems, entitled, "Philomathi Musæ juveniles," consisting of heroic, elegiac, and lyric verses, and a tragedy under the title of "Pompey," after the model of Seneca, written in his youth, whilst he was a student at Sienna, was published in folio, at the Louvre, in 1656. Alexander VII. died in the year 1667, with a higher reputation for talents than for honesty, as Bayle says, more lamented by the Jesuits than the Jansenists. *Morheim's Eccl. Hist.* vol. v. p. 26—99—214. *Bower's Popes*, vol. vii. p. 483. *Gen. Dict.*

ALEXANDER VIII. pope, originally called Peter Ottoboni, was born at Venice in 1610; and having studied at Venice and Padua, was made a bishop and cardinal by Innocent X.; and, at the age of 79, succeeded Innocent XI. in the papal see. Instead of devoting the powers which he had acquired at this late period of life to the service of religion, his thoughts were chiefly employed in providing for his relations, and accumulating upon them honour and wealth. Accordingly one of his domestics being asked by this pontiff what the people said of him, replied, that they said, "He lost no time in the advancement of his family." Right," says the pope, "for I have only half an hour left of the four and twenty." His indifference with regard to compromising the dispute that subsisted between France and the court of Rome, was considered by the French court as an evidence of his disposition to yield to the claims of the clergy of France; and he found panegyrists who extolled his liberality. But they found themselves deceived, when, at the close of his life, he issued a bull of execration against every thing that had been done to the prejudice of the pope's authority in the assembly of the clergy of France in 1682. Having enjoyed the honour and emoluments of his station 15 or 16 months, he died in 1691, with "a character stained with the reproach of avarice and duplicity." *Gen. Dict.* *Bower's Popes*, vol. vii. p. 490.

ALEXANDER, an abbot of Sicily, was an historian of the 12th century. He wrote four books of the life and reign of Roger, king of Sicily; printed at Saragossa in 1578, and inserted in the collection, intitled, "Hispania illustrata." *Dupin. Eccl. Hist.* vol. iv. p. 181.

ALEXANDER CELISENUS, abbot of Ceglie, was an historian, who flourished in the reign of Roger, king of Sicily, between the years 1102 and 1154, and recorded the actions of this reign. His dates are incorrect. *Voss. de Lat. Hist. lib. ii. c. 53.*

ALEXANDER, bishop of Hierapolis, flourished about the year 431. He was deputed by John of Antioch to attend the council of Ephesus, and to defend the cause of Nestorius, to whom he was zealously attached; and on that occasion he signed the excommunication of Cyril: but as Cyril and his party prevailed, he was himself expelled from his see, and sent into exile in Egypt. Several of his letters are extant among the "Ephesian Epistles," cited by *Lupus. Cave. H. L.* vol. i. p. 418.

ALEXANDER AB ALEXANDRO, so called, because his Christian and family names were Alexander, was born at Naples in 1461. He relinquished the practice of the law, to which he was at first devoted, because, in the exercise of this profession, his integrity was in danger of being corrupted; and he preferred a small fortune, in the tranquillity of retirement, and with the approbation of his own mind, to the pursuit of gain, with the hazard of his conscience. Against the power and favour of the great, he himself says, an advocate would find it impossible to support his clients; and the issue of suits depended not so much on the justice of the cause, as on the will and favour of an indolent or corrupt judge; so that it was fruitless to study with diligence and labour controverted points of law, with the varieties of its cases; and he adds, that the provisions of law, though wisely contrived, were often iniquitously set aside and perverted. To such circumstances, and with these views and apprehensions, he acted honourably in declining a profession, which he could not exercise at the period, and in the country in which he lived, with advantage to those by whom he was employed, and without incurring self-reproach. From the works of the ancients, to which he had been accustomed to direct his attention, he made a collection of passages relating to the history and customs of the Greeks and Romans, which he arranged in six books, under the title of "Dies Geniales;" a work which manifests more learning than judgment or taste. An edition of this work, with notes of various writers, was published in two volumes, 8vo. at Leyden, in 1673. The author appears to have been credulous and superstitious, as he gives a strange account of dreams and spectres, and of haunted apartments in his house at Rome. He died in this city about the year 1523. *Gen. Dict.*

ALEXANDRO AB ALEXANDRO, proto-medicus of Sicily, in which island he was born early in the 15th century; left a work on the duties and privileges of the office he held, which was afterwards published: "Constitutiones et regulata jurisdictionis Regii protomedicatus Siciliæ elucidata, scripta" *Haller* says, circa A. 1429, edita Panormi, 1564, 4to. a I. Philippo Ingrassia.

ALEXANDER NOEL, or NATALIS, a Dominican friar, and one of the most laborious writers of the 17th century, was born at Rouen, in Normandy, in 1639. Having been admitted into the order of Dominican friars, in 1655, he went to pursue his studies in philosophy and divinity, at the great convent in Paris; and was appointed, at the completion of his studies, to teach philosophy in the same convent. He continued in the exercise of this office for 12 years; and declining that of a preacher, he devoted himself entirely to the study of the scriptures and ecclesiastical history, and was created a doctor of the Sorbonne in 1675. By Colbert, the minister, with whose esteem he was honoured, he was introduced to his son, who was afterwards archbishop of Roan; and in this connection he enjoyed the advantage of those conferences that were held in an assembly of persons of the most distinguished learning, formed by the minister for the improvement of his son. These conferences led him to conceive the design of writing an ecclesiastical history. The first volume of this work, which he executed with great assiduity, and which was intitled, "Selecta Historiæ Ecclesiasticæ capita, et in loca ejusdem insignia Dissertationes Historiæ, Chronologicæ, Dogmaticæ," was published in 1676. It consists of 26 volumes in 8vo, the last four of which were not published till 1686. In the first volume he gives a history of the first age of the church, with an account of the persecutions which it suffered, the succession of popes, the heresies which arose, and the councils which condemned them, the writers in favour of Christianity, and the kings and emperors who reigned during the

the first century. To this volume are annexed 28 valuable and much esteemed dissertations, upon such points as have been the subjects of dispute in history, chronology, criticism, or doctrine. The history of the second century was published in 1677 in two volumes, and to it are subjoined three dissertations against M. Daille with regard to fasting, lent, confirmation, and the use of the fathers; and another dissertation concerning the time of celebrating Easter; and he also treats of the version of the Septuagint, &c. &c. The third century was published in 1678; and in three dissertations he has collected what relates to the life, manners, ordination, fall, errors, and defenders of St. Cyprian. The history of the fourth century, compiled in three volumes, and containing 45 dissertations, was printed at Paris in 1679. In the three following years he published his history of the 5th, 6th, 7th, 8th, 9th and 10th centuries; and that of the 11th and 12th centuries in 1683; and in these volumes there are several excellent dissertations. His sentiments on the subjects of some of these dissertations exposed him to the resentment of the court of Rome, which issued out a decree against his writings in 1684. Nevertheless, he published in the same year, in three volumes, the history of the 13th and 14th centuries, in which he continued to defend the rights of kings against the pretensions of that court, though he vindicates those princes who employed fire and sword against the Albigenses. He at last completed this work in 1686, by publishing four volumes, containing the history of the 15th and 16th centuries. The history of the Council of Trent occupies the greatest part of the last volume. Of this voluminous work, containing many curious particulars, there have been many editions. In 1689 he published a work of the same kind upon the Old Testament, in six volumes in 8vo. which extends from the creation of the world to the birth of Christ, and which period he has divided into six ages. From 1678 to 1680 he also published several other dissertations. In 1689 our author published his "Theologia Dogmatica et Moralis secundum Ordinem Catechismi Concilii Tridentini, in quinque libros tributa," i. e. "Positive and moral Divinity, according to the order of the Catechism of the Council of Trent, in five books;" printed at Paris in ten volumes in 8vo. and at Venice in 1698. But another volume having been added in 1701, this work was printed at Paris, in two volumes in folio, in 1703, with a collection of Latin letters. He also published, in 1704, Commentaries on the four Gospels; in 1710, upon St. Paul's and the seven Canonical Epistles; and he also wrote a Commentary upon the Prophets Isaiah, Jeremiah, and Baruch, which was never printed: and he likewise published several other treatises, which we shall not recite. His application, as we may naturally conceive, was intense; and towards the latter part of his life he was afflicted with the loss of his sight, which he bore with great calmness and resignation. He died in 1724, in the 86th year of his age. His piety, humility, and disinterestedness rendered him the object of general esteem. Gen. Dict.

ALEXANDER, of Paris, a French poet, flourished in the 12th century, and was born at Bernai, in Normandy. He removed to Paris, and became, in some measure, the founder of French poetry. He adopted verses of 12 syllables, as best adapted to heroic subjects. His poem of "Alexander the Great," was favourably received in the court of Philip Augustus: it is a sort of metrical version of a life of Alexander then current, intermixed with facts alluding to the history of France at that period. The sense of some passages is strong, and the versification harmonious. Some have supposed that the name of Alexandrines, applied to lines of 12 syllables, has been taken from this work, in reference either to its author or its object. Gen. Biog.

ALEXANDER, DOM JAMES, a Benedictine of the congregation of St. Maur, was a native of Orleans. He died in 1734, at the age of 82 years, and left a treatise on "Elementary Clocks," in 8vo. Biog. Dict.

ALEXANDER, NICHOLAS, a Benedictine of the congregation of St. Maur, was born at Paris, and died at an advanced age, at St. Denys, in 1728. He is known by two useful works, viz. "Phyfic and Surgery for the Poor," Paris, 12mo. 1738; containing a collection of select and cheap remedies for both internal and external ailments; and "A Botanical and Pharmaceutical Dictionary;" in which are found the principal properties of such mineral, vegetable, and animal substances as are used in medicine. He was devout and charitable, and devoted his knowledge of medicine and his property to the relief of the poor. Biog. Dict.

ALEXANDER DE SAINT ELPIDIO, so called from a town in Umbria, general of the Augustine hermits, and archbishop of Ravenna, lived at the beginning of the fourteenth century. He was the author of a treatise "On the Jurisdiction of the Empire and the Authority of the Pope;" written at the request of John XXII. and printed at Rimini, in 1624. Cave H. L. tom. ii. Append. p. 16.

ALEXANDER, WILLIAM, an eminent poet and statesman, the son of Andrew Alexander of Menstrie in Scotland, was born in 1580. Having finished his education, he travelled as tutor, or rather companion, to the Duke of Argyle; and upon his return he lived in retirement, and finished his poetical complaint of an unsuccessful address to his first mistress, which he entitled, "Aurora." Having amused himself for some time with amorous verses, he removed to the court of King James VI. where he sustained the character of a private, but learned and accomplished gentleman. In this more public situation he found leisure for exercising his poetical talents; and he now directed them to grave and moral subjects, with a view to the direction of princes and rulers, in a series of tragedies, formed upon the Greek and Roman models, at least in their chorusses between the acts. One of these, on the story of Darius, was published at Edinburgh in 1603. This tragedy, with three others, viz. Cræsus, the Alexandrian, and Julius Cæsar, were published in 1607, under the title of "The Monarchick Tragedies." Our author wrote some other poems of a political nature; particularly his "Parænesis" to prince Henry, communicating important and useful lessons to an heir of royalty. He also wrote a supplement to complete the third part of Sir Philip Sidney's Romance, which was published in 1613, when the author was sworn one of the gentlemen-ushers of the presence to Prince Charles. In 1614 he printed a poem, intitled, "Dooms-day;" and in this year he was knighted by King James, and made master of the requests. At this time he commenced his political career; and, having projected the settlement of a colony at Nova Scotia, in America, he obtained a grant of that country, by his Majesty's royal deed, in 1621. King Charles, on his accession, encouraged the scheme, and Sir W. Alexander published a pamphlet, reciting the advantages which would accrue from it to the nation. The author was made lieutenant of Nova Scotia; and an order of knights baronet was founded in Scotland in the first year of the king's reign, whose aid was appropriated to this settlement, on condition that each should have a portion of land assigned him in the new plantation. Sir William had also the privilege of coining small copper-money. The design, however, failed; Sir William sold the whole country to the French for 5 or 6000l. and in the conduct of the whole transaction he incurred some degree of reproach. King Charles, however, continued to favour him; and convinced of his talents and fidelity, made him secretary of state for Scotland in 1626; and in 1630, a

peer of that kingdom, by the title of Viscount Stirling. In 1633 he was raised to the dignity of Earl of Stirling, at his Majesty's coronation, in the palace of Holyrood-house. He discharged the office of secretary of state with great reputation till his death, in 1640. About three years before his death was published a new edition of his poems, viz. "The Four Monarchick Tragedies," "Dooms-day," "The Panegyrics," and "Jonathan," an heroic poem, which was now first published. The style and versification, particularly of the plays, are polished, and the plots, as far as the subjects are concerned, improved. The author's tragedies and other poems were well received at the time of their first publication. King James called the author his "Philosophical Poet;" and Michael Drayton commends them; calls the author "My Alexander," and wishes to be known as the friend of a writer, "whose muse was like his mind:" and John Davies of Hereford, in a book of epigrams, published about the year 1611, praises the tragical of the author; and says, "that Alexander the Great had not gained more glory with his sword than this Alexander had gained by his pen." Mr. Addison, after perusing the several works of the author, testified his approbation of them, by saying, "That he had read them over with the greatest satisfaction." "They compose," says a biographer of unquestionable judgment, "a very respectable portion of the literature of that age; though their gravity and prolixity are not much suited to the taste of the present." It does not appear that his plays were ever acted. They are rather dramatic poems for perusal in the closet. Biog. Brit. Gen. Biog.

ALEXANDER NECKAM, or NEQUAM, an eminent English writer of the 12th and 13th centuries, was born at St. Albans, in Hertfordshire, and pursued his studies, with successful assiduity, in the universities of Italy and France. At Paris he was esteemed a prodigy of genius and learning; and applauded as an excellent philosopher, a profound divine, and a good rhetorician and poet, considering the age in which he lived. His school at Paris, where he read lectures in 1180, was thronged with scholars. About the year 1186 he returned to England; and, having become a canon-regular of the order of St. Augustin, he was made abbot of Exeter in 1215, and died in 1227. His epitaph, written after the old monkish manner, in Latin rhyme, is as follows:

"Eclipsa patitur sapientia, Sol sepelitur;
Cui si par unus, minus esset sibile famus:
Vir bene discretus, et in omni more facetus,
Dictus erat Nequam, vitam duxit tamen æquam."

The sense is this:—

"Learning's eclips'd, the Sun himself's obscur'd;
Our loss were less, had he left one superior;
Accomplish'd was his mind, his manners pleasing,
And though his name was ill, his life was good."

He wrote several works, which are preserved in MS. in the libraries of England and other countries; such as "Commentaria super quatuor Evangelia;" "Expositio super Ecclesiasten;" "Expositio super Cantica;" "Elucidarium Bibliothecæ," in which are some expressions inconsistent with the doctrine of transubstantiation; "Laudes divine Sapientiæ," which is the same with the work, "De Naturis rerum;" and contains, amongst a variety of other matter, a large account of the three cities most celebrated for learning, Athens, Rome, and Paris. Gen. Dict. Cave. H. L. tom. ii. p. 286.

ALEXANDER I. king of Scotland, was the son of Malcolm III. and succeeded his brother Edgar in 1107. His

character was distinguished by a degree of vigour and impetuosity, which gave him the appellation of "the fierce;" and which, though previously concealed by his piety and devotion, discovered themselves on his accession to the throne. His conduct both in the northern and southern parts of the kingdom was so severe, that he awed the insurgents into submission; but a conspiracy was at length formed against his life, and the traitors, who were engaged in the execution of it, obtained admission into his bed-chamber at night, whilst he lodged at a castle in the Carle of Gowrie. Alexander, after having killed six of them, made his escape. Having reduced his own kingdom to order, he visited his brother-in-law Henry I. of England, and assisted him in terminating a difference between him and the Welsh. He closed his reign in enacting and enforcing civil and ecclesiastical regulations, died a bachelor in the 17th year of it, and was succeeded by his younger brother, David. Mod. Un. Hist. vol. xli. p. 45.

ALEXANDER II. king of Scotland, succeeded his father William the Lion, in 1214, in his 16th year. His attempt to recover the possession of Northumberland was retaliated by a destructive expedition into Scotland, conducted by John, king of England. Whilst John was thus employed, Alexander reduced Northumberland; and, being forced to discontinue his pursuit of the English king, who was burning the towns, ravaging the country, and advancing towards the capital, he entered England by the way of Carlisle, which he took and fortified, and proceeded as far as Richmond, in Yorkshire, retaliating upon the adherents of John severities similar to those which his own subjects had suffered. But his progress was impeded, and he was compelled to return through Westmoreland to his own kingdom.

In 1221, he married the princess Joan, eldest sister of Henry III. of England, who contributed to preserve peace between the two kingdoms. After her death in 1239, they were again embroiled; but by the mediation of the earl of Cornwall, Henry's brother, and the archbishop of York, they were again reconciled. Alexander, in his voyage to quell some commotions that were excited in Argyleshire, fell sick, and being put on shore on an island called Kernerey, on that coast, died, in the 51st year of his age, and 35th of his reign. His successor was his son by his second queen, the daughter of Egelrand de Coucy, one of the most powerful of the French nobility. Mod. Un. Hist. vol. xli. p. 77.

ALEXANDER III. king of Scotland, was son of the preceding, and succeeded his father at the age of nine years, in 1249. His marriage with Margaret, the daughter of Henry III. of England, was soon after solemnized in the presence of the two courts at York. On this occasion Alexander paid homage to Henry for his English possessions; and, on being pressed to perform his homage for the crown of Scotland, he declined it. Alexander, upon his return to Scotland, found that the Cummins, a family of very great influence, had formed a strong party against his English connections, under the plea that Scotland was never any better than a province of England; and both the king and queen were committed to close custody in the castle of Edinburgh, where they were debarred from seeing any company, or associating with each other, and prohibited from all concern in the government. When Henry heard of their situation, he determined to relieve them, and for this purpose assembled his military tenants at York, and marched to the borders; and by his emissaries, whom he dispatched to the castle of Edinburgh, released the royal pair, and afterwards dispossessed the usurpers. The king then assumed the exercise of the regal power; and, as soon as he was of age, pardoned the Cummins and their adherents, upon their submitting to his authority.

authority. However, in 1263, Haquin, king of Norway, appeared on the coast with a fleet of 160 ships, to make good his pretensions to the Western Islands; and, disembarking his troops, made himself master of the cattle of Ayr, and advanced into the country. Alexander, having assembled an army, met him at a place called Largs; and, after a long and doubtful contest, the Scots army was victorious. Of the Norwegians, 16,000 are said to have perished in the field, and the Scots lost 5000. The ships of Haquin were so much wrecked the day after the battle, that he could scarcely procure a vessel to carry him and a few friends to the Orkneys, where he soon after died of grief. His son and successor, Magnus, concluded a treaty with Alexander; and, in consideration of his receiving 1000 marks of silver in two years, and an annual payment of 100 marks for ever after, renounced all claim to those islands. As a further cement of friendship, Margaret, Alexander's daughter, was betrothed to Eric, the son and heir of Magnus. In 1256, Alexander and his queen repaired to the English court, where they were sumptuously entertained; and when the queen was delivered, they both returned to their own kingdom. During the war between Henry and his barons, Alexander assisted him with 5000 men, and preserved the northern fortresses against all their attempts. Upon the accession of Edward I. to the throne of England, Alexander, with his family, was present at his coronation, and soon after paid him homage for his English estates. In the parliament, held at Westminster in 1282, Alexander attended as the first peer of England. In 1283, he lost his son Alexander, in the 20th year of his age; and his death was soon followed by that of his sister, the queen of Norway, who left an only daughter.

Alexander, having no surviving issue besides this infant princess, was urged by the nobility and the states of the kingdom to marry; and in compliance with this request, he was married to Isabella, daughter to the Count of Dreux in France. This excellent prince was soon after killed, whilst he was hunting, by his horse's rushing down a high precipice, A. D. 1285, in the 45th year of his age, and the 37th of his reign. He was succeeded by Margaret, his grand-daughter, and heir of his crown, who did not long survive him. Scotland was now in a very critical state. Edward I. was acquiring an influence in the kingdom, which no other English monarch ever possessed, and revived the claim of sovereignty, to which his father Henry had never pretended. The death of Alexander was, therefore, much regretted; and the services he had performed to the kingdom demanded a tribute of respect to his memory. He had introduced many excellent regulations of government; he had divided the kingdom into parts, in each of which he occasionally resided, with a view of preserving the public peace, and for the purpose of more easily administering justice to all ranks of people; and he had greatly contributed to diminish the burdens of the feudal system, and to restrain the licence and oppressions of the nobility. The death of Alexander III. forms a remarkable æra in the Scottish history. *Mod. Un. Hist. vol. xli. p. 79, &c.*

ALEXANDER, king of Poland, was a younger son of Casimir, and as duke of Lithuania, elected from motives of policy to succeed Albert in 1501. The archbishop of Gnesna hesitated for some time in assisting at his coronation; and absolutely refused to concur in the ceremony for his queen, the princess of Muscovy, because she adhered to the doctrines of the Greek church. This indignity was resented by her father, who, in consequence of it, laid siege to Smolensko, but, upon the arrival of Alexander, relinquished the enterprise, and concluded a truce for six years. The fatigue of this expedition so much affected Alexander, that he fell

into a chronic disorder, which only terminated with his life. During his illness, the Moldavians and Tartars made an irruption into Lithuania; and Alexander was carried in a litter, at the head of his army, to oppose them. The two armies met near Wilna, and after a long contest, in which 20,000 Tartars fell, the Poles were victorious. Alexander received the news of this victory whilst he was dying; and, making signs to express his gratitude, he expired in 1506, at the age of 45, after a reign of five years in Poland, and 14 in Lithuania. In his stature he was short and tall; his visage was long, his eyes sparkling, and his carriage majestic. His genius was heavy, his taciturnity very remarkable, but his sentiments were generous and humane. He was a great patron of the liberal arts, and profuse in his grants under this character, and particularly to musicians; so that his donations were revoked, and a law was passed, called *Statutum Alexandrinum*, which prohibited the king from disposing of the revenue without the consent of the senate or diet. *Mod. Un. Hist. vol. xxx. p. 410.*

ALEXANDER NEVSKOI, or NEFSKY, grand duke of Russia, both a saint and hero of that country, was born in 1218, and distinguished by his strength and courage, and by the vigour of his character. He was betimes inspired with a passion for conquest by the incessant wars in which his father Yaroslaf was engaged with the Tartars and Monguls. Upon the death of Feodor, his elder brother, he became sole viceroy of Novogorod. He married a princess of the province of Polotzk; and for the purpose of defending his government against the attacks of the Tschudes or Esthonians, he drew a line of forts along the river Shelonia, which falls into the Ilmen lake. While Yaroslaf was engaged with the Tartars in 1239, a combined army of Swedes, Danes, and knights of the Teutonic Order, formed an expedition against Novogorod, and landed from their ships on the banks of the Neva. Alexander, after receiving a haughty embassy, determined to risk the event of a battle. Having implored the assistance of heaven in the presence of his people, he prepared for an engagement. The attack was begun at six in the morning, and the two armies were closely engaged during the whole day. When night put an end to the contest, the field of battle was covered with the bodies of the slain. This battle, in which Alexander is said to have wounded with his own sword the king of the northern nations, is embellished with a variety of fictions; but the event of it was highly honourable to the courage and success of the young prince. From the river Neva, near which the battle was fought, he obtained the surname of Nevskoi. The remainder of his life was employed in exertions of valour and activity against the invaders of his country. He defeated the Tartars in several contests. In 1245 he raised the siege of Novogorod, and gained a victory over the Germans, Danes, and Tschudes, on the borders of the Peipus lake. After his father's death he paid a visit to the Tartar khan, who acknowledged, that though he had heard much to his praise, he far exceeded every thing that had been reported concerning him. In 1252, upon his return from a second visit to the khan, he ascended the throne as grand prince of Vladimir. With a very considerable force he now undertook an expedition against Sweden, and coming off victorious, he so far conformed to the then subsisting practice of war, as to ravage all the countries which he had captured, and returned to Russia with a multitude of prisoners, and heaps of spoil. On occasion of a difference which happened between the Russians, and particularly the inhabitants of Novogorod, and the Tartars, with respect to the humiliating and burdensome tribute which was exacted by the latter, Alexander, in 1258, attempted to pacify the discontented, and to induce them

them to submit, without resistance, to a superior power. In order to give effect to his conciliatory endeavours, he took the national payment on himself, and thus acquired the complete trust of the Novogorodians as well as of the Tartars. But discontent continuing to prevail, and resistance having arisen to a degree to alarming in several places, that the Tartarian collectors were massacred; the Tartars were exceedingly exasperated against the Russians, and the Russian princes were commanded to appear before the khan. Alexander undertook the hazardous business of attempting, by a personal interview, to avert the khan's wrath on account of the murder of his deputies. After a delay of twelve months he at last succeeded, and obtained a promise that the khan would forgive what had happened, and forego his purpose of raising an army; and in his return home he died suddenly at Gorodetz, in the year 1262, with circumstances that render it extremely probable, that in the camp of the khan poison had been administered to him shortly before his departure. For his various and signal services, and acts of valour, which in those days were deemed miraculous, the grateful admiration of his countrymen raised him to the rank of one of the national saints. Peter the Great, availing himself of the veneration that was paid to the memory of this distinguished hero, founded, in 1712, a monastery near his new city of Petersburg, on the spot which was reported to have been the scene of Alexander's victory; and in 1723 he caused the bones of the great duke to be brought thither. This monastery has been gradually enlarged by several sovereigns since the time of Peter; and the late empress has built a magnificent church within its walls, and a sumptuous mausoleum for herself and her descendants. The shrine of the saint, which was caused to be made by Elizabeth, is of massy silver. The order of knighthood of St. Alexander Nevskoi was instituted by Peter the Great in 1722; but as he died before the knights were appointed, this was done by Catherine I. in June 1725. The badge of this order is a golden eight-pointed star, enamelled with red, with the figure of St. Alexander in armour on horseback. At the four corners of the cross are as many gold spread-eagles, crowned. A broad, deep red, watered ribbon is worn over the left shoulder; the motto is in Russian characters, signifying, "For labour and patriotism." The feast is held on the 30th of August. The monarch and the knights attend mass at Kazan church, and go a pilgrimage on foot to the monastery of the saint, at the distance of three versts, and attend mass again before his silver shrine, and then return to the winter palace, where they partake of a sumptuous dinner, under a discharge of cannon. In 1790 the number of knights amounted to 122. *Tooke's Life of Cath. II. vol. ii. p. 373. Cox's Travels into Russia.*

ALEXANDERS, in *Botany*. See SMYRNium.

ALEXANDREA Mons, in *Ancient Geography*, a mountain of Mysia, on the sea-coast, forming a part of Mount Ida, where Paris pronounced judgment on the three goddesses. *Strabo*.

ALEXANDRETTA, now called *Scanderoon* by the Turks, in *Geography*, is the port of Aleppo in Syria, and situated in the gulf of Ajazzo, near the sea coast. N. lat. 36° 35' 10". E. long. 36° 20'. Its nearest distance from Aleppo, in a straight line, is between 60 and 70 miles; but the usual road for caravans, through Antioch, is computed to be between 90 and 100 miles.

Ancient and modern travellers, from Moryson and Teixeira to Volney, concur in representing the wretched condition of this village, which owes its existence, as the habitation of human beings, to its being the port and road that lead to Aleppo. In this road vessels anchor on a solid bot-

tom, so that their cables are not liable to chafe; and from hence merchants convey their goods as speedily as possible, by means of their factors, to Aleppo and other places. In winter this harbour is incommode by a wind, called by the French sailors "Le Raguier," which rushes from the snowy summits of the mountains, and forces the ships to drag their anchors several leagues; and ships are prevented by tempestuous winds from entering the harbour for three or four months. The road to Aleppo by the plain is also infested by curd robbers, who conceal themselves in the caverns of the adjacent rocks, and plunder the strongest caravans. Besides, such is the situation of this port, that it is environed on three of its sides with a fenny plain, and on the fourth side by the sea. On the east side, beyond the fen, is a high mountain, which intercepts the rays of the sun, and the remote mountains on the north side have the same effect, so that the stagnant waters and mephitic exhalations produce an epidemic disorder, which prevails from May to September, and which is fatal to the inhabitants and to the crews of the ships during their stay in this place. This disorder is an intermitting fever of the most malignant kind, accompanied with obstructions of the liver, which terminate in a dropsy; and, at the time when this fever is most prevalent, ships have frequently lost all their men in two months; and "the place," as Moryson (*Travels*, p. 250.) long ago observed, "is infamous for the death of Christians." Some years ago, says Mr. Volney, the merchants of Aleppo, disgusted with the numerous inconveniences of Alexandretta, wished to abandon that port, and remove the trade to Latakia. They proposed to the pacha of Tripoli to repair the harbour at their own expence, on condition of his indemnifying them from all duties for ten years. Regardless of any future advantages that might accrue to his country from this plan, and of which he was not likely to participate, their proposal was rejected, and the European factors were obliged to remain at Scanderoon. The only curiosity of the place, it is said, that is shewn for the amusement of strangers, consists of six or seven marble monuments, sent from England, on which is read the following inscription: "Here lies —, carried off in the flower of his age by the fatal effects of a contagious air." It is added, that the languid and yellow aspect, livid eyes, and dropical symptoms of those who shew these monuments, plainly indicate that they are not likely long to escape the same fate. To a village, however, called Beylan, situate on a high hill, about four leagues distant, and abounding with fresh water and excellent fruits, the inhabitants retire, and here they find no inconsiderable relief. The plain of Antioch, which lies at some distance, is watered with a number of streams and canals, and abounds with most of the necessaries of life, particularly with cattle, which are driven there to fatten. This port has a governor and some few soldiers, and is defended by an old castle; but as it is insufficient to resist any force, it is somewhat surprising that the pirates, who swarm on this coast, never attempt it. The aga has, for some years past, applied the duties of the custom-house at Alexandretta to his own use, and rendered himself almost independent of the pacha of Aleppo. In former times the CARRIER pigeon, *Columba Tabellaria* of Linnæus, was employed by the English factory to convey intelligence from Scanderoon of the arrival of the company's ships in that port. The practice has been disused for many years; but Dr. Russell (*Hist. Aleppo*, vol. ii. p. 203.) informs us, that when it subsisted, the pigeon performed the journey in two hours and a half.

ALEXANDRIA, now called *Scandaria*, the ancient capital city of Lower Egypt, was built by Alexander the Great, in the year 332 before Christ. It was situated on the Mediterranean between the Lake Mareotis and the beauti-

tiful harbour formed by the Isle of Pharos, about 12 miles west of the Canopic branch of the Nile, in N. lat. $31^{\circ} 10'$. and E. long. $30^{\circ} 19'$. It is probable, says a popular historian, that the opposition and efforts of the republic of Tyre, which gave Alexander so long and so severe a check in the career of his victories, led him to perceive the vast resources of a maritime power, and suggested to him an idea of the immense wealth which the Tyrians derived from their commerce, especially that with the East Indies. As soon, therefore, as he had accomplished the destruction of Tyre, and reduced Egypt to subjection, he formed the plan of rendering the empire, which he designed to establish, the centre of commerce as well as the seat of dominion. With this view he founded a great city, which he honoured with his own name, near one of the mouths of the river Nile, that by the Mediterranean sea and the vicinity of the Arabian gulf, it might command the trade of both the east and west. He had no sooner conceived the design than he hastened to execute it. Accordingly he himself drew the plan of the intended city, and fixed upon several places where the temples and public squares were to be erected. It is said, that as there were no instruments at hand proper for this purpose, a quantity of meal was scattered over the ground, and that thus the circuit of the walls was marked out: and it is added that Aristander, the king's soothsayer, interpreted this new mode of determining the site of the walls as a presage of the abundance which would distinguish the city. The situation of Alexandria, it must be allowed, was selected with such discernment, that it soon became the chief commercial city in the world; and in this respect the design of its founder was fully accomplished. During the subsistence of the Grecian empire in Egypt and in the east, and amidst all the successive revolutions in those countries, through a period of about 1800 years, from the time of the Ptolemies to the discovery of the navigation by the Cape of Good Hope, commerce, particularly that of the East Indies, continued to flow in the channel, which the sagacity and foresight of Alexander had prescribed. Although some part of the Indian commerce was conducted by means of the river Oxus and the city of Samarcand into the Caspian sea, and thence by land to Trapezond, and passing to the Euxine and other neighbouring seas, centered in the city of Corinth; yet a considerable part of it, especially such as was carried on at the coast of Malabar and in the Persian gulf, came up the Red Sea; and goods which were landed at Elam, now Suez, were conveyed over land to the Nile, and then by water to Alexandria.

This city, says a modern traveller, was a league and a half long by one-third in breadth, which made the circumference of its walls about four leagues. Quintus Curtius (lib. iv. c. 8. tom. i. p. 221.) makes them 80 stadia, or a little more than nine miles. According to Pliny (H. N. lib. v. c. 10. tom. i. p. 258.) they were 15 miles. Strabo (lib. xvii. tom. ii. p. 1143.) makes the length of the city 30 stadia, and the breadth between seven and eight stadia; and Diodorus Siculus (lib. xvii. tom. ii. p. 590. Ed. Wessel.) makes the circuit 96 stadia, or somewhat more than 11 miles; and he says, that the city was peopled by 300,000 free inhabitants, besides at least an equal number of slaves. The Lake Mareotis bathed its walls on the south, and the Mediterranean on the north. It was intersected lengthwise by straight parallel streets. This direction left a free passage to the northerly wind, which alone conveys coolness and salubrity into Egypt. A street two thousand feet wide began at the gate of the sea, and terminated at the gate of Canopus. It was decorated by magnificent houses, by temples, and by public buildings. In this extensive range the eye was never tired with admiring the marble, the porphyry, and the obelisks, which were destined

at some future day to embellish Rome and Constantinople. This street, the handsomest in the universe, was intersected by another of the same breadth, which formed a square, at their junction, half a league in circumference. From the middle of this great place the two gates were to be seen at once, and vessels arriving under full sail from the north and from the south. A mole of a mile in length, called *Hepta Stadium*, stretched from the continent to the Isle of Pharos, and divided the great harbour into two. That which is to the northward preserved the name of the founder, and was called the Great Port. A dyke, drawn from the island to the rock on which Pharos was built, secured it from the westerly winds. The other was called *Eunostos*, or the Safe Return. The former is called at present the New, and is the port to which the vessels of Europe resort; the latter is the Old Harbour, and is that to which those only from Turkey are admitted: a bridge that joins the mole to the city served for a communication between them. It was raised on lofty pillars sunk into the sea, and left a free passage for the ships. The palace, which advanced beyond the promontory of *Lochias*, extended as far as the dyke, and occupied more than a quarter (a third or fourth, says Strabo), of the city. Each of the Ptolemies added to its magnificence. It contained within its inclosure the museum, an asylum for learned men, groves and buildings worthy of royal majesty, and a temple where the body of Alexander was deposited in a golden coffin. Perdiccas, it is said, undertook to convey the body of Alexander to the temple of Jupiter Ammon, agreeably to the will of that prince; but Ptolemy, son of Lagos, carried it off, and placed it in the palace of Alexandria. The infamous Seleucus Cibyastes violated this monument, carried off the golden coffin, and put a glass one in its place. In the great harbour was the little island of Anti-Rhodes, where stood a theatre and a royal place of residence. Within the harbour of *Eunostos* was a smaller one, called *Kibotos*, or *Cibotus*, *q. d.* the harbour of the arch, dug by the hand of man, which communicated with the Lake Mareotis by a canal. Between this canal and the palace was the admirable temple of Serapis, and that of Neptune, near the great place where the market was held. Alexandria extended likewise along the southern banks of the lake. Its eastern part presented to view the Gymnasium, with its porticoes more than 600 feet long, supported by several rows of marble pillars. Without the gate of Canopus was a spacious circus for the chariot races. Beyond that the suburb of Nicopolis ran along the sea shore, and seemed a second Alexandria. A superb amphitheatre was built there, with a race-ground, for the celebration of the *Quinquennialia*, or feasts that were celebrated every fifth year. Such is the description, says Savary, (Letters on Egypt, vol. i. p. 29.) left us of Alexandria by the ancients, and above all by Strabo.

This famous city, second only to Rome itself, was built by Dinocrates, a celebrated architect, who acquired great reputation by rebuilding the temple of Diana at Ephesus, which Herostratus had burnt.

Alexandria owed much of its celebrity as well as of its population to the Ptolemies. Ptolemy Soter, one of Alexander's captains, who, after the death of this monarch, was first governor of Egypt, and afterwards assumed the title of king, made this city the place of his residence, about 304 years before Christ. This prince founded an academy, called the *Museum*, in which a society of learned men devoted themselves to philosophical studies, and the improvement of all the other sciences; and he also gave them a library, which was prodigiously increased by his successors. He likewise induced the merchants of Syria and Greece to reside in this city, and to make it a principal mart of their commerce.

commerce. He soon and successfully, Ptolemy Philadelphus, published the works of his father, and he erected the tower of Ptolemy, brought hither the image of the god Serapis from Phoenicia, and erected the famous temple of SERAPTON, and he translated the *ALEXANDRIAN EPIQUE*. He did not continue his studies, but he was beloved by Nectas, and carried off by him. His wife, which was intended for joining the Nectas, died, and he had the glory of completing it. Ptolemy, however, followed the example of his predecessors, and he did not contribute to the wealth of Alexandria, and the prosperity of the kingdom. But the affluence that attended the great luxury and licentiousness, for that time, of Alexandria became proverbial: "No Alexandria, no golden age, no delicious." Quintilian. In about 30 years, from the commencement of the reign of Ptolemy Soter to the death of Cleopatra, Alexandria continued in subjection to the Ptolemies; but most of them devoted themselves to various kinds of indulgence and pleasure, became effeminate and dastardly, and by their example contributed to that corruption and relaxation, which prevailed among their subjects, and ultimately terminated in the ruin of this famous city. Ptolemy Physcon, in particular, was a monster of vice and cruelty. About the year B. C. 136, he put to death or banished most of those persons who had been in favour with his brother Philometor, and who had been employed during his reign, and permitted his foreign troops to plunder and massacre at discretion. Many of the inhabitants of Alexandria, terrified by his savage conduct, and in order to avoid his cruelty, retired into foreign countries, and left the city almost a desert. Of these there were grammarians, philosophers, geometicians, physicians, musicians, and other masters in the liberal sciences, who disseminated the polite arts and general science through Greece, Asia Minor, and the islands, and indeed to every place whither they fled. In order to supply the places of these fugitives, Ptolemy caused proclamations to be made in all the neighbouring countries, that persons of any nation, who were desirous of settling at Alexandria, should receive suitable encouragement. The proposal was accepted by many, and the houses and privileges which belonged to the former inhabitants were assigned to these new settlers, and thus the city was repopled. About this time Scipio Africanus the younger, and other Romans, were deputed on an embassy to Alexandria; and Justin says of him, that whilst he visited and considered with curiosity the rarities of Alexandria, he was himself a sight to the whole city; "Dum inspicit urbem, ipse spectaculo Alexandrinis fuit;" so different were his aspect and manners from those of the Alexandrians. The new inhabitants, whom Ptolemy had invited into the city, soon found reason to dislike their situation, and to hate their new sovereign. Cruel and timid as he was, he determined to massacre all the young men of the city; and for this purpose he caused the Gymnasium, or place of exercise in which they were assembled, to be invested by his foreign troops, and put them all to the sword.

When Julius Cæsar, B. C. 48, in his pursuit of Pompey, landed at Alexandria, he found the city in great commotion, without law and without government. Having arbitrated between Ptolemy XII. and Cleopatra, and decreed that they should reign jointly in Egypt, Pothinus instigated the Alexandrians to resist the decree, and to concur in driving Cæsar out of the city. Accordingly he brought 20,000 troops to effect his purpose, but Cæsar supported the attack; and in order to prevent any injury from their fleet, to which they next had recourse, he caused it to be set on fire, and possessed himself of the tower of Pharos, which he garrisoned. Some of the vessels that were on fire came so near, that the flames

caught the houses adjoining to the quay, and spread through that quarter of the city, which was called *Bruchion*, and consumed the library that was placed there, consisting of 400,000 volumes. In a decisive battle with the whole army of Ptolemy, Cæsar, assisted by a considerable body of Jews, obtained a complete victory. Ptolemy, in endeavouring to make his escape in a boat, was drowned in the Nile; and Cæsar returned to Alexandria, which, together with the whole of Egypt, submitted to the victor. Before he left this city, he confirmed all the privileges which the Jews enjoyed, in gratitude to them for their assistance, and ordered a column to be erected, in which these privileges were engraven, with the decree that confirmed them. The emperor Caligula was inclined to favour the Alexandrians, because they manifested a readiness to confer divine honours on him; and conceived the horrid design of massacring the chief senators and knights of Rome, A. D. 40, and then of abandoning the city, and of settling at Alexandria. At this time the Jews who inhabited this city, and who had continued to enjoy the privileges of citizens, granted to them by Alexander, under the Ptolemies, and who had obtained a confirmation of them from Julius Cæsar, became obnoxious to the Alexandrians. Their number, as they occupied two parts in five of the city, and amounted in the whole of Egypt to a million, and also the prerogatives that distinguished them, excited envy and jealousy, and their fellow-citizens wanted only a pretence for destroying them. They had been for some time restrained from doing them injury; but under the government of Flaccus, A. D. 40, who permitted the statues of Cæsar to be set up in the oratories of the Jews, they were grievously oppressed. He took occasion, in consequence of some dissensions and seditions that occurred, to publish a decree, by which, without offering them a hearing, they were declared strangers in Alexandria; he also restricted them to one of the five districts into which the city was divided; and their houses, which they were compelled to abandon, were plundered, whilst, destitute of any settled abode, they were obliged to wander about the fields and the sea-shore, without shelter, property, and even the means of subsistence. Those who fell into the hands of their enemies were tortured in the most cruel manner, and destroyed by a lingering and painful death. The streets, market-places, and theatres were deluged with blood; neither sex nor age was distinguished; and none, says Philo (Leg. ad Caium) were spared. This writer assigns no other cause for these barbarities than the rage and fury of the Alexandrians. When Flaccus was recalled, the Jews obtained some respite; but they were soon alarmed by the order of Caius to have his own statue set up in the temple of Jerusalem. In the mean while they sent a deputation to the emperor, at the head of which was Philo, to petition the restoration of their citizenship and of their oratories. Before the object of their embassy was settled, Caius died; and Claudius declared in favour of the Jews, whom he re-established in the possession of all the privileges they had enjoyed in Alexandria from the time of the foundation of that city. When Adrian visited Egypt, A. D. 130, he expressed a great dislike of the manners and dispositions of the Egyptians in general, and of those of the inhabitants of Alexandria in particular. In a letter written from thence, and addressed to the Consul Servian, he says, "the city of Alexandria is rich and powerful, with great trade, which produces plenty. Nobody is idle there; some blow glass, others make paper; many are employed about linen and making of cloaths; all have some trade. All, whether Jews or Christians, acknowledge but one God, their interest. I wish that this city, by its grandeur and riches, the first of all Egypt, was furnished with better inhabitants."

Nothing equals their ingratitude; I have granted them every thing they could desire; I have restored their ancient privileges; I have given them new ones; in consequence of this they were grateful to me when present; but I had scarcely turned my back when they insolently attacked my son Verus, and I believe you know what they have said of Antoninus, &c. &c." For Nero the Alexandrians built baths in the city, when they expected a visit from him in his way to Egypt; and because Cæcina Tuscus, the son of his nurse, whom he had made præfect of Egypt, presumed to make use of them, he was condemned to banishment. To Alexandria belonged the honour of being the first place where Vespasian was acknowledged and proclaimed, A. D. 69, and the emperor remained here whilst his generals and armies were fighting against Vitellius; and though he came hither for the purpose of starving Italy, by preventing its supplies of foreign corn, yet as soon as he heard of the death of Vitellius, and that Rome had submitted, the best ships of Alexandria were immediately laden with corn, and ordered to sail for their supply. Whilst Vespasian continued in this city, he received ambassadors from the Volageses, who offered him 40,000 Parthian horse; but peace was then restored to the Roman empire. During his stay in this place he was no favourite with the Alexandrians. They were fond of pomp and magnificence, and Vespasian loved simplicity. They had flattered themselves with the hopes of receiving a gratification, because they had been the first who acknowledged him for emperor; but on the contrary they were harassed with imposts, either new, or levied with uncommon rigour. The Alexandrians revenged themselves with sneers and sarcasms, calling him *Cybioastes*, a name which they had formerly given to one of their kings, who was sordidly avaricious; but heaven, if we credit some Pagan writers, distinguished him by miracles. The emperor Severus, in his visit to Egypt, A. D. 202, granted the Alexandrians a council, the members of which had the title and privileges of senators, and assisted in the administration of public affairs, and thus mitigated the rigour of the despotic government of the præfect instituted by Augustus. He also changed several laws in their favour; and they erected a column as a monument of their gratitude, called by Abulfeda the *Pillar of Severus*. It has already appeared that the Alexandrians were inclined to be sarcastic, and that they deserved the character given to them by Herodotus, who says, that they loved to be merry at the expence even of their princes. In the case of Caracalla, whose vanity they ridiculed, because, though he was of small stature, deformed, and destitute of every kind of military merit, he had compared himself to Achilles and to Alexander, their raillery was productive of very serious consequences. Whilst the Alexandrians were preparing to receive him with joy and magnificence, when he visited the temple of Serapis, and the tomb of Alexander, he was meditating cruel retaliation. In the midst of peace, and on the slightest provocation, he issued his commands for a general massacre, A. D. 215. From a secure part of the temple of Serapis, he viewed and directed the slaughter of many thousand citizens, as well as strangers, without distinguishing either the number or the crime of the sufferers; since, as he coolly informed the senate, all the Alexandrians, those who had perished and those who had escaped, were alike guilty. Dion. (lib. lxxvii. p. 1307.) represents it as a cruel massacre; Herodian (lib. iv. p. 155.) says, that it was also perfidious. The massacre was accompanied with the plunder both of temples and houses; and all strangers, except merchants, were driven from the city. The societies of learned men, who were maintained in the Museum, were abolished; and the different quarters of the city were separated from each

other by walls and towers to prevent all communication between them. However, this desolation was but a temporary evil; for Caracalla being soon after killed, Alexandria recovered its splendour by its own resources, and soon became again the second city of the empire. Under the reign of Gallienus, Æmilian, who had been præfect of Egypt for some years, assumed the Imperial purple, on occasion of a violent sedition, which terminated in a ruinous war. All communication between the different quarters of Alexandria was cut off, and it was easier, says St. Dionysius, to go from one end of the world to the other than from Alexandria to Alexandria. The streets were filled with blood, the dead bodies putrified, and, by their infection, brought on the plague. Æmilian, in vain, endeavoured to appease the people. They were exasperated against him, and attacked him with stones and darts; upon which, in order to avert the imminent danger that threatened him, he declared himself emperor. The soldiers and the people, happy in the prospect of being released from the yoke of Gallienus, acknowledged his sovereign authority. At length he was attacked and defeated by Theodotus, the minister of Gallienus's vengeance. Upon this he retired to the Bruchium, a quarter of Alexandria, and sustained a siege, in which St. Anastasius and St. Eusebius, intimate friends, and afterwards bishops of Laodicea, were admired for their ingenious charity in comforting and relieving the unhappy besieged, who perished with hunger. Anatolius was shut up in Bruchium, and Eusebius remained with the Romans. The former, moved with compassion to the wants and misery of the besieged, applied to the latter in order to obtain amnesty for those who should leave the garrison and surrender themselves. Having succeeded in his application, he immediately proposed surrendering the place, and making peace with the besiegers. The answer was, that no peace should be made. Anatolius then proposed, that all who were of no service should leave the place in disguise, and they were kindly received and seasonably supplied by Eusebius. Æmilian was afterwards taken by Theodotus and sent to Gallienus, who ordered him to be strangled in prison. The various misfortunes that befell Alexandria so depopulated this great city, that, after these calamities, the number of its inhabitants, from four to fourscore years of age, was not equal to that which had been usually reckoned before of those who were between 40 and 70. This difference was known by the registers that were kept for the gratuitous distribution of corn. Eusebius, Eccl. Hist. vii. 21. Dioclesian, A. D. 296, marched against Achilleus, who had usurped the government of Egypt; and, having driven him to Alexandria, besieged the city, cut off the aqueducts which conveyed the waters of the Nile into every quarter of that immense city, and rendering his camp impregnable to the sallies of the besieged multitude, he pushed his reiterated attacks with caution and vigour. After a siege of eight months, Alexandria, wasted by the sword and by fire, implored the clemency of the conqueror, but it experienced the full extent of his severity. Many thousands of the citizens perished in a promiscuous slaughter, and there were few obnoxious persons in Egypt, who escaped a sentence either of death, or at least of exile. Eutropius, ix. 24. Orosius (vii. 25.) says, that he gave up the city to be plundered. As an apology for the severity of this emperor, it has been alledged that the seditions of Alexandria had often affected the tranquillity and subsistence of Rome itself, and that his severity was counterbalanced by salutary regulations. In 302 he established, for the benefit of this city, a perpetual distribution of corn. Constantine, with a view of establishing his new city of Constantinople, distributed every day 80,000 bushels

of corn brought from Alexandria; and he employed the Alexandrian fleet in victualling New Rome, as it was called, leaving to Old Rome only that of Africa. Socrat. ii. 13. Alexandria suffered in common with other places by the violent and destructive earthquake which shook the greatest part of the Roman empire, July 21st, A. D. 365; and this city annually commemorated this fatal day when 50,000 persons had lost their lives in the inundation.

It was in Alexandria chiefly that the Grecian philosophy was engrafted upon the stock of ancient oriental wisdom. The Egyptian method of teaching by allegory was peculiarly favourable to such an union: and we may well suppose that when Alexander, in order to preserve by the arts of peace that extensive empire, which he had obtained by the force of arms, endeavoured to incorporate the customs of the Greeks with those of the Persian, Indian, and other eastern nations, the opinions as well as the manners of this feeble and obsequious race would, in a great measure, be accommodated to those of their conquerors. This influence of the Grecian upon the oriental philosophy continued long after the time of Alexander, and was one principal occasion of the confusion of opinions which occurs in the history of the Alexandrian and Christian schools. Alexander, when he built the city of Alexandria, with a determination to make it the seat of his empire, and peopled it with emigrants from various countries, opened a new mart of philosophy, which emulated the fame of Athens itself. A general indulgence was granted to the promiscuous crowd assembled in this rising city, whether Egyptians, Grecians, Jews, or others, to profess their respective systems of philosophy without molestation. The consequence was, that Egypt was soon filled with religious and philosophical sectaries of every kind; and particularly, that almost every Grecian sect found an advocate and professor in Alexandria. The family of the Ptolemies, as we have seen, who after Alexander obtained the government of Egypt, from motives of policy, encouraged this new establishment. Ptolemy Lagus, who had obtained the crown of Egypt by usurpation, was particularly careful to secure the interest of the Greeks in his favour, and with this view invited people from every part of Greece to settle in Egypt, and removed the schools of Athens to Alexandria. This enlightened prince spared no pains to raise the literary, as well as the civil, military, and commercial credit of his country. Under the patronage first of the Egyptian princes, and afterwards of the Roman emperors, Alexandria long continued to enjoy great celebrity as the seat of learning, and to send forth eminent philosophers of every sect to distant countries. It remained a school of learning, as well as a commercial emporium, till it was taken, as we shall see in the sequel of this article, and plundered of its literary treasures by the Saracens. Philosophy, during this period, suffered a grievous corruption from the attempt which was made by philosophers of different sects and countries, Grecian, Egyptian, and Oriental, who were assembled in Alexandria, to frame, from their different tenets, one general system of opinions. The respect which had long been universally paid to the schools of Greece, and the honours with which they were now adorned by the Egyptian princes, induced other wise men, and even the Egyptian priests and philosophers themselves to submit to this innovation. Hence arose an heterogeneous mass of opinions, under the name of the *ECLECTIC philosophy*, and which has been the foundation of endless confusion, error and absurdity, not only in the Alexandrian school, but among Jews and Christians; producing among the former that specious kind of philosophy, which they called their *CABBALA*, and among the latter innumerable corruptions of the Christian faith. The Alexandrian school is celebrated

by Strabo (lib. xvii.) and by Ammianus (xxii. 6.) Brucker's History of Philosophy, by Enfield, vol. i. p. 500.

At Alexandria there was, in a very early period of the Christian æra, a Christian school of considerable eminence. St. Jerom says, the school at Alexandria had been in being from the time of St. Mark. Pantænus, placed by Lardner at the year 192, presided in it. St. Clement of Alexandria succeeded Pantænus in this school about the year 190; and he was succeeded by Origen. Lardner's Works, vol. ii. p. 203. As the extensive commerce of Alexandria, and its proximity to Palestine, gave an easy entrance to the new religion, it was at the school of this city that the Christian theology appears to have assumed a regular and oriental form: and when Adrian visited Egypt, he found a church composed of Jews and Greeks, sufficiently important to attract the notice of that inquisitive prince. The theological system of Plato was introduced into both the philosophical and Christian schools of Alexandria; and of course many of his sentiments and expressions were blended with the opinions and language of the professors and teachers of Christianity. See *PLATONISM*.

The city of Alexandria, which had maintained its reputation for power and wealth, as well as for literature and science, for nearly 1000 years, and which had been successively held in subjection by the Ptolemies, the Romans, and the Greek emperors, was at length captured by the Saracens, and in process of time totally ruined. In the year 638, Amrou, the general of Omar, invaded Egypt; and in the following year he commenced the siege of Alexandria. This siege is perhaps the most arduous and important enterprise in the annals of Saracen conquests. The first trading city in the world was abundantly replenished with the means of subsistence and defence. Her numerous inhabitants fought for the dearest of human rights, religion and property; and the enmity of the natives seemed to exclude them from the benefit of peace and toleration. The sea was continually open; and if Heraclius had been awake to the public distress, fresh armies of Romans and barbarians might have been poured into the harbour, to save the second capital of the empire. A circumference of 10 miles would have scattered the forces of the Greeks, and favoured the stratagems of an active enemy; but the two sides of an oblong square were covered by the sea and the lake Mareotis, and each of the narrow ends exposed a front of no more than 10 furlongs. The efforts of the Arabs, however, were not inadequate to the difficulty of the attempt and the value of the prize. The faithful natives devoted their labours to the service of Amrou; and in every attack his sword and banner glittered in the van of the Moslems. The general, having been released from a temporary captivity, into which his imprudent valour had betrayed him, advanced towards the city doomed to destruction. At length, after a siege of fourteen months, and the loss of 23,000 men, the Saracens prevailed; the Greeks embarked their dispirited and diminished numbers; and the standard of Mahomet was planted on the walls of the capital of Egypt, Dec. 22, A. D. 640. "I have taken," said Amrou to the caliph, "the great city of the west. It is impossible for me to enumerate the variety of its riches and beauty; I shall content myself with observing, that it contains 4000 palaces, 4000 baths, 400 theatres or places of amusement, 12,000 shops for the sale of vegetable foods, and 40,000 tributary Jews. The town has been subdued by force of arms, without treaty or capitulation, and the Moslems are impatient to seize the fruits of their victory." According to the Arabian historians, Alexandria, at this time, consisted of three cities, *viz.* *Menna*, or the port, which included Pharos and the adjacent parts; *Alexandria*, properly so called, where the modern Scanderia stands; and *Nekita*, or

the Necropolis of Josephus and Strabo. The commander of the Faithful, on this occasion, rejected the idea of pillage, and directed his lieutenant to reserve the wealth and revenue of Alexandria for the public service and the propagation of the faith; the inhabitants were numbered; a tribute was imposed; the zeal and resentment of the Jacobites were curbed; and the Melchites, who submitted to the Arabian yoke, were indulged in the obscure but tranquil exercise of their worship. The intelligence of this disgraceful and calamitous event afflicted the declining health of the emperor, and Heraclius died of a dropsy about seven weeks after the loss of Alexandria. Under the minority of his grandson, the clamours of a people, deprived of their daily sustenance, compelled the Byzantine court to undertake the recovery of the capital of Egypt. In the space of four years the harbour and fortifications of Alexandria were twice occupied by a fleet and army of Romans. They were twice expelled by the valour of Amrou. But the facility of the attempt, the repetition of the insult, and the obstinacy of the resistance, provoked him to swear, that if a third time he drove the infidels into the sea, he would render Alexandria as accessible on all sides as the house of a prostitute. Faithful to his promise, he dismantled several parts of the walls and towers, but the people were spared; and the Mosch of *Mercy* was erected on the spot where the victorious general had stopped the fury of his troops. For the fate of the library, see ALEXANDRIAN library.

Under the domination of the Arabs, Alexandria gradually lost its splendour. In the year 924 it was taken by the Magrebians, two years after the destruction by fire of its great church, called by the Arabs *Al Kaisaria*, or *Cæsarea*, which had been formerly a Pagan temple, erected by queen Cleopatra, in honour of Saturn. The city was soon abandoned by the Magrebians, and in 928 the possession of it was again resumed. But when their fleet was afterwards defeated by that of the Caliph, the Magrebian general, *Abul Kasem*, retired from Alexandria, leaving in it a garrison of 300 men, who with the remaining inhabitants were removed by the Caliph's admiral, *Thmaal*, to an island in the Nile called *Aboukir*. According to Eutychius, more than 200,000 of the wretched inhabitants perished this year.

In the year 875 the old walls had been demolished; its extent contracted to half its ancient dimensions, and those walls were built which exist at the present day. This second Alexandria, which may be called, says Savary, that of the Arabs, presented by the disposition of its streets the form of a chequer. It had preserved a part of its public places and of its monuments. The Pharos still existed; and Alexandria in its decline still presented an air of grandeur and magnificence that excited admiration.

Of the prosperity and wealth of Alexandria, as the emporium of commerce, we may form an idea by this single circumstance; that, after the defeat of Zenobia, a single merchant of this city, undertook to raise and pay an army out of the profits of his trade. Such were its resources, and the advantages derived from its commerce, that notwithstanding the tributes that were exacted from it by the Greeks and Romans, and the oppressions it suffered from the Saracens, it successively recovered its prosperity; and even in the 13th century, its old mart began to revive, and its port became again the center of commerce. But the dominion of the Turks, and the discovery of the Cape of Good Hope, in 1499, completed its ruin, and from that time it has fallen into decay. The Alexandria of the Arabs was miserably depopulated. Its large buildings fell into ruins, and under a government which discouraged even the appearance of

wealth, no person could venture to repair them; and mean habitations were constructed, in lieu of them, on the sea coast.

The present state of Alexandria affords a scene of magnificent ruin and desolation. In the space of two leagues, enclosed by walls, nothing is to be seen but the remains of pilasters, of capitals, and of obelisks, and whole mountains of shattered columns and monuments of ancient art heaped upon one another, and accumulated to a greater height than that of the houses. The famous tower of PHAROS has been long since demolished, and a square castle, without taste, ornament, or strength, called *Farillon*, erected in its place. The mole which joined the continent to the isle of Pharos is enlarged, and is now become a part of the main land. The island of Anti-Rhodes is in the middle of the present town, and is discoverable only by an eminence covered with ruins. The harbour *Kibotos* is choaked up. The canal which conveyed the waters of lake Marcotis has disappeared. This lake itself, through the negligence of the Turks in preserving the canals which conveyed the waters of the Nile, is no longer in existence, but is entirely occupied by the sands of Lybia. The CANAL of Faoué, the only one which at present communicates with Alexandria, and without which that town could not subsist, since it has not a drop of fresh water, is half filled with mud and sand. Under the Roman empire, and even under the domination of the Arabs, it was navigable all the year, and served for the conveyance of merchandise. Its banks were shaded with date trees; covered with vineyards, and adorned with country houses. At present it has no water till about the end of August, and its supply is hardly sufficient to fill the cisterns of the town. The fields adjoining to it are deserted; the groves and gardens that surrounded the ancient city have disappeared, and without the walls there are only a few scattered trees, some sycamores and fig-trees, some date and caper trees, and kali, that hide the burning sands, which would be otherwise insupportable to the sight. Nevertheless, every trace of ancient magnificence is not obliterated. Some parts of the old walls are yet standing; and they are flanked with large towers, at the distance of about 200 paces from each other, and with smaller intermediate ones. Below are magnificent casemates, which may serve for galleries in which to walk. In the lower part of the towers is a large square hall, whose roof is supported by thick columns of Thebaic stone; and above this are several rooms, over which are platforms more than 20 paces square. The reservoirs, vaulted with much art, and extending under the whole town, are almost entire at the end of 2000 years. Of Cæsar's palace there remain only a few porphyry pillars, and the front, which is almost entire, and appears very beautiful. The palace of Cleopatra was built upon the walls facing the port, having a gallery on the outside, supported by several fine columns. Towards the eastern part of the palace are two obelisks, vulgarly called *Cleopatra's Needles*. They are of Thebaic stone, and covered with hieroglyphics; one is overturned, broken, and lying under the sand; the other is on its pedestal. These two obelisks, each of them of a single stone, are about 60 feet high, by seven feet square at the base. Towards the gate of Rosetta are five columns of marble, on the place formerly occupied by the porticoes of the Gymnasium. The rest of the colonnade, the design of which was discoverable 100 years ago by Maillet, has been since destroyed by the barbarism of the Turks. *Pompey's pillar*, and the *Catacombs*, at half a league distant to the southward of the town, still engage the attention of travellers. The canal of the Nile, already mentioned, is about 70 paces from Pompey's pillar; and on the top of the hill is a tower, in which a sentinel is placed.

placed, who gives notice, by a flag, of the ships that are coming into port. From this hill may be seen the sea, the whole extent of the city, and the parts in its vicinity. On the sea-coast there is a large basin, cut out of the rock that forms the shore, having on its sides two beautiful fountains that are blown out by the wind with benches around them. A canal of a zig-zag form, for the purpose of stopping the progress of the sand by its different windings, conveys into them the water of the sea, pure and transparent as crystal. The water rises a little above the want, when a person is seated on the stone bench, and the feet rest on a fine sand. The waves of the sea dash against the rock and foam in the canal. The swell enters, raises you up, and leaves you; and thus alternately entering and retiring, furnishes a constant supply of fresh water, and a coolness, which is grateful and delicious under a burning sky. This place is vulgarly called the *Basin of Cleopatra*; and some ruins indicate its having been formerly ornamented.

The modern *Alexandria* is built near the brink of the sea on a kind of peninsula, situate between the two ports above-mentioned. The new port, assigned to Europeans, is clogged up with sand, which renders the entrance into it both difficult and dangerous, and in stormy weather endangers the bilging of the ships; and the bottom is rocky, so that the cables soon chafe and part; and thus vessels are driven against one another, and are sometimes lost. An instance of this kind happened in March 1773, when more than 40 vessels were dashed to pieces on the mole by a north-west gale. Similar accidents have also happened at different times; and under the Turkish government, which, as it is said, ruins the labours of past ages and destroys the hopes of future time, no provision is likely to be made for preventing their occurring again. The other port, or the Eunostus of the ancients, to the westward of the Pharos, is called the port of Africa; it is much larger than the former, and lies immediately under part of the town of Alexandria. It has much deep water, though many ships are continually throwing their ballast into it; and without doubt it will be at length filled up and thus joined to the continent. Christian vessels are not suffered to enter this port; and the only reason is, least the Moorish women should be seen taking the air in the evening at open windows, and this has been thought sufficient to induce Christian powers to submit to the restraint, and to overbalance the constant loss of ships, property and men. The houses at Alexandria, like those of the Levant, have flat terrace roofs; they have no windows, and the apertures which supply their place are almost entirely obstructed by a wooden lattice projecting, of various forms, and so close, that the light can hardly force a passage. In those countries, more than any where else, such inventions, which transform a mansion into a prison, are real *jealousies*, as Sonnini calls them, or window-blinds. Narrow and awkwardly disposed streets are without pavement, as the city is without police; no public edifice, no private building arrests the eye of the traveller; and on the supposition that the fragments of the old city had not attracted his attention, he would find no object in the present town that could supply matter for a moment's thought. Turks, Arabians, Barbareques, Cophts, Christians of Syria, and Jews, constitute a population which, according to Sonnini, may be estimated at 5000, as far as an estimation can be made in a country where no register of any thing is kept. Commerce attracts thither besides, from all the countries of the east, strangers whose residence is very transient. This motley assemblage of persons of different nations, jealous of and almost always hostile to each other, would present to the eye of the observer a

singular mixture of customs, manners and dress, if a resort of thieves and robbers could repay the trouble of observation. The present Alexandrians are, like their predecessors in former times, chargeable with a proneness to sedition, which is awed and restrained by the severity of their government. The British and French nations carry on a considerable commerce with Alexandria, and have each a consul residing there. Some Venetian ships also sail thither yearly, under the colours and protection of France. The subjects of those kingdoms who have no consul here are subjected to a tax by the Grand Seignior; but the Jews indemnify themselves for this disadvantage, by selling their commodities cheaper than other foreigners can afford to do; and they are also favoured by the farmers of the revenues, who know that the Jews have it in their power to lessen the quantity of merchandize that comes into their port, for the period of two years, which is the duration of their farm. The language spoken at Alexandria is the Arabic; but most of the Alexandrians, and those in particular whom commerce leads into an intercourse with the merchants of Europe, speak likewise the Italian. The *morecco* or *lingua franca*, which is a compound of bad Italian, Spanish and Arabic, is likewise spoken in this place. The government of Alexandria is like that of other places in Egypt; and is conducted by an aga, who has under him a kadi and sub-basha, all nominated by the chief basha. It has a small garrison of soldiers, part of which are Janizaries and Assassins; who are haughty and insolent, not only to strangers but to the mercantile and industrious part of the people. These are lodged in the *farillons* or castles that guard the port, where the aga or governor that commands them also resides. But though the Pharos, according to established regulations, ought to be garrisoned by 500 janizaries, it has never half that number, and not more than four cannons for its defence. The whole of the fortifications might easily be beat down by a single frigate; but a foreign army would experience great difficulty in maintaining possession of Alexandria for want of water; as the city has not any besides that which is conducted by canals into their reservoirs at the time of the overflowing of the Nile; so that it would be necessary to conquer the whole country, or at least those parts that lie on the banks of the river. Alexandria was taken by assault on the fourth of July, 1798, by the French army, under the command of Bonaparte, the present prime consul of France; after putting to flight the Arabs and Mamelukes who defended it, and killing about 300 of them. The troops, that were left in possession of the town, when the army began its march across the Desert, having been forbidden, under penalty of death, from entering the houses or mosques of the Turks, or committing any violence on their persons, or those of their families, built huts of palm-branches without the city, to shelter themselves from the sun. The men of science, who accompanied the army, were lodged in the houses of the few Europeans resident at Alexandria, but a dozen of them were crowded together in one chamber, under the heat of a torrid climate. Miserably supplied both with food and water, molested with the stings of insects, and surrounded with filth and wretchedness, they at the same time contemplated in a city, once renowned for industry, commerce and activity, nothing but ruins, barbarism and poverty; stupid-looking citizens, with long pipes, indolently sitting in the public places, half starved and naked children, and the forms of bare-footed women, in blue serge gowns, and black stuff veils, flying the approach, or turning away with precipitation, whenever they met a Frenchman. The French beheld every where monuments of antiquity, but every where misplaced; pillars

pillars of granite, inscribed with Egyptian hieroglyphics, strewed the streets, or divided by the law, served for their holds and benches; marble and porphyry bases and capitals, baths and catacombs, were found in ruins, with nothing entire but a bath of black granite, destined for the museum of Paris; the pillar of Pompey, and the obelisk of Cleopatra, which were yet in good preservation. When the blockade of the port by the English fleet, after the famous battle of *Aboukir*, cut off the communication with Rosetta, and the supply of water was thus impeded, Bonaparte caused the canal which led from Rhamania to Alexandria, across a desert of 40 miles, to be cleansed; by which means not only this city received a larger supply of water and provisions, but the artillery was conveyed more expeditiously and conveniently by water to the general deposit at Giza, than it could have been by land. Bonaparte also drew plans for the better defence of the port of Alexandria and the city of Cairo; he also formed a great establishment for the mechanical arts; and with the concurrence of the scientific men who attended him formed a national academy, called the *INSTITUTE*. In the year 1801, Alexandria was taken by the English army, under the command of General Hutchinson, the news of which was announced soon after the preliminaries of peace between England and France were signed, by the respective agents of the two countries; by one article of which Egypt is to be delivered up to the Sublime Ottoman Porte. Alexandria is situated in N. lat. $31^{\circ} 11' 20''$. E. long. $30^{\circ} 16' 30''$. Nautical Almanac. According to Bruce (*Travels*, vol. i. p. 16.) N. lat. $31^{\circ} 11' 32''$. E. long. $30^{\circ} 17' 30''$. Anc. and Mod. Un. Hist. Rollin's Anc. Hist. Savary's Letters on Egypt, vol. i. letter 2. Sonnini's Travels through Upper and Lower Egypt. Gibbon's Decline, &c. of the Rom. Emp.

ALEXANDRIA was also a name given to several other cities; viz. a city of Arachosia, on the river Arachotus, the Alexandropolis of Isidore (Stephanus), and by some thought to be the modern Cabul:—another of Gedrosia, both built by order of Alexander the Great; (Pliny, H. N. lib. vi. c. 23.)—A third of Aria, near the lake Arius, according to Ptolemy; but according to Pliny (lib. vi. c. 23.) on the river Arius, built by Alexander, who settled a colony of Macedonians there. (Strabo, lib. xv. Ammianus lib. 22.)—A fourth in Bactriana, so called, says Pliny, (lib. vi. c. 23.) from its builder.—A fifth, an inland town of Carmania, built also by Alexander, and mentioned by Pliny, Ptolemy and Ammianus.—A sixth, in the country of the Dahæ, in Sogdiana, (Isidorus Characenus).—A seventh, in India, at the confluence of the Acesines and Indus, (Arrian, lib. v. c. 15.)—An eighth, built by Alexander the Great, between Issus and the Straits which lead from Cilicia into Syria, called also ALEXANDRETTA, and now Scanderoon.—A ninth, in Margiana, which was built by Alexander, and rebuilt, after it was demolished by the barbarians, by Antiochus, the son of Seleucus, and called Antiochia of Syria, and also Seleucia, watered by the river Mergus; 70 stadia in circuit, according to Pliny (lib. vi. c. 16.); who adds, that, after the defeat of Crassus, Orodes conveyed the captives to this place.—A tenth of the Oxiana, in Sogdiana, built by Alexander on the Oxus, near the confines of Bactria, (Pliny lib. vi. c. 16.)—An eleventh, built by Alexander, at the foot of Mount Paropamisus, which was called Caucasus, (Pliny, lib. vi. c. 23.)—A twelfth, in Troas, called also Troas and Antigonion, ordered to be erected by Alexander, in commemoration of Troy, which had long ceased to exist. Antigonos, one of his lieutenants, laid the foundations of it, and gave his name to the city; but the name of Alex-

ander was restored by Lyfimachus, who afterwards possessed, embellished and extended it. Having passed under the dominion of the Romans, it became, under Augustus, one of the handsomest cities of the east. Under Adrian, Herodes Atticus constructed a superb aqueduct, some few traces of which are still to be seen. The walls of the city, of the houses, of the temples, and of other monuments, are built of a hard shelly stone. The marble of Paros and that of Marmora are common here, and also several sorts of granite. Near the rivulet to the south of the city are two springs of mineral waters, resorted to by the Turks and Greeks, which are recommended for disorders of the skin, the leprosy, and syphilis. The harbour is of narrow extent, and almost choaked up with sand. History does not mention the epoch in which this city was destroyed. It had no existence when the Turks established themselves in this country. The environs present a fruitful soil, forming a plain, in which the *velani* oak grows in abundance, and without culture. The ruins of this city are six leagues to the south of Cape Sigæum. Olivier's Travels, &c. vol. ii. p. 46.—A thirteenth Alexandria, built by Alexander on the Jaxartes, bounding his victories towards Scythia.—A fifteenth in Adiabene, mentioned by Pliny, and as Hardouin suggests, designed to perpetuate the remembrance of the defeat of Darius.—A sixteenth on the northern coast of the island of Cyprus, south of the promontory of Calinusa.—A seventeenth in Palestine, on the river Scham, to the south of Tyre, near the sea.

ALEXANDRIA, or ALLESANDRIA, surnamed *Della Paglia*, because the inhabitants use stubble for fuel instead of wood, or because the Germans contemptuously called it *Palearis*, or a fortress of straw, a city of Italy, in the district of Alexandrin or Alessandrino, belonging to the duchy of Milan, has a castle, and is situated in a marshy country, on the river Tenaro. It was built in honour of pope Alexander III. in 1170, and is said to have 12000 inhabitants. By this pope it was made a bishopric, suffragan of Milan, with several privileges annexed to it. The citadel is strong, but the fortifications are mean. It was ceded to the duke of Savoy in 1703; taken by prince Eugene, after three days' siege, in 1706, by the French in 1745, and retaken by the king of Sardinia, to whom it belongs by the treaty of Utrecht, in 1746. It is 38 miles east of Turin, and 37 south-south-west of Milan. N. lat. $44^{\circ} 48'$. E. long. $8^{\circ} 39'$.

ALEXANDRIA, a town of New Russia, in the government of Ekatarinofslaf, on the confines of Poland, 70 miles west of Ekatarinofslaf, and 150 south-west of Kiow. N. lat. $48^{\circ} 25'$. E. long. $32^{\circ} 54'$.

ALEXANDRIA or ALEXANDROW, a town of Poland, in the palatinate of Volhynia, upon the river Horin, 50 miles east-north-east of Lucko.

ALEXANDRIA, a township in Grafton county, N. Hampshire, in America, containing 298 inhabitants; incorporated in 1782.

ALEXANDRIA, a township in Hunterdon county, New Jersey, containing 1503 inhabitants, including 40 slaves.

ALEXANDRIA, a small town in Huntingdon county, Pennsylvania, on the Frankstown branch of Juniatta river, 192 miles north-west of Philadelphia.

ALEXANDRIA, formerly called *Belhaven*, a city of Virginia, situate on the southern bank of the Patowmac river, in Fairfax county, about five miles south-west from the Federal city, and 290 from the sea; N. lat. $38^{\circ} 45'$. W. long. $77^{\circ} 10'$. Its situation is lofty and pleasant, and the streets are laid out upon the plan of Philadelphia. It contains 400 houses, well built, and 2748 inhabitants. It bids fair, from the advantages of its situation, to be one of the most thriving commercial places on the continent.

ALEXANDRIA,

ALEXANDRIA, Patriarch of, in *Ecclesiastical History*. See PATRIARCH.

ALEXANDRIAN, in a particular sense, is applied to all those who professed or taught the sciences in the school of Alexandria.

Thus, Clemens is called *Alexandrinus*, or the Alexandrian, though some say he was born at Athens: the same epithet is applied to Apion, born at Oasîs; and to Aristarchus, by birth a Samothracian. The chief Alexandrian philosophers were Euclid, the famous geometer, the two ancient astronomers, Aristillus and Timocharis, Eratosthenes, Apollonius Pergæus, Conon, Hipparchus, Ctesibius, Heron, Possidonius, Pappus, Theon, Hypatia the daughter of Theon, Ptolemy; and Philoponus and Didymus, the last mathematicians of this school. To these we may add Ammonius, Plotinus, Origen, Porphyry, Jamblichus, Sopater, Maximus and Dexippus.

ALEXANDRIAN is more particularly understood of a college of priests, consecrated to the service of Alexander Severus, after his deification.

ALEXANDRIAN Copy, is a manuscript, consisting of four volumes, in a large quarto, or rather a folio size; which contains the whole Bible in Greek, including the Old and New Testament, with the Apocrypha, and some smaller pieces, but not quite complete. This manuscript is now preserved in the British Museum, where it was deposited in 1753. It was sent as a present to King Charles I. from Cyrillus Lucaris, a native of Crete, and patriarch of Constantinople, by Sir Thomas Rowe, ambassador from England to the Grand Seignior, in the year 1628. Cyrillus brought it with him from Alexandria, where, probably, it was written. In a schedule annexed to it, he gives this account; that it was written, as tradition informed them, by Thecla, a noble Egyptian lady, about thirteen hundred years ago, a little after the council of Nice. He adds, that the name of Thecla, at the end of the book, was erased; but that this was the case with other books of the Christians, after Christianity was extinguished in Egypt by the Mahometans; and that recent tradition records the fact of the laceration and erasure of Thecla's name. The proprietor of this manuscript, before it came into the hands of Cyrillus Lucaris, had written an Arabic subscription, expressing that this book was said to have been written with the pen of Thecla the martyr. Various disputes have arisen with regard to the place whence it was brought, and where it was written, to its antiquity, and of course to its real value. Some critics have bestowed upon it the highest commendation, whilst it has been equally depreciated by others. Of its most strenuous adversaries, Wetstein seems to have been the principal. The place from which it was sent to England was, without doubt, Alexandria, and hence it has been called *Codex Alexandrinus*. As to the place where it was written, there is a considerable difference of opinion. Matthæus Muttis, who was a contemporary, friend and deacon of Cyrillus, and who afterwards instructed in the Greek language John Rudolph Wetstein, uncle of the celebrated editor of the Greek Testament, bears testimony, in a letter, written to Martin Bogdan, a physician in Bern, dated January 14, 1664, that it had been brought from one of the 22 monasteries in Mount Athos, which the Turks never destroyed, but allowed to continue upon the payment of tribute. Woide endeavours to weaken the evidence of Muttis, and to render the testimony of the elder Wetstein suspicious; but Spohn, in his edition of the "*Notitia Codicis Alexandrini*," p. 10—13, shews, that the objections of Woide are ungrounded. Allowing their reality, we cannot infer, that Cyrillus found this manuscript in Alexandria. Before he went to Alexandria he spent some time on Mount Athos, the repository and manufactory of manu-

scripts of the New Testament, whence a great number have been brought into the West of Europe, and a still greater number has been sent to Moscow. It is therefore probable, independently of the evidence of Muttis, that Cyrillus procured it there either by purchase or by present, took it with him to Alexandria, and brought it thence on his return to Constantinople. But the question recurs, where was this copy written? The Arabic subscription above cited clearly proves, that it had been in Egypt, at some period or other, before it fell into the hands of Cyrillus. This subscription shews that it once belonged to an Egyptian, or that during some time it was preserved in Egypt, where Arabic has been spoken since the seventh century. Besides, it is well known that a great number of manuscripts of the Greek Bible have been written in Egypt. Woide has also pointed out a remarkable coincidence between the Cod. Alex. and the writings of the Copts. Michaelis alleges another circumstance as a probable argument of its having been written in Egypt. In Ezekiel xxvii. 18. both in the Hebrew and Greek text, the Tyrians are said to have fetched their wine from Chelbon, or, according to Bochart, Chalybon. But as Chalybon, though celebrated for its wine, was unknown to the writer of this manuscript; he has altered it by a fanciful conjecture to *οἶνον ἐκ χεβρων*, wine from Hebron. This alteration was probably made by an Egyptian copyist, because Egypt was formerly supplied with wine from Hebron. The subscription, before mentioned, ascribes the writing of it to Thecla, an Egyptian lady of high rank, who could not have been, as Michaelis supposes, the martyress Thecla, placed in the time of St. Paul: but Woide replies, that a distinction must be made between Thecla martyr and Thecla proto-martyr. With regard to these subscriptions we may observe, with a learned writer (Marsh), that the true state of the case appears to be as follows: "Some centuries after the Codex Alexandrinus had been written, and the Greek subscriptions, and perhaps those other parts where it is more defective already lost, it fell into the hands of a Christian inhabitant of Egypt, who not finding the usual Greek subscription of the copyist, added in Arabic, his native language, the tradition either true or false, which had been preserved in the family or families to which the manuscript had belonged, "*Memorant hunc codicem scriptum esse calamo Theclæ martyris*." In the 17th century, when oral tradition respecting this manuscript had probably ceased, it became the property of Cyrillus Lucaris; but whether in Alexandria, or Mount Athos, is of no importance to the present inquiry. On examining the manuscript he finds, that the Greek subscription is lost, but that there is a tradition recorded in Arabic by a former proprietor, which simply related that it was written by one Thecla a martyress, which is what he means by "*memoria et traditio recens*." Taking therefore upon trust, that one Thecla the martyress was really the copyist, he consults the annals of the church to discover in what age and country a person of this name and character existed, finds that an Egyptian lady of rank, called Thecla, suffered martyrdom between the time of holding the council of Nicæa and the close of the fourth century; and concludes, without further ceremony, that she was the very identical copyist. Not satisfied with this discovery, he attempts to account for the loss of the Greek subscription, and ascribes it to the malice of the Saracens; being weak enough to believe that the enemies of Christianity would exert their vengeance on the name of a poor transcriber, and leave the four folio volumes themselves unhurt." The learned Woide, who has himself transcribed and published this manuscript, and must be better acquainted with it than any other person, asserts, that it was written by two different copyists; for

for he has observed a difference in the ink, and which is of greater moment, even in the strokes of the letters. The conjecture of Oudin, adopted by Wettstein, that the manuscript was written by an Acœmetis, in the judgment of Michaelis, worthy of attention, (See *ACOEMETÆ*) and he adds, that this conjecture does not contradict the account that Thecla was the copyist, since there were not only monks but nuns of this order.

The antiquity of this manuscript has been also the subject of controversy. Grabe and Schulze think that it might have been written before the end of the fourth century, which, says Michaelis, is the very utmost period that can be allowed, because it contains the epistles of *ATHANASIUS*. Oudin places it in the tenth century. Wettstein refers it to the fifth, and supposes that it was one of the manuscripts collected at Alexandria in 615, for the Syriac version. Dr. Semler refers it to the seventh century. Montfaucon (*Palæog. Græc. i. p. 185.*) is of opinion, that neither the Cod. Alex. nor any Greek manuscript, can be said with great probability to be much prior to the sixth century. Michaelis apprehends, that this manuscript was written after Arabic was become the native language of the Egyptians, that is, one, or rather two centuries after Alexandria was taken by the Saracens, which happened in the year 640, because the transcriber frequently confounds M and B, which is often done in the Arabic: and he concludes, that it is not more ancient than the eighth century. Woide, after a great display of learning, with which he examines the evidence for the antiquity of the Cod. Alex. concludes, that it was written between the middle and the end of the fourth century. It cannot be allowed a greater antiquity, because it has not only the *τιτλοι* or *κεφαλαια* majora, but the *κεφαλαια* minora, or Ammonian sections, accompanied with the references to the canons of Eusebius. Woide's arguments have been objected to by Spohn, in p. 42—109, of his edition of the "Notitia Codicis Alexandrini." Some of the principal arguments advanced by those who refer this manuscript to the fourth or fifth centuries are the following: the epistles of St. Paul are not divided into chapters like the Gospels, though this division took place so early as 396, when to each chapter was prefixed a superscription. The Cod. Alex. has the epistles of Clement of Rome; but these were forbidden to be read in the churches, by the council of Laodicea, in 364, and that of Carthage, in 419. Hence Schulze has inferred, that it was written before the year 364; and he produces a new argument for its antiquity, deduced from the last of the 14 hymns found in it after the psalms, which is superscribed *ὑμνος εὐθινης*, and is called the grand doxology; for this hymn has not the clause *αγιος ο θεος, αγιος ισχυρος, αγιος αθανατος, ελεησον ημας*, which was used between the years 434 and 446; and therefore the manuscript must have been written before this time. Wettstein thinks that it must have been written before the time of Jerom, because the Greek text of this manuscript was altered from the old Italic. He adds, that the transcriber was ignorant that the Arabs were called Hagarenes, because he has written, 1 Chron. v. 20, *αγοραισι* for *Αγαραισι*. Others alledge that *αγοραισι* is a mere erratum; because *Αγαραιων* occurs in the preceding verse, *Αγαρήνης* in 1 Chron. xxvii. 31, and *Αγαρηνοι* in Pf. lxxxii. 7. These arguments, says Michaelis, afford no certainty, because the Cod. Alex. must have been copied from a still more ancient manuscript; and if this were faithfully copied, the arguments apply rather to this than to the Alexandrian manuscript itself. It is the hand-writing alone, or the formation of the letters, with the want of accents, which can lead to any probable decision. The arguments alledged to prove that it is not so ancient as the fourth century, are such as these. Dr. Semler thinks,

that the epistle of Athanasius, on the value and excellency of the Psalms, would hardly have been prefixed to them during his life. But it ought to be recollected, that Athanasius had many warm and strenuous advocates. From this epistle Oudin has attempted to deduce an argument, that the manuscript was written in the tenth century. This epistle, he says, is spurious, and could not have been forged during the life of Athanasius, and the tenth century was fertile in spurious productions. Again, the Virgin Mary, in the superscription of the Song of the Blessed Virgin, is styled *θεοτοκος*, a name which Wettstein says betrays the fifth century. Further, from the probable conjecture, that this manuscript was written by one of the order of the Acœmetæ, Oudin concludes against its antiquity; but Wettstein contents himself with asserting, that it could not have been written before the fifth century, because Alexander, who founded this order, lived about the year 420. From this statement, pursued more at large, Michaelis deduces a reason for paying less adoration to the Cod. Alex. than many eminent critics have done, and for the preference that is due, in many respects, to ancient versions, before any single manuscript, because the antiquity of the former, which is in general greater than that of the latter, can be determined with more precision.

As to the value of this manuscript, it has been differently appreciated by different writers. Wettstein, though he denotes it by A, the first letter of the alphabet, is no great admirer of it, nor does Michaelis estimate it highly, either on account of its internal excellence or the value of its readings. The principal charge which has been produced against the Alexandrian manuscript, and which has been strongly urged by Wettstein, is its having been altered from the Latin version. It is incredible, says Michaelis, who once agreed in opinion with Wettstein, but found occasion to alter his sentiments, that a transcriber who lived in Egypt, should have altered the Greek text from a Latin version, because Egypt belonged to the Greek diocese, and Latin was not understood there. On this subject Woide has eminently displayed his critical abilities, and ably defended the Greek manuscripts in general, and the Codex Alexandrinus in particular, from the charge of having been corrupted from the Latin. Griesbach concurs with Woide, in his "Symbolæ Criticæ," vol. i. p. 110—117; and both have contributed to confirm Michaelis in his new opinion. If this manuscript has been corrupted from a version, it is more reasonable to suspect the Coptic, the version of the country, in which it was written. Between this manuscript and both the Coptic and Syriac versions, there is a remarkable coincidence. Griesbach has observed, that this manuscript follows three different editions: the Byzantine in the Gospels, where its readings are of the least value; the Western edition in the Acts of the Apostles, and the Catholic Epistles, which form the middle division of this manuscript, and the Alexandrine in the Epistles of St. Paul. The transcriber, if this assertion be true, must have copied the three parts of the Greek Testament from three different manuscripts, of three different editions. It is observable, that the readings of the Cod. Alex. coincide very frequently, not only with the Coptic and the old Syriac, but with the new Syriac and the Ethiopic; and this circumstance favours the hypothesis, that this manuscript was written in Egypt, because the new Syriac version having been collated with Egyptian manuscripts of the Greek Testament, and the Ethiopic version being taken immediately from them, have necessarily the readings of the Alexandrine edition.

This manuscript, as we have already observed, consists of four volumes: the three first of which contain the Old Testament, the fourth the New Testament, together with the

N.^{o.} Epistle of Clem at to the Corinthians, and a fragment of the second.—In the New Testament there is wanting the beginning as far as Matt. xxv. 6. & c. Gen. i. 1. &c.; likewise from Luke vi. 50. to xiii. 52. and from 2 Cor. ix. 13. to xii. 7. The Psalms are preceded by the epistle of Athanasius to Marcellinus, and followed by a catalogue, containing those which are to be used in prayer for each hour, both of the day and of the night ; also by 14 hymns, partly apocryphal, partly biblical, the seventh of which is an hymn in praise of the Virgin Mary, entitled πρὸς τῆς Μαρίας τοῦ Θεοτόκου; the hypotheses Eusebii are annexed to the Psalms, and his canones to the Gospels. This manuscript has neither accents nor marks of aspiration ; it is written with capital, or as they are called, uncial letters ; and there are no intervals between the words, but the sense of a passage is sometimes terminated by a point, and sometimes by a vacant space. Although abbreviations are not very numerous, yet this manuscript ab- breviates ὁ θεός, ἐξουσία, δύναμις, χάρις, ἀγάπη, κίνησις, παύση, σπέρμα, οὐρανός, γέννησις, αἰώνιος, εὐαγγέλιον, &c. ; and it has also other marks of abbreviation. Dr. Semler supposes, that the more ancient manuscripts from which the Cod. Alex. was copied, had a much greater number ; from a false method of decyphering which mark he explains many errors committed by the copyist of the latter. See his Note 33 to Wettstein's Prolegomena. Of these abbreviations, and the points annexed to certain letters, which before appeared unintelligible ; and of the large initial letters, which are sometimes placed in a very extraordinary manner ; and of other particulars, a full account may be seen in Woide's Preface, who has given a very accurate description of the manuscript in general. No ma- nuscript has been more frequently and more accurately col- lected ; and it was supposed, that the last extracts, made by Wettstein, would have rendered future labours of this kind superfluous ; but Woide informs us, that Wettstein is chargeable with several omissions and errors, and has admitted into his collection of readings the mistakes of Mill. We are now in possession of a perfect impression of this manu- script, accompanied with so complete and so critical a col- lection of various readings, as is hardly to be expected from the edition of any other manuscript. Dr. Woide published it in 1786, with types cast for the purpose, line for line, without intervals between the words, as in the manuscript itself : the copy is so perfect a resemblance of the original, that it may supply its place : its title is " Novum Testamētum Græcum Codice MS. Alexandrino qui Londini in Bibliotheca Musei Britannici asservatur descriptum." It is a very splendid folio, and the preface of the learned editor contains an accurate description of the manuscript, with an exact list of all its various readings, that takes up no less than 89 pages, and each reading is accompanied with a re- mark, in which is given an account of what his predecessors, Junius, Walton, Fell, Mill, Grabe, and Wettstein, had per- formed or neglected. Those who are desirous of further in- formation concerning this manuscript, may consult the Pro- legomena of Mill, Grabe, Wettstein, and Woide. See also Michaelis's Introduction to the New Testament, by Marsh, vol. ii. part i. p. 186—209. part ii. p. 648—660.

ALEXANDRIAN Library, called by Livy "Elegantiae regum curaque egregium opus," was first founded by Ptolemy Soter, for the use of the Academy, or Society of learned men, which he had founded at Alexandria. Beside the books which he procured, his son Ptolemy Philadelphus added many more, and left in this library at his death a hundred thousand volumes; and the succeeding princes of this race enlarged it still more, till at length the books lodged in it amounted to the number of seven hundred thousand volumes. The method by which they are said to have collected

these books; was this: they seized all the books that were brought by the Greeks, or other foreigners, into Egypt, and sent them to the Academy, or Museum, where they were transcribed by persons employed for that purpose. The transcripts were then delivered to the proprietors, and the originals laid up in the library. Ptolemy Euergetes, for instance, borrowed of the Athenians the works of Sophocles, Euripides and Æschylus, and only returned them the copies, which he caused to be transcribed in as beautiful a manner as possible; the originals he retained for his own library, presenting the Athenians with 15 talents for the exchange, that is, with three thousand pounds sterling and upwards. As the Museum was at first in the quarter of the city called Bruchion, the library was placed there; but when the number of books amounted to four hundred thousand volumes, another library, within the Serapeum, was erected by way of supplement to it, and on that account called the daughter of the former. The books lodged in this increased to the number of three hundred thousand volumes; and these two made up the number of seven hundred thousand volumes, of which the royal libraries of the Ptolemies were said to consist. In the war which Julius Cæsar waged with the inhabitants of Alexandria, the library of Bruchion was accidentally, but unfortunately, burnt. But the library in Serapeum still remained, and there Cleopatra deposited the two hundred thousand volumes of the Pergamean library, with which she was presented by Marc Antony. These, and others added to them from time to time, rendered the new library of Alexandria more numerous and considerable than the former; and though it was plundered more than once during the revolutions which happened in the Roman empire, yet it was as frequently supplied with the same number of books, and continued for many ages to be of great fame and use, till it was burnt by the Saracens in the 642d year of the Christian æra. Abulpharagius, in his history of the 10th dynasty, gives the following account of this catastrophe. John Philoponus, surnamed the Grammarian, a famous Peripatetic philosopher, being at Alexandria when the city was taken by the Saracens, was admitted to familiar intercourse with Amrou, the Arabian general, and presumed to solicit a gift, inestimable in his opinion, but contemptible in that of the barbarians; and this was the royal library. Amrou was inclined to gratify his wish, but his rigid integrity scrupled to alienate the least object without the consent of the Caliph. He accordingly wrote to Omar, whose well known answer was dictated by the ignorance of a fanatic. "If these writings of the Greeks agree with the Koran, or book of God, they are useless, and need not be preserved; if they disagree, they are pernicious, and ought to be destroyed." The sentence of destruction was executed with blind obedience: the volumes of paper or parchment were distributed to the four thousand baths of the city; and such was their number, that six months were barely sufficient for the consumption of this precious fuel. Since the dynasties of Abulpharagius have been given to the world in a Latin version, this tale, as Mr. Gibbon (Hist. vol. ix. p. 440.) calls it, has been repeatedly transcribed; and every scholar, with pious indignation, has deplored the irreparable wreck of the learning, the arts, and the genius of antiquity. "For my own part," says this Historian, adopting the scepticism of Renaudot (Hist. Alex. Patriarch, p. 170.) "I am strongly tempted to deny both the fact and the consequences; the fact is indeed marvellous." "Read and wonder!" says the Historian himself; and the solitary report of a stranger who wrote at the end of six hundred years in the confines of Media, is overbalanced by the silence of two annalists of a more early date, both Christians, both natives of Egypt, and the

most ancient of whom, the patriarch Eutychius, has amply described the conquest of Alexandria. But this curious anecdote will be vainly fought in the annals of Eutychius, and the Saracenic history of Elmacin. The silence of Abulfeda, Murtadi, and a crowd of Moslems, is less conclusive from their ignorance of Christian literature. The rigid sentence of Omar is repugnant to the sound and orthodox precept of the Mahometan casuists: they expressly declare, that the religious books of the Jews and Christians, which are acquired by the right of war, should never be committed to the flames; and that the works of profane science, historians or poets, physicians or philosophers, may be lawfully applied to the use of the faithful." See Reland de Jure Militari Mohammedanorum, in the third volume of Dissertations, p. 37. The reason for not burning the religious books of the Jews or Christians, is derived from the respect that is due to the name of God. It should be considered, however, that the positive evidence of an historian, of unquestionable credit as Abulpharagius, cannot be set aside by an argument merely negative. Mr. G. acknowledges, that "a mere destructive zeal may perhaps be attributed to the first successors of Mahomet." His references to A. Gellius (Noctes Atticæ, l. vi. c. 17.) Ammian. Marcell. (l. xxii. c. 16.) and Orosius (l. vi. c. 15.), as speaking of the Alexandrian libraries in the *passé* tense, are foreign from the purpose; for these writers only refer to the destruction of books at Alexandria in the time of Julius Cæsar; after which, large libraries must have been continually accumulating, during the long period in which the schools of philosophy flourished in that city. Brucker's Hist. Philos. by Enfield, vol. ii. p. 228. On the subject of this article, see Ammian. Marcellin. l. xxii. c. 16. p. 266. Ed. Gronov. Dion. Cass. l. xlii. 38. tom. i. p. 327. Ed. Reimari. Plutarch in Jul. Cæs. Oper. tom. i. p. 731. Tertullian in Apolog. c. 18. p. 18. ed. Rigalt. Euseb. in chron. Gellius, l. vi. c. 17. Isidor. Orig. l. vi. c. 3. Orosii, Hist. l. vi. c. 15. p. 421. Ed. Haverc. Plut. in Anton. op. vol. i. p. 943. Newton's Disc. on the Prophecies—Works vol. vii. p. 357. 8vo. Anc. Un. Hist. vol. viii. p. 166.

ALEXANDRIN, in *Geography*, a small district of Italy, in the duchy of Milan, in the environs of ALEXANDRIA della Paglia, to which it owes its name.

ALEXANDRIN, or ALEXANDRIAN, in *Poetry*, the name of a kind of verse, which consists of twelve, or of twelve and thirteen syllables, alternately; the rest, or pause, being always on the sixth syllable.

It is said to have taken its name from a poem on the life of Alexander, entitled, the Alexandriad; written, or at least translated into this kind of verse by some French poets; though others will have it so denominated from one of the translators, Alexander Paris.

This verse is thought by some very proper in the epopee, and the more sublime kinds of poetry; for which reason it is also called *Heroic Verse*.

It answers in our language to the hexameters in the Greek and Latin; though, according to some, it rather answers to the *senarii* of the ancient tragic poets.—Chapman's translation of Homer consists wholly of Alexandrians.

The advantages of the Alexandrian verse, are its keeping the rhimes from coming so near, and consequently hindering them from being so much perceived. To this may be added, that coming nearer to the nature of prose, it is fitter for theatrical dialogue, and supplies the office of the ancient iambics better than any other verse in rhyme.

ALEXANDRINUS, JULIUS, in *Biography*, born at Trent, in the early part of the 16th century, was physician

to the emperor Charles V., and afterwards to Maximilian II. by whom he was highly esteemed. He also acquired reputation as a poet, particularly for his *Pedotrophia*, a poem, published at Zurich, 1559, 8vo.

His medical works, which are numerous, and principally compiled from the ancients, or written in defence of the doctrine of Galen, are of little value. For their titles see Eloy's Dictionnaire Historique de la Médecine. He died at Trent, his native city, in the year 1590, aged 84 years, and was honoured with the following epitaph:

Cæsaribus si quis multos infervit annos,
Acceptus magnis principibusque fuit,
Te, Juli, vatem possum medicumque fateri,
Doctrina in cujus gratia tanta fuit.

ALEXANDROV, in *Geography*, a town of Kuban Tartary, in the Russian government of Caucasus, 16 leagues west north-west of Ekaterinograd.

ALEXANDROV, a town of Russia in the government of Vladimir, 16 leagues west of Moscow. N. lat. 55° 45'. E. long. 38° 44'.

ALEXANDROVSKAIA, a fortress of Russia in the government of Ekaterinoslav, 36 leagues north-east of Cherson. N. lat. 47° 35'. E. long. 35° 14'. This is also the name of another fortress in the same government, 28 leagues north-west of Cherson.

ALEXICACUS, compounded of *αλεξω*, *I drive away*, and *κακον*, *evil*, is something that preserves the body from harm or mischief, and alexicacus amounts to much the same with alexiterial.

ALEXICACUS, in *Antiquity*, was an attribute of Neptune, whom the tunny fishers used to invoke under this appellation, that their nets might be preserved from the *ξιφιας*; or sword-fish, which used to tear them, and prevent the assistance which it was pretended the dolphins used to give the tunnies on this occasion. It was also an epithet of Hercules, as the defender of men.

ALEXINTA, in *Geography*, a town of European Turkey in Servia, six leagues north-east of Nissa.

ALEXIPHARMIC, in *Medicine*, expresses that property which a remedy, either simple or compound, hath to resist or destroy every thing of a poisonous or malignant nature. The word is derived from *αλεξω*, *arceo*, *I expel*, and *φαρμακον*, *poison*.

The ancients had a notion, that there was poison in all malignant diseases, and in the generality of those whose cause was unknown. Whence alexipharmic became a denomination for all remedies and antidotes against malignant diseases, and for AMULETS.

The study of poisons and antidotes appeared at an early period among the physicians of Greece and Rome, and continued as long as the Greek physic lasted; and hence has arisen the number of antidotes and theriacs so frequently mentioned by those ancient writers. But their compositions for the correction of poisons were equally injudicious and unsuccessful. Modern physicians, and particularly the Galenists, adopting the ideas of the ancients, have transferred them from the case of poisons taken into the body, to that of noxious powers arising from contagion, or in any other way. The cure of the diseases proceeding from these, they have, therefore, attempted by the correction or expulsion of the morbid matter, and they have administered medicines for this purpose, under the titles of alexipharmics and alexiterials.

Alexiterial, cardiac, antidote, alexipharmic, and counter-poison.

person, as all terms nearly of the same signification; and for the same reason, a large portion of them being fitted to expel the poison, &c.

Alexipharmics are chiefly divided into such as are generally, and those more particularly, supposed only to combat fevers, &c. the distemper—but this division is founded more on theory than on experience.

Alexipharmics are, in general, aromatic and pungent to the taste—Among the rest, it is true, there are some acid plants and juices; but these are only reckoned in the number, on account of their use in malignant and colloquative fevers.

Alexipharmics chiefly act by exciting or increasing a disordered perspiration; or by supporting the vigour of nature, of the heart and arteries, which is always diminished in malignant diseases unattended by inflammation. In this last mode of action, I have alluded among the principal alexipharmics. Thick medicaments also effected preservatives against malignant and putrid fevers: but they are to be used with caution.

It is dangerous to administer alexipharmics to young people of plethoric habit, without previous evacuations; and Cullen advises only to promote a sweat, when the marks of one approaching are evident.

Alexipharmics are deemed proper correctors of opium, when it produces sickness, nausea, &c. They are also serviceable in those diseases which proceed from external cold, and obstructed perspiration; as catarrhs, rheumatisms, fluxes, coughs, and glandular tumours. Alexipharmics make a large class of medicines; but the principal ones are these: 1. Of the animal kingdom, hartshorn, bezoars, and the bones and teeth of different animals. 2. Of the vegetable kingdom, the leaves and flowers of all the aromatic plants, especially such as are umbelliferous. 3. Of the mineral kingdom, the different preparations of antimony, the deliquescent spirit of vitriol, together with alcohol in all its forms and combinations. It does not appear, says Dr. Cullen, that the medicines given under the titles of alexipharmics and alexiterials are in any respect suited to expel morbid matter. So far as they are adapted to this purpose, they are diaphoretics or sudorifics, and should be cautiously used. The terms, therefore, he thinks, should be expunged from the writings on the *Materia Medica*; for, though the medicines may be useful, yet when they are given under the false idea which the terms imply, they may lead to an erroneous practice. Cullen's *Mat. Med.* vol. i. p. 165.

ALEXIPPUS, in *Biography*, one of the physicians to Alexander the Great, and in high esteem, as Plutarch informs us, with that prince.

ALEXIS, MICHAÏLOWITZ, or MIKHULOVITCH, in *Biography and History*, czar of Russia, succeeded his father Michael Theodorovitch in 1646, at the age of 15 years. He was immediately crowned by the direction of Morosof, who became his prime minister, and engrossed to himself the whole power of government. In order the more effectual to secure his influence with the czar, he married him to one of the daughters of a nobleman of small fortune, attached to his interest, and took the sister for his own wife. Although Morosof was in some respects an useful minister, by his attention to the army, by strengthening the frontiers against Poland and Sweden, and by erecting manufactures for arms, none of these services were sufficient to compensate the oppression which the people suffered under his administration. These grievances at length, viz. in 1648, produced an insurrection at Moscow, and the people demanded justice against Morosof and his confederates.

Two of their principal oppressors were put to death, and the minister escaped merely by the intercession of the czar himself. About this time appeared an impostor, the son of a linen draper of Wologda, who under various pretences laid claim to the throne. Neither the Swedes nor the Poles, whom he endeavoured to interest in his cause, afforded him any support; and after a short course of extravagance and profligacy, he fell into the hands of the Russians, who, after in vain attempting to obtain from him a confession by torture, put him to a cruel death. When these tumults were appeased, Alexis assumed the government, and exhibited promising tokens of capacity and vigour. Having settled a dispute between Russia and Sweden by an embassy to queen Christina, he directed his attention to Poland, and offered to employ his army in subduing the Cossacks, on condition of their conferring upon him the vacant crown. But the interest of France prevailing in favour of Casimir, the brother of Uladislaus their late king, Alexis declared war against the Poles, and assisted by the Cossacks, succeeded in recovering Smolenskow, Wilna, Kiow, and the province of Czernichow, which had been ceded to the Russians by the late peace. Poland being at this time, viz. in 1656, invaded by Gustavus, king of Sweden, with a formidable army, Alexis made a truce with that kingdom; and as the Swedes had appropriated to themselves the duchy of Lithuania, which the czar looked upon as his conquest, he marched his army into Carelia, Ingria and Livonia. At length, however, he thought it advisable, in 1658, to conclude a three years truce with Sweden; which, in 1661, was confirmed into a peace by the treaty of Cardis. By this treaty it was agreed, that, disregarding all that had passed between the two powers, every thing should remain as it had been settled by the treaty of peace made at Stolbova in 1617. The war of Alexis with Poland terminated more honourably for Russia. An armistice for 13 years, agreed upon at Andrussof in Lithuania was the forerunner of a complete pacification, which was effected in 1686, and which restored to the empire Smolensko, Severia, Czernichow, and Kiow. The king of Poland likewise relinquished the supremacy he had hitherto asserted over the Cossacks to the czar; and these people became now a protected relative of the Russian empire. Notwithstanding this favourable issue of the czar's contest with the Poles, a formidable domestic rebellion obstructed the operation of the plans which he was pursuing for the good of his country. This was occasioned, in 1669, by Stenko (Stephen) Radzin, whose brother had been hanged by order of Dolgoruchi, the Russian commander; and as he had thus infringed upon the liberty of the Cossacks, they made this a pretence for arming against their sovereign, though there is reason to believe that ambition was the ruling principle of Radzin. Whatever was the motive, a civil war was the consequence, which was carried on with various success, and equal cruelty on both sides. Radzin gained possession of Astrachan, and being joined by a multitude of peasants, who murdered their lords, his army at one time amounted to 200,000 men. This rebellion was not suppressed till the year 1671, when Radzin was betrayed into the hand of the czar, and executed. The affairs of Poland, and the measures which Alexis had taken for making himself protector of the Cossacks, produced a misunderstanding between the Grand Signior and the czar, which terminated in actual hostilities. Alexis endeavoured to engage all the Christian potentates in his dispute, and to form a league against the Turks; and with this view he sent ambassadors to several of them, and one to Rome, who refused

refused to degrade himself by kissing the pope's toe. He returned with fair promises, and no other success. Alexis joined with the Poles, and the Turkish conquests were stopped by the great commander Sobiesky. At the vacancy of the crown of Poland, he proposed his son for king, and to unite that kingdom with his own; but the electors preferred Sobiesky. Jealousies arose in the progress of the war with the Turks between Russia and Poland, and they terminated in the conquest of the whole Ukraine by the Poles. Alexis did not live to see the end of this war; for his death happened in 1676, at the early age of 46; and it is supposed that he fell a victim to the empirical remedies of an old Polish woman, in whom he reposed greater confidence than in his physicians. Alexis had claims of various kinds on the esteem and gratitude of his country. He not only restored, by his successful wars with Poland, the provinces that had been wrested from the empire, and laid a foundation for a sovereignty over the Cossacks, but he was equally attentive to the internal improvement of the country. He caused an epitome of several sciences to be translated into the Russian language, and took pleasure in perusing it: he collected the laws of the various provinces of his empire into one body, and by the advice of the nobility, clergy, and burghers, made laudable attempts in legislation: he introduced several new manufactures, particularly those of silk and linen, and encouraged the trade of the country: he added two suburbs to Moscow, and built several market towns, which he peopled with Poles and Lithuanians: he brought several large deserts into a state of culture and population, by settling in them the prisoners taken in war; he formed a design, executed by his son Peter, of maintaining fleets in the Caspian and Euxine seas, and of making the Russians acquainted with the art of constructing ships, and with maritime commerce: he received ambassadors from Persia, China, and Asia; and was the first czar who maintained a close correspondence with the principal European powers. The mildness of his government allured Germans, Dutch, Italians, and about 3000 Scotchmen into Russia. By augmenting the power of the crown he prepared for the general improvement of a country, like Russia, possessed by a powerful and barbarous aristocracy. He instituted a private chamber for the trial of offences against himself, and though he proceeded cautiously in his examination, he executed justice with rigour on the guilty, and generally in a private manner. With small revenues, he nevertheless contrived, by economy and prudence, to maintain a large army and a magnificent court, and left his treasury rich. Alexis had formed many useful projects; but death prematurely carried him off in the 47th year of his age. Under him the Russian empire made some progress in civilization; and he traced out a variety of important plans which his son Peter the Great improved and executed.

Alexis loved his people, and was a father to them; he studied their happiness, and made his government as easy to them as possible. He loved justice and peace: and, though valiant, never made war but when he could not avoid it. He endeavoured, in the progress of his reign, to repair the ills which his favourites and ministers had occasioned in his youth, and at the commencement of it, by abusing his confidence. Upon the whole, he was one of the greatest princes of his time. By his first wife he had two sons and four daughters; and by his second wife Natalia, the daughter of Nariskin, a captain of hussars, one son, viz. Peter, who succeeded him, and one daughter. *Mod. Un. Hist.* vol. xxxi. p. 424—462. *Tooke's History of Russia*, vol. ii. p. 14—30.

ALEXIS, a famous statuary, mentioned by Pliny, N. H. tom. ii. p. 649.

ALEXIS, a Greek comic poet, uncle to Menander, who flourished in the time of Alexander the Great, about 363 years before the Christian Era. Fragments of this poet may be found in "*Vetustissimorum Græcorum Bucolica Gnomica*," &c. Crispin, 1570, 1660.

ALEXIS, WILLIAM, a benedictine monk, in the abbey of Lyra, was living in 1500, and has left several pieces of poetry, which were esteemed in their time. The principal are "*Four Chants-Rovaux*," 4to. "*Le Passe-tems de tout hommes et de toute femmes*," Paris, 4to. and 8vo., translated from a work of Innocent III. and describing the miseries of man, from the cradle to the grave. "*Le grand blason des faulces amours*," 16to. and 4to.; a Dialogue on the evils occasioned by love. *Biog. Dict.*

ALEXIS, a *Piedmontese*, was born of a noble family, and by his early application acquired the knowledge of the Latin, Greek, Hebrew, Chaldee, Arabic, and other languages. Alexis is supposed to be a feigned name; and the real name of this author, who wrote in the beginning of the 16th century, is apprehended to be Hieronymus Ruscellai; and he is said to have died in 1565. It has been generally asserted, though it be not strictly true, that he was the first person who mentioned ULTRAMARINE. His receipt, however, has been followed since that time as the best and most certain. His work "*De Secretis*," furnishes materials for the technological history of inventions. It was printed for the first time at Milan, in 1557; though Beckman apprehends that the first edition must have been of an older date. A French translation was printed at Antwerp in 1557. "*The Secrets of Alexis*," London, 1558, is mentioned by Ames in his "*Typographical Antiquities*," p. 296. Wecker, a physician at Colmar, translated this book into Latin, and enlarged it with additions, under the title of "*De Secretis Libri xvii*." The first edition, according to Haller, was printed at Basle, in 1559, 8vo. Many editions of it have since appeared. The last, by Zwinger, was published at Basle in 1753. Alexis, it is said, urged by a curiosity to be acquainted with the secrets of nature, collected as much as he could during his travels for 57 years, and valued himself on concealing them; but when he was 82 years of age, he saw a poor man, whose disorder proved fatal, because he had not discovered an effectual remedy, of which he was possessed; upon which his conscience so troubled him, that he became a hermit; and in his solitary retirement, arranged his secrets in an order fit for publication. *Gen. Dict.* Beckman's *Hist. Inventions*, vol. ii. p. 351.

ALEXIS, in *Entomology*, a species of *PAPILIO Phœnix*, with caudated brown wings, and a cærulean band under the posterior; found in India.

ALEXITERIAL, in *Medicine*, a term of the same import with alexipharmic; but chiefly applied to the milk-water of that name, and remedies against the poisonous bites of animals.

But it is said by some authors that alexiterials differ from alexipharmics: thus, alexipharmics signify medicines against poisons taken internally; whereas alexiterials are remedies against the poisons of venomous animals inflicted externally.

ALEXIUS I. COMNENUS, in *Biography and History*, emperor of the East, was the son of John Comnenus, the brother of the emperor Isaac, and born at Constantinople, A. D. 1048. He was endowed by nature with the choicest gifts both of mind and body; these were cultivated by a liberal education, and exercised in the school of obedience

and adversity. Alexius, and Isaac, his elder brother, distinguished themselves in the war against the Turks, and adhered to the emperor Michael Ducas, till he exchanged the empire for a monastic habit and the title of archbishop of Ephesus. On this occasion Alexius offered his services to Nicephorus Botaniates, the successor of Michael; and with a noble frankness addressed him: "Prince, my duty rendered me your enemy; the decrees of God and the people have made me your subject. Judge of my future loyalty by my past opposition." His fidelity and valour, as well as his humanity, were sufficiently evinced by his victorious exploits against the three rebels, Uriel, Bryennius and Basilarius, who disturbed the peace of the empire. But his refusal to march against the fourth rebel, the husband of his sister, cancelled the merit and the memory of his past services; and the two brothers, driven into rebellion and supported by the army, succeeded in deposing Botaniates. Isaac, though the elder brother, was the first to invest Alexius with the name and ensigns of royalty, and being saluted emperor by the army, he marched immediately against Constantinople, which he took and plundered; and the fleet was induced by the influence of George Paleologus, to declare in his favour. Botaniates resigned the empire, and Alexius, without further contest, ascended the throne, A. D. 1081. Having compensated for the plunder of the churches and monasteries at Constantinople, by every penance compatible with the possession of the empire, he prepared for restraining the conquests of the Turks, who had seized on several provinces, and threatened to subvert the empire. The Turks, however, made overtures of peace, which were accepted by Alexius, in consequence of the hostilities that were meditated against him in the west by Robert Guiscard, duke of Puglia and Calabria. Robert, having landed at Buthrotum, in Epirus, and having advanced to Dyrrachium or Durazzo, which was defended by a garrison under the command of George Paleologus, was there met by Alexius with a large army. In a general action, which he commenced against the advice of his wisest captains, Oct. 18, A. D. 1081, he sustained a defeat, which was attended with great loss, and followed by the surrender of Durazzo, Feb. 8, A. D. 1082. Alexius was assiduous in raising new levies, and in order to obtain necessary supplies, he presumed, in a manner very offensive to the ecclesiastics, to borrow the superfluous ornaments of the churches. He also formed an alliance with Henry, emperor of Germany, who invaded Calabria, and whose progress demanded the hasty return of Robert. Bohemund, the son of Robert, was appointed his lieutenant in the east; but after reducing several places in Illyricum, he was constrained, by a mutiny in the army, to repair to his father in Italy. In October, A. D. 1084, Robert resumed the design of his eastern conquests, and made a second expedition into Greece. Alexius, apprehending an attack, had obtained a very considerable succour to his naval forces from the republic of Venice. By the union of the Greeks and Venetians, the Adriatic was covered with an hostile fleet; but by the vigilance of Robert and the concurrence of favourable circumstances, the Norman troops were safely disembarked on the coast of Epirus. The dominion of the sea was disputed in three engagements, in sight of the island of Corfu; in the two former, the skill and numbers of the allies were superior; but in the third, the Normans obtained a final and complete victory. On this occasion, Anna Comnena, the daughter of Alexius, and the writer of his life, deplors the loss of 13,000 of his subjects or allies. But in the isle of Cephalonia, the projects of Robert were fatally blasted by an epidemical disease; and he himself, in the 70th year of his age, expired in his tent; not without the suspicion of

poison, which public rumour imputed to his wife, or to the Greek emperor, Alexius, who had trembled for his empire, and now rejoiced in his deliverance. The Normans withdrew their forces from Greece, and tranquillity was restored. This war was succeeded by another with the Scythians, who passing the Danube, laid waste a great part of Thrace, and were guilty of many horrid cruelties. The generals of Alexius, who were first employed in opposing them, sustained several defeats; but they were at length completely subdued, with a very general slaughter, by the emperor himself. His next attention was engaged by the Turks, and again by the Scythians; but Alexius, having terminated his contests with both these enemies by a peace, returned to Constantinople; where he was informed, that the Western Christians were making great preparations for the recovery of the Holy Land, at that time possessed by the Turks and Saracens. At the council of Placentia, held March, A. D. 1095, the ambassadors of Alexius appeared to plead the distress of their sovereign and the danger of Constantinople, which was divided only by a narrow sea from the victorious Turks, the common enemies of the Christian name; and the relief of Constantinople was included in the larger and more distant project of the deliverance of Jerusalem. The emperor's ambassadors had solicited a moderate succour, perhaps of 10,000 soldiers; but when the Crusaders arrived, A. D. 1096, he was astonished by their number, and fluctuated between hope and fear, between timidity and courage. His conduct was irresolute and ambiguous, and he has been charged by the Latin writers, with the basest treachery. His gifts and promises, however, insensibly soothed the fierce spirit of the Western strangers; and as a Christian warrior, he rekindled their zeal for the prosecution of their holy enterprize, which he engaged to second with his troops and treasures. By his skill and diligence, Alexius prevented the union of any two confederate armies, at the same moment, under the walls of Constantinople; and he contented himself, either from pride or prudence, with extorting from the French princes an oath of honour and fidelity, and a solemn promise, that they would either restore, or hold, their Asiatic conquests, as the humble and loyal vassals of the Roman empire. Nice was the first object of attack on the part of the Crusaders, and the means of conquest were supplied by the prudence and industry of Alexius; he guarded with jealous vigilance this important conquest, and the city was delivered up to his lieutenant. When the crusaders afterwards took possession of Antioch, they elected Bohemond prince of that metropolis, alledging that Alexius had violated his agreement, and under various pretences, declined affording them the least assistance. The consequence of this appointment was a war between Bohemond and Alexius, who fitted out a powerful fleet, which obtained a complete victory over that of the Crusaders, near Rhodes. He also retook Laodicea, which Bohemond had appropriated to himself, as prince of Antioch. Alexius, by his endeavours to stop the progress of the Christian princes in the East, incensed the pope and the people to such a degree, that they considered him as an enemy to the Christian name, and supplied Bohemond with large succours to oppose him. Bohemond, thus aided, laid siege to Durazzo; but the place held out till the war was concluded by a negotiation. Alexius, disengaged from this contest, marched in person against the Turks, who renewed their incursions as far as Nice, and defeated them with great slaughter. They returned, however, the next year, and being dispirited by successive defeats, they sued for peace and obtained it. The remaining part of the life of Alexius was devoted to the purpose of healing the divisions, which at that time rent the Greek church. After
a long

a long reign of 37 years, Alexius died, A.D. 1118, and was succeeded in the empire by his son John Comnenus.

Of the character of this emperor the Greek and Latin writers have given a very different account. In the biography of his daughter, the celebrated Anna Comnena, it is lost in a vague confellation of virtues, and the perpetual strain of panegyric and apology awakens our jealousy to question the veracity of the historian and the merit of the hero. On the other hand, the Latin writers, who have written the history of the holy war, represent him as a monster of perfidy. The circumstances of the times in which he lived, whilst they afford a display of his political wisdom and military valour, furnish some apology for the dissimulation and artifice to which he occasionally resorted. To his relations and friends he was grateful and liberal; and to his enemies tolerant and forgiving. At the head of his armies he was bold in action, skilful in stratagem, patient of fatigue, ready to improve his advantages, and capable of rising from his defeats with inexhaustible vigour. The discipline of the army was revived, and a new generation of men and soldiers was created by the example and precepts of their leader. In his intercourse with the Latins, he was patient and artful; and he contrived with superior policy to balance the interests and passions of the champions of the first Crusade. In a long reign of 37 years, he subdued and pardoned the envy of his equals; the laws of public and private order were restored; the arts of wealth and science were cultivated; the limits of the empire in Europe and Asia were enlarged; and the Comnenian sceptre was transmitted to his children of the third and fourth generation. Yet the difficulties of the times betrayed some defects in his character; and have exposed his memory to some just or ungenerous reproach. His happiness was interrupted, and his health was impaired by public cares; the patience of Constantinople was fatigued by the length and severity of his reign; and before he expired, he had lost the love and reverence of his subjects. Although he had applied the riches of the church to the service of the state, and thus incurred the displeasure of the clergy; yet they applauded his theological learning and ardent zeal for the orthodox faith, which he defended with his tongue, his pen, and his sword. His character was degraded by the superstition of the Greeks; and whilst he founded an hospital for the poor and infirm, he ordered the execution of an heretic, who was burnt alive in the square of St. Sophia. The sincerity of his moral and religious virtues was suspected by his intimate associates. In his last hours, when he was pressed by his wife Irene to alter the succession, he raised his head, and breathed a pious ejaculation on the vanity of the world. The indignant reply of the empress, says a popular historian, may be inscribed as an epitaph upon his tomb: "You die, as you have lived—*an hypocrite*." *Anc. Un. Hist. vol. xv. p. 136—151. Gibbon's Hist. vol. ix. p. 83, &c. vol. x. p. 294. vol. xi. p. 45, &c.*

ALEXIUS II. succeeded his father Manuel, as emperor of the East, in 1180, at the age of 12 years. His mother Maria, a princess of Antioch, assumed the government during the minority of her son, and his education was neglected, that she might retain her absolute authority. During this period, ANDRONICUS, who had long aspired to the empire, attempted to attain the object of his ambition. Having, notwithstanding the profligacy of his character, gained a considerable degree of popularity, he was declared protector of the empire during the minority of Alexius; and when he had caused the young prince to be solemnly crowned, he contrived to be chosen his colleague in the empire. Notwithstanding a solemn oath, that he accepted the dignity

merely for the purpose of protecting the young emperor and supporting his authority, he soon caused him to be murdered; and strangling him with a bow-string, terminated his life in the third year of his reign, and 15th of his age. *Anc. Un. Hist. vol. xv. p. 157—160.*

ALEXIUS III. ANGELUS, obtained the empire of the East, A.D. 1195, by the exclusion of his brother Isaac Angelus, whom he threw into prison and deprived of sight. Indolent and devoted to pleasure, he committed the conduct of public affairs to his wife Euphrosyne, who oppressed the people, and sold the chief offices of state to the highest bidder. In 1202 he released his brother Isaac, and called his son Alexius, who was then about 12 years of age, to the court, and treated him as his child. But the young prince, aided by his sister Irene, wife to Philip, emperor of Germany, escaped from Constantinople, and landed safe in Sicily. Philip, by means of his ambassadors, engaged the French and Venetians in his support. A treaty for this purpose having been concluded between them and Alexius, the army of these united powers embarked for Corfu, which was the place of rendezvous; and proceeded to Constantinople. Upon their approach the usurper escaped; and in 1203 the young prince was associated with his father Isaac in the empire, and crowned with extraordinary pomp and solemnity. The usurper, who had fled to Zagora, a city of Thrace, at the foot of mount Hæmus, after various adventures, fell into the hands of his son-in-law, Theodore Lascaris, against whom he had instigated the Turks, who put out his eyes, and shut him up in a prison at Nice, in Asia, where he died some years after. *Anc. Un. Hist. vol. xv. p. 195—168—173. Gibbon's Hist. vol. i. p. 185, &c.*

ALEXIUS IV., the son of Isaac Angelus, was crowned associate with his father in the empire in 1203. The price of his rescue and advancement to the throne involved him in difficulties that were insuperable. This was no less than the submission of the Eastern empire to the pope, the succour of the Holy Land, and a contribution, as soon as he was invested with the crown, of 200 thousand marks of silver. After his accession to the throne, he prevailed on the Marquis of Montferrat, at the price of 1600 pounds of gold, to lead him with an army round the provinces of Europe; but upon his return, as his father was despised on account of his infirmities, he was hated as an apostate, who had renounced the manners and religion of his country. His secret covenant with the Latins was divulged or suspected. The people, and especially the clergy, were devoutly attached to their faith and superstition; and every convent, and every shop, resounded with the danger of the church and the tyranny of the pope. Whilst complaints were muttered against the emperor and his government, and quarrels were fomented between the Greeks and Latins, Constantinople was visited with a calamity which might be justly imputed to the zeal and indiscretion of the Flemish pilgrims. A conflagration spread, during eight days and nights, above a league in front, from the harbour to the Propontis, over the most populous regions of the city. By this outrage the name of the Latins became still more unpopular. Upon the return of Alexius, his youthful mind hesitated between gratitude and patriotism, between the fear of his subjects and that of his allies. By his feeble and fluctuating conduct he lost the esteem and confidence of both; and whilst he invited the Marquis of Montferrat to occupy the palace, he suffered the nobles to conspire, and the people to arm, for the deliverance of their country. The Latins, regardless of his critical situation, repeated and enforced their demands, and reminded the emperor, with menace and insult, of his own

own engagements and of their losses. The threats of the Latins combined with the disaffection of the Greeks, in exciting a tumult among the people; of which a prince of the house of Ducas, named Mourzoufle, particularly availed himself to excite a party of the troops. Alexius, seized by the arm of the rebel, fell into a prison, was bound, stripped, and laid down to sleep; and, after tasting the bitterness of death, he was poisoned, or strangled, or both, with this, A.D. 1204. The emperor Isaac Angelinus followed his son to the grave; if, indeed, he survived his death. *Anc. Un. Hist.* vol. xv. p. 168. *Gibbon's Hist.* vol. xi. p. 225.

ALEXIUS V. DUCAS, surnamed *Mourzoufle*, on account of the discolouration of his black and shaggy eye-brows, was a younger brother, second cousin of young Alexius, whom he betrayed and dethroned, and succeeded to the empire on his death. The people having opposed him to the throne, he found it necessary to prepare for the defence of the metropolis of the empire. The princes of the Empire renewed their claims, and pitying the fate of Alexius, the late emperor, to which, indeed, they themselves had contributed, resolved to revenge his death. Accordingly they mustered all their forces in Asia, crossed the Straits, and closely besieged the Imperial city, both by sea and land. Mourzoufle, who was a man of warlike valour and experience, made a vigorous defence; but in a nocturnal assault, he was overpowered; the city was taken and plundered, and the capture of it was attended with a dreadful slaughter. The emperor made his escape in the night with Euphrosyne, the wife of the late usurper Alexius Angelus, and her daughter Eudoxia, for whose sake he had abandoned his lawful wife. This happened, A.D. 1204. Mourzoufle sought an asylum in the camp of his father Alexius, in Thrace, and was at first received with smiles and honours; but as the wicked can never love, and should rarely trust, their fellow-criminals, he was seized in the bath, deprived of his eyes, stripped of his troops and treasures, and turned out to wander an object of horror and contempt to those who with more propriety could hate, and with more justice could punish, the assassin of the emperor Isaac and his son. As he was privately passing over into Asia, he was seized by the Latins of Constantinople, and condemned, after an open trial, for the murder of young Alexius, to an ignominious death. His judges, having debased the mode of his execution, resolved, that he should ascend the Theodosian column, a pillar of white marble, 147 feet high, and be cast down headlong from its summit, and dashed in pieces on the pavement, in the presence of a great multitude of spectators. *Anc. Un. Hist.* vol. xv. p. 169. *Gibbon's Hist.* vol. xi. p. 225, 252, &c.

ALEYN, CHARLES, an elegant historical poet, in the reign of king Charles I., was educated at Sidney college, Cambridge, and afterwards settled as usher in a grammar school in London. In 1631 he published two poems, entitled, "The Battails of Crefley and Poitiers, under the fortunes and valour of king Edward III. of that name, and his sonne Edward, prince of Wales, named the Black." Having left the school in which he was usher, he was domestic tutor to the son of Sir Edward Sherburne, afterwards clerk of the ordnance and commissary general of the artillery to king Charles, at the battle of Edgehill. In this situation he wrote another elaborate poem, in honour of king Henry VII., and that important battle which gained him the crown of England. This poem was published in 1638, and entitled, "The historie of that wife and fortunate prince Henrie, of that name the seventh, king of England; with that famed

battaille, fought between the said king Henrie and Richard III., named crook-back, upon Redmore, near Bosworth." He died about the year 1640; before which time he published a translation, "The History of Eurialus and Lucretia," from a story found among the Latin epistles of *Jeneas Sylvius*. *Biog. Brit.*

ALFZONNE, in *Geography*. See ALFESONNE.

ALFABUCELLIS, in *ancient Geography*, a place of Italy, assigned by Ptolemy to the Marsi.

ALFACAR, in *Geography*, a town of Spain, five miles north-east of Grenada.

ALLANDEGA DE FR., a small district of Portugal, in the province of Traz-os Montes, containing 15 parishes.

ALFANDIGA, the name of the custom-house at Lisbon.

ALFAQUES, among the Spanish Moriscoes, were the clergy, or those who instructed them in the Mahometan faith. The alfaques differed from the *Morabites*, who answered to monks, or religious, among Christians.

ALFARQUES, or ALFACQS, in *Geography*, a sea-port town of Spain, in the province of Catalonia, on the coast of the Mediterranean, situate on an island of the same name at the mouth of the Ebro, three leagues south of Tortosa.

ALFAQUES, a town of Africa, in the kingdom of Tunis.

AL-FARABI, or ABU NASR, in *Biography*, a native of Balch Farab, a town of Asia Minor, called by the Turks Otrar, was a celebrated philosopher of the school of Bagdad, and flourished in the 10th century. His parents were opulent, but he preferred the study of philosophy to the acquisition or possession of affluence. He studied mathematics and medicine, but chiefly excelled in logic. Such were his talents and learning, that great men and princes were emulous to confer upon him honours and emoluments. But Al-Farabi declined every offer of this kind, and preferred, either through his love of philosophy or from a natural gloominess of temper, solitude, and an abstemious life. During winter, he constantly slept on straw, his countenance was always sorrowful, and he found consolation in nothing but philosophy. Lamenting the imperfection and vanity of human life, and dreading intercourse with the world as destructive of innocence, he employed his time in study, and devoted his whole attention to the perusal of the writings of Aristotle. He wrote 60 distinct treatises on the Aristotelian philosophy, which were popular and much read among the Arabians, and also among the Jews. Many of his books were translated from Arabic into Hebrew. The subjects on which he principally treated were logic, metaphysics, and physics. Among his writings on the last of these subjects are mentioned treatises on optics and astronomy. *Abulf. Dyn.* ix. p. 208. *Pococke*, p. 372. *Fabric. Bib. Gr.* vol. xiii. p. 265. *Brucker's Hist. Philos.* by Enfield, vol. ii. p. 230.

ALFARO, in *Geography*, a town of Spain, in the province of Old Castile, on the south side of the Ebro, and on the borders of Navarre, nine miles north-west of Tudela.

ALFAS, small islands of the Red Sea, over against the west side of Arabia Felix. They are only inhabited occasionally by the Moors, who come thither from other islands for the sake of the pearl fishery. N. lat. 17° 10'. E. long. 45° 44'.

ALFATERNA, in *Ancient Geography*. See NOCERA.

ALFAYATES, in *Geography*, a town of Portugal, in the province of Beira, situate on an eminence, near the confines of Spain, is walled and guarded, but contains only one parish,

parish, and about 500 inhabitants: distant 150 miles north-east from Lisbon. N. lat. 40° 9'. W. long. 5° 42'.

ALFDOUCH, a name given by the Moors to a sort of vermicelli, which they make of flour and water, and which they are very fond of in their entertainments.

ALFECCA, or ALFETA, in *Astronomy*, a name given to the star commonly called *lucida serena*.

ALFEIZERAÔ, in *Geography*, a town of Portugal, in Estremadura, is a small place lying on the sea, and contains about 700 inhabitants.

ALFELD, a town of Germany, in the circle of Lower Saxony, and bishopric of Hildesheim, situate on the Leine, 30 miles south of Hanover, and 15 south of Hildesheim.

ALFELD, a town of Germany, in the circle of the Lower Rhine, four miles north of Neidenau.

ALFELDHA, a mountain of Persia, in the province of Kirman, 12 leagues south of Sirgjan.

ALFENUS, VARUS, in *Biography*, a Roman Civilian, was a native of Cremona, and a disciple of Servius Sulpitius. He flourished about the year of Rome, 754, or the first of the Christian æra. Horace mentions him as a person who had been brought up in the mechanical occupation of a shoemaker, or, as others say, a barber; and who had quitted this humble station for a profession in which he had acquired reputation.

“ ——— Alfenus vafer, omni
Abjeto instrumento artis, clausaque taberna,
Sutor erat; sapiens operis sic optimus omnis
Est opifex, sic rex solus.” SAT. lib. i. sat. iii. v. 130.

“ Shuffling Alfen, though he lost his awl,
And threw away his last, and shut his stall,
And broke his threads, yet was a cobbler still:
Thus every tradesman, if he hath but skill,
Is wise, and therefore only king.” CREECH.

Ammianus Marcellinus refers to Alfenus, (lib. xxx. c. 4. p. 458. ed. Gronov.) as a person whose authority was held in high estimation in matters of law. Aulus Gellius also, citing his works, (lib. vi. c. 5.) speaks of the author as a diligent inquirer into antiquities; “*Rerum Antiquarum non incuriosus*.” He wrote 40 books of Digests, which are mentioned in the index of the Pandects, and several books of Collections. Paulus, the Civilian, made an abridgment of his works. Some say that he was a consul, and an old Scholiast on Horace says, that he was buried at the public expence. If this be the case, Alfenus, without enriching himself by his profession, had acquired an honest reputation, and exhibits an encouraging example to those who possess talents, for rising from a lower sphere of life to eminence by professional merit. Gen. Dict.

ALFERE, in *Geography*, a town of Arabia, 24 leagues south of Medina.

ALFET, in *Ancient Customs*, signified a large caldron, which contained boiling water, in which a person accused plunged his hand and arm as far as the elbow, by way of trial or purgation.

ALFIDENA, in *Geography*, a town of Naples, in the province of Abruzzo Citra, 15 miles south-south-east of Sulmona; famous in the war of the Samnites.

ALFONSUS, in *Biography*. See ALPHONSUS.

ALFORD, MICHAEL, an English Jesuit, was born in London, in 1587, and entered into the society in 1607. Having studied theology and philosophy in Spain, and at Louvain, and having resided some years at Rome, he returned to England, where he was arrested, but afterwards released.

From that time he remained in England for 30 years as a missionary from the society. He died at St. Omer's, in 1662, and left two treatises in ecclesiastical history, viz. “*De rebus illustrata*,” printed at Antwerp, 1641, in 4to.; and “*Annales Ecclesiastici Britannorum*,” printed also at Antwerp. Gen. Biog.

ALFORD, in *Geography*, a town of England, in the county of Lincoln, about six miles from the sea, 23' north of Boston, and 140' north of London. It has a market on Tuesday, and two fairs on Whit-Tuesday and Nov. 3, for cattle and sheep. It has a spring, which contains a purging salt, and has been recommended in the scurvy, jaundice, and other glandular obstructions, and also in disorders of the kidneys and bladder. N. lat. 53° 30'. E. long. 1° 15'.

ALFORD, a township of America, in Berkshire county, in the Massachusetts, containing 577 inhabitants, 145 miles west from Boston.

ALFORDSTOWN, a small town in Moor county, North Carolina.

ALFRAGAN, AHMED EEN KOTHEIR AL FARGANI, or, as others call him, MOHAMMED EEN KUTIR AL FARGANI, in *Biography*, a celebrated Arabian astronomer, was born at Fergan, in Sogdiana, now Samarcand, and flourished in the beginning of the ninth century, under the Caliphate of Al-Mamon. His work in Arabic, entitled, “*The Elements of Astronomy*,” consists of 30 chapters or sections, and is formed upon the principles of Ptolemy, whom the author often cites. Of this work we have a Latin translation by Johannes Hispalensis, in the 12th century, printed at Ferrara, in 1493, and at Nuremberg, in 1537, with a preface by Melancthon; another by James Christman, from the Hebrew version of James Antoli, at Frankfort, in 1590, to which the editor added an ample commentary, in which he compares the calendars of the Romans, Egyptians, Persians, Syrians, and Hebrews, and shews the correspondence of their years; and a third, which is the best, by Golius, with the Arabic text and valuable notes on the first nine chapters, printed in 1669, at Amsterdam, in 4to., after the death of the editor, which he did not live to finish. Mod. Un. Hist. vol. ii. p. 202. Hutton's Mat. Dict. vol. i. p. 63.

ALFRED, or ÆLFRED the Great, in *Biography*, the glory of our Saxon monarchs, was the youngest son of Ethelwolf, king of the West Saxons, and was born at Wannating, supposed to be Wantage, in Berkshire, in the year 849. Ethelwolf, being a man of great piety, sent Alfred to Rome, when but five years of age, to receive confirmation, some say regal unction, from the hand of pope Leo the Tenth; who, on performing the sacred rite, styled him his son, and foretold, it is said, his future greatness.

His three elder brothers, Ethelbald, Ethelbert, and Ethelred, having regularly succeeded to the throne, and died after short reigns, Alfred assumed the sovereignty, and was crowned at Winchester, in 871. He had given early and manifest proofs of courage and ability; though his inclinations are known to have rather disposed him to the calm pleasures of literature, than the tumult of war. But scarcely had he time to attend his brother to the grave, ere he found occasion to fight for the crown to which he had succeeded; for the Danes had poured innumerable multitudes into the island; and in that very year eight battles were fought between them and the Saxons. The strength of the latter was almost wasted, while that of the former was constantly renewed, after every loss, by fresh shoals of their countrymen. At length a bloody engagement took place at Wilton, in Wiltshire; where, though the king was defeated with some
loss,

loaf, yet so great was the dread in which the Danes stood of Alfred's military fame, that they made a treaty with him, and retired from his dominions into those of the king of Mercia. Soon after, however, they broke their faith; for, meeting on the road to Mercia a body of English horse, advancing in an unprepared manner, as they relied on the late treaty of peace, they slew the greater number of them, and took possession of Exeter. The king presently marched against them with what forces he could collect, and besieged them there. At this juncture Alfred's fleet engaged a numerous one of the enemy, sunk many, and dispersed the rest; which, attempting to gain some of the English ports, were driven on the coasts and wholly lost. The Danes now again sued for peace, and gave hostages; but in 877, having obtained new reinforcements, they entered Wiltshire in such numbers, and so wearied out the Saxons, that the latter could no longer be persuaded to make head against them. Some retreated into Wales; others submitted to the usurpers; and Alfred himself found it necessary to be governed by circumstances. He, therefore, assumed a disguise, the most likely to conceal him; not giving up either his hopes or his courage; but waiting for a proper opportunity to recover his throne, and restore to their liberties his sorely oppressed people.

Having properly disposed of his family, and settled a mode of communication with his tried and faithful friends, he engaged himself in the service of his own neat-herd, to take the care of his cows. After and other ancient writers relate, as a proof how completely Alfred was disguised, that one day the good woman of the house set a cake before the fire to bake, where the king was busily employed in trimming his bow and arrows; on coming back, and finding it burnt, through neglect of turning it in her absence, which she supposed he would have done, she chid him very severely for his inattention; and told him, that though he could not turn the cake, she knew he was ready enough to eat it. We find, however, that Alfred soon left this station; and with his wife and some of his most valued friends, found a safe retreat in the isle of Æthelingey (Athelney), in Somersetshire, which was secured by vast morasses around it, and accessible only by one very obscure passage. The following story, which we receive from William of Malmesbury, has been cited to shew the extremities to which this most illustrious monarch was now reduced. A pilgrim came to his castle and requested alms. The queen informed Alfred, that they had only one small loaf remaining, which was insufficient for themselves and their friends, who were gone abroad in quest of fish and other food, though with small hopes of success. "Give the poor man one half of the loaf," said the king: "he that could feed 5000 men with five loaves and two fishes can certainly make that half of the loaf suffice for more than our necessities." The man was relieved accordingly; and the king's benevolence was recompensed by the early arrival of his people with an unexpectedly ample store of fresh provisions. [A beautiful painting from this subject, by Mr. West, was presented by the venerable Alderman Boydell some years since to the stationers company; in the court-room of whose hall it still remains an honourable specimen of the artist's talents, and a lasting memento, among many others, of the liberality of the donor.]

When the king had been about a year in this retreat, being informed that some of his subjects, under the brave Odun, Earl of Devonshire, had routed a great army of the Danes, killed their chiefs, and taken their magical standard, he issued letters, giving notice where he was, and inviting his nobility to come and consult with him. Before they came to a final determination, however, Alfred, disguised as an

itinerant harper, strolled into the enemy's camp; where, without suspicion, he was admitted not only to the tents of the common soldiers, but even into those of the chief Danish commanders. Having examined every thing with great accuracy, he retired again to Æthelingey, and summoned with all privacy his faithful subjects to meet him in arms at Brexton, in the forest of Selwood, in Wiltshire. They obeyed the summons; and, fired with the hopes of liberty, fell upon the Danes with incredible alacrity, at a moment when the latter had not the least suspicion of a foe, and imagined Alfred to be a mere fugitive from them.

The attack was made at Æthendune, now Eddington. Those of the enemy who escaped from this battle possessed themselves of a neighbouring castle, or fort, almost ruined, which they fortified immediately, and in which they were quickly besieged by the victorious Saxons; but, after a long and close siege, the Danes were forced to surrender at discretion. Alfred, however, treated them like a merciful prince, giving up to such of them as should embrace the Christian religion, the whole kingdom of the East Angles, on condition that they should oblige the rest of their countrymen to quit the island, and prevent, as far as they were able, the landing of any more foreigners. For the performance of these articles he took hostages; and when, in pursuance of the treaty, Guthrum, the Danish chief, came, with thirty of his chief officers, to Alfred, to be baptized, the king answered for him at the font, gave him the name of Æthelstan, and adopted him for a son. His friends and himself were nobly entertained for twelve days, and then dismissed with royal presents.

One advantage the Saxons derived from these Danes turning Christians; which was, that now they kept their oaths, and removed into the country which had been assigned to them, where they quietly settled themselves.

In 884 a new swarm of Danes landed in Kent, and laid siege to Rochester; but the inhabitants boldly defended the place till the king, reaching them with an army, compelled the enemy to raise the siege, and return once more to France.

Alfred, having now some leisure, resolved to repair, re-fortify, and re-people the ancient city of London, which he had lately recovered from the Danes; and meant to keep as a frontier. Accordingly, he placed a garrison in it, and made Æthered governor thereof, whom he had created Earl of Mercia, and to whom he gave his daughter Æthelfleda in marriage.

After some years of rest, however, Alfred was again called into the field; for the Danes, being soundly beaten in the west of France, in 893, came with a fleet of 250 sail on the east coast of Kent, and, landing, fixed themselves at Appledore. Shortly after came another fleet up the Thames, consisting of 80 vessels, and, having landed the soldiers, built a fort at Middleton, now Milton. Alfred drew together a considerable army; but, before he marched toward the enemy, compelled the Danes settled in Essex and Northumberland, to give him hostages for their good behaviour. He then moved toward the invaders, and prudently pitched his camp on a spot between the enemy's two armies, thereby preventing their junction. A great body, however, moved into Essex, and thence, crossing the river, came into Surry, at Farnham; in which county, the king's forces met and defeated them.

Amid these contests, the Danes of Northumberland, in breach of their oath, and notwithstanding the hostages which they had given, equipped two fleets, one of 100, the other of 40 vessels, and came to Exeter, which place they besieged. Alfred lost not a moment in opposing this new enemy. Having left some forces at London to make head

against Hastings (Hæsten), and the other Danes, he marched suddenly to the West ; and, falling on the rebels before they were aware, pursued them to their ships with great slaughter. The enemy, sailing next to Suffex, began to plunder the country near Chichester ; but the order which Alfred had every where established sufficed here, without his presence, for the defence of the place ; and the rebels, meeting with a new repulse, in which many of them were killed, and some of their ships taken, were obliged again to put to sea. They now failed to join Hastings, the Danish chief, at Beamsfleet, in Essex, who, thus strengthened, and encouraged by the absence of the king, ravaged all the lands belonging to Alfred in Mercia. The troops which the king had left in London for the security of that place, now, in turn, took their advantage of the absence of the Danish chief on his incursions in the Mercian district, suddenly attacked Beamsfleet, and carried the place by storm, in which they found Hastings's wife and his two sons, who had been lately baptized. These they made prisoners, and sent to Alfred ; who, with a great-ness of soul unparalleled in those times, returned them to Hastings, with this message, " I make no war upon women and christians." Hastings, returning from his pillaging expedition, gave up all for lost, and once more sued for peace ; which Alfred, with his usual clemency, granted, on his giving fresh hostages for his fidelity in time to come.

Before Alfred had time to recruit himself, another Danish leader, whose name was Laf, came with a great army out of Northumberland, and destroyed all before him. Having invaded North Wales, plundering or destroying every thing, this army divided itself, one body returning to Northumberland, the other marching into Essex, and taking possession of a small island called Merefeg (Mersey). Here, however, they did not long remain ; for, having parted, some sailed up the river Thames, and others up the Lea-Road ; where, drawing up their ships, they built a fort not far from London, which proved a great restraint upon the citizens, who went in a body and attacked it, but were repulsed with great loss. This obliged the king, when harvest-time came, to encamp with a body of troops in the neighbourhood of the city, in order to cover the reapers from the incursions of the Danes. Riding one day by the side of the river Lea, a thought struck him, that by narrowing the channel and cutting some trenches, and thus turning the course of the stream, he might render the Danish ships useless, by leaving them on dry ground. This was promptly executed ; the pagans, struck with astonishment and dismay, quitted their ships and camp, and fled to Quatford, where they were finally broken and subdued. Such of the Danish ships as could be got off, the Londoners carried into their own road ; the rest they burnt and destroyed.

The Danes, ever unquiet, in a short time began again to invade the territories of the West Saxons, both by land and sea ; but their chief enterprises were in the way of piracy, under the command of Sigefert, a Northumbrian, who, well acquainted with Alfred's naval preparations, had framed vessels of a new construction, higher, larger, and swifter than the English ; but the king, improving on his invention, caused a number of galleys to be built with all possible expedition, of still greater bulk, swifter in sailing, and loftier than those of the Danes, some of them carrying 60 rowers. With these, falling upon the enemy while they were exercising their ravages in the West, he took twenty of their ships ; and, having tried all the prisoners at Winchester, he gave judgment that they should be hanged as piratical mur-

derers and enemies of the human race. The well-timed severity of this execution, together with the excellent posture of defence every where established, restored complete tranquillity in England for the three remaining years of Alfred's reign, which he chiefly employed in establishing and regulating his government for the security of himself and his successors, and the ease and benefit of the people at large.

" His mighty genius (says Sir W. Blackstone) prompted him to undertake a most great and necessary work, which he is said to have executed in as masterly a manner. No less than to new-model the constitution ; to re-build it on a plan that should endure for ages ; and out of its old discordant materials, which were heaped upon each other in a vast and rude irregularity, to form one uniform and well-connected whole. This he effected, by reducing the whole kingdom under one regular and gradual subordination of government, wherein each man was answerable to his immediate superior for his own conduct and that of his nearest neighbours : for to him we owe that master-piece of judicial polity, the subdivision of England into tithings and hundreds, if not into counties ; all under the influence and administration of one supreme magistrate, the king : in whom, as in a general reservoir, all the executive authority of the law was lodged, and from whom justice was dispersed to every part of the nation by distinct, yet communicating, ducts and channels ; which wise institution has been preserved for near a thousand years unchanged, from Alfred's to the present time. He also, like another Theodosius, collected the various customs that he found dispersed in the kingdom, and reduced and digested them into one uniform system or code of laws, in his *Som-bec, or liber judicialis*. This he compiled for the use of the court-baron, hundred and county-court, the court-leet, and sheriff's tourn ; tribunals which he established for the trial of all causes civil and criminal, in the very districts wherein the complaint arose : all of them subject, however, to be inspected, controlled, and kept within the bounds of the universal or common law, by the king's own courts ; which were then itinerant, being kept in the king's palace, and removing with his household in those royal progresses which he continually made from one end of the kingdom to the other. The Danish invasion and conquest, which introduced new foreign customs, was a severe blow to this noble fabric : but a plan, so excellently concerted, could never be long thrown aside. So that, upon the expulsion of these intruders, the English returned to their ancient law ; retaining, however, some few of the customs of their late visitants ; which went under the name of *Dane-Lage* : as the code compiled by Alfred was called the *West-Saxon-Lage* ; and the local constitutions of the ancient kingdom of Mercia, which obtained in the counties nearest to Wales, and probably abounded with many British customs, were called the *Mercen-Lage*. And these three laws were, about the beginning of the eleventh century, in use in different counties of the realm : the provincial polity of counties, and their subdivisions, having never been altered or discontinued through all the shocks and mutations of government, from the time of its first institution ; though the laws and customs therein used, have often suffered considerable changes."

That Alfred, no man could be a more absolute monarch ; for, besides that he was the legal inheritor of the crown, he had won it by his sword, having fought 56 set battles by sea and land (eight of them in one year), and enlarged his dominions beyond what any of his ancestors possessed. But, though thus absolute, he soon shewed, that he desired not to

establish a tyranny, nor to infringe the liberties of his people, for the welfare of whom he proved his concern by the measures which he took to promote it. To him (as we have known from Blackstone) we owe many of those advantages which render our constitution dear to us; but, above all, we owe to him, as it has been commonly supposed, the *trial by jury* (see *JURY*); and it is obvious to remark, what a spirit of mercy discovers itself throughout all his laws, and how great a regard is paid to the lives of his people; for in them recourse is not had to bloodshedding for every minute offence: a particular well worthy of notice and imitation!

"So strange and sudden a change (says Sir John Spelman) did Ælfred's institutions produce in the kingdom, that whereas before there was no travelling without arms, there was soon not only safe passage, but all places became so secure, that when the king (for experiment's sake) caused golden bracelets to be hung up in the cross-ways, they seemed to deride the passenger, for no man durst lay his hands on them. Virgins might safely travel any where alone. Nay, faith Ingulphus, if one left his money all night in the highway, he might come the next morning, and be sure to find it whole and untouched."

This glorious monarch seemed designed by providence for the period in which he lived, whether we view him in a military or a civil capacity, to rescue from total ruin a nation on the brink of destruction, assailed from without by powerful enemies, and within by sloth, ignorance, and the want of almost every virtue. He was not deficient in any qualification that might render him beloved by his subjects, and dreaded by his enemies. Though of a weak bodily constitution, his mind was active, vigorous, and enterprising, and fitted to animate every branch of good government. He it was who first taught us to defend ourselves by a naval force, now the glory of our country and the terror of the world! His public virtues (says Mr. Wile) were worthy of the imitation of princes, and his private life was not stained with any vice; he was a tender husband and parent, the friend and companion of men of letters, learned himself, affable, generous, and, to conclude the whole, eminently pious. He erected public schools in different parts of the kingdom; founded, or at least repaired, the university of Oxford, gave preferment to none but such as had made some proficiency in knowledge; and having thus reigned upwards of 28 years, the delight of his own subjects, and the admiration of all Europe, he died the 28th October, A. D. 900, as some historians state; but the variations are many between this and the following year.

That so great and good a prince should not have had his actions recorded by any one among the learned of his own subjects must appear surprising. This task, however, was left to be performed by a stranger (Asser), taken as it were from among his enemies, a people whose hatred to the Saxon name was notorious; for such at that time were the Welsh. This historian has not, perhaps, written with the elegance of more modern times; yet his life of Ælfred is certainly far above what could be expected from the rudeness of the age in which he lived. His descriptions are nervous and spirited; and he conveys to us an image of the most perfect and accomplished monarch that ever graced the English throne.

It has been observed of Ælfred, that, had he not been a king, he would have been eminently distinguished as a grammarian, a rhetorician, a philosopher, an historian, a musician, and architect. Of his original writings and translations the following account has been collected:

1. The first book, mentioned by Bale, is "*Breviarium quoddam collectum ex legibus Trojanorum*, lib. i. A breviary collected out of the laws of the Trojans, Greeks, Britons, Saxons, and Danes, in one book." Leland saw this book in the Saxon tongue, at Christ-church in Hampshire. Comment. de script. p. 150.—2. "*Vifi-saxonum leges*, lib. i. The laws of the West-Saxons in one book." Pitts tells us, that it is in Bene't college library, at Cambridge.—3. "*Instituta quædam*, lib. i. Certain Institutes." This is mentioned by Pitts, and seems to be the second capitulation with Guthrum. Brompt. chr. col. 819.—4. "*Contra judices iniquos*, lib. i. An invective against unjust judges, in one book."—5. "*Acta magistratuum suorum*, lib. i. Acts of his magistrates, in one book." This is supposed to be the book of judgments mentioned by Horne: and was, in all probability, a kind of reports, intended for the use of succeeding ages.—6. "*Regum fortunæ varæ*, lib. i. The various fortunes of kings, in one book."—7. "*Dicta sapientum*, lib. i. The sayings of wise men, in one book."—8. "*Parabolæ et sales*, lib. i. Parables and pleasant sayings, in one book."—9. "*Collectiões chroniconum*; Collections of chronicles."—10. "*Epistolæ ad Wulfsigium episcopum*. Epistles to bishop Wulfsig, in one book."—11. "*Manuale meditationum*. A Manual of meditations."

As to his translations, they were these: 12. "*Dialogus D. Gregorii*. A Dialogue of St. Gregory."—13. "*Pastorale ejusdem Gregorii*. The Pastoral of Gregory."—14. "*Hormestam Pauli Orosii*, lib. i." Of this work an English translation was published by Mr. Barrington in 1772, with Ælfred's Anglo-Saxon.—15. "*Boetius De Consolatione*, lib. v. Boetius's Consolations of philosophy, in five books." Dr. Plot tells us, king Ælfred translated it at Woodstock, as he found in a MS. in the Cotton library. Nat. Hist. of Oxfordshire, chap. x. sec. 118.—16. "*Asserii sententiæ*, lib. i. The sayings of Asserius, in one book."—17. "*Martianæ Leges*, lib. i. The laws of queen Martia, widow of Guthelinus, in one book."—18. "*Malmutinæ Leges*, lib. i. The laws of Malmutius, in one book."—19. "*Gesta Anglorum Bedæ*, lib. v. The Deeds of the English, in five books, by Bede: a copy of which is in the public library at Cambridge, with the following distich. (Spelman's Life of Ælfred, p. 211.)

Historicus quondam fecit me Beda latinum,
Ælfred rex Saxo transtulit ille prius.

20. "*Æfopi fabulæ*. Æfop's fables:" which he is said to have translated from the Greek both into Latin and Saxon.—21. "*Psalterium Davidicum*, lib. i. David's Psalter, in one book." This was the last work that the king attempted, death surprising him before he had finished it; it was however completed by another hand, and published at London in 1640, in quarto, by Sir John Spelman.

Besides all these, Malmesbury mentions his translating many Latin authors; and the old history of Ely asserts, that he translated the Old and New Testaments. Malmsh. De Gest. Reg. Ang. p. 45. Hist. Elen. lib. ii.

The foregoing article has been chiefly compiled from Biog. Brit.—Hume.—Blackstone.—Spelman.—And Wile's Annales Ælfredi Magni.

ÆLFRED, an English bishop, was a monk of Malmesbury, of the order of St. Bennet, and preferred to the see of Exeter. He flourished in the 10th century, and was one of the most learned men of his time. He wrote a treatise, "*De Naturis Rerum*;" "The Life of

of Adelmus," and "The History of his own Abbey." Biog. Dict.

ALFRED, of *Beverley*, an ancient historian, wrote his "Annales," published by Hearne, between the years 1148 and 1150, and borrowed his account of the British kings from Geoffroy of Monmouth. Biog. Dict.

ALFRETTON, in *Geography*, a small market town of England, in the county of Derby, is said to have been founded by king Alfred. It has a considerable corn market on Friday. It is 15 miles north of Derby, and 141 $\frac{1}{2}$ north of London.

ALFTER, a borough, citadel and feignory in the electorate of Cologne and prefecture of Bonn, belonging to the counts of Salm-Reifferscheid.

ALGA, in *Natural History*, a species of millepora, with thin semicircular laminae, forming horizontal leaves; the millepora lichenoides of Solander and Ellis, found, of a red, purple, yellow and whitish colour, on the shores of Cornwall.

ALGÆ, in *Botany*, an order or division of the *cryptogamia* class of plants.—It is one of the seven families or natural tribes into which the vegetable kingdom is distributed in the *Philosophia Botanica* of Linnæus; the 57th order of his fragments of a natural method; and the second genus of the section *marina aut fluviales*, in the class *asperma vulgo habitæ* of Tournefort.

The plants belonging to this order are described as having their root, leaf, and stem entire, or all one. The whole of the sea weeds and various other aquatic plants are comprehended under this division.

From their admitting of little distinction of root, leaf, or stem, and the parts of their flowers being equally incapable of description, the genera are distinguished by the situation of what is supposed to be the flowers or seeds, or by the resemblance which the whole plant bears to some other substance.

The parts of fructification are either found in saucers or tubercles, as in *lichens*; in hollow bladders, as in the *fuci*; or dispersed through the whole substance of the plants, as in the *ulvæ*. The substance of the plants has much variety; it is flesh-like or leather-like, membranaceous or fibrous, jelly-like or horn-like, or it has the resemblance of a calcareous earthy matter.

Mr. Valley has lately shewn that some of the plants that belong to this order possess a high degree of irritability.—Withering's Arrangement of British Plants, vol. i. p. 369.

Lamarck distributes the algæ into three sections: the first comprehends all those plants, whose fructification is not apparent or seems doubtful. These commonly live in water, or upon moist bodies, and are membranous, gelatinous, or filamentous. To this section he refers the byssi, conferva, ulva, tremella and varec. The plants of the second section are distinguished by their apparent fructification, although it be little known, and they are formed of parts which have no particular and sensible opening or explosion at any determined period; their substance is ordinarily crustaceous or coriaceous. They include the tassella, ceratosperma and lichen. The third section comprehends plants, which have their fructification very apparent, and distinguished by constituent parts which open at a certain period of maturity for the escape of the fecundating dust or seeds. These plants are more herbaceous, as to both their substance and their colour, than those of the other two sections, and are more nearly related to the mosses from which they do not essentially differ. Their flowers are often contained in articulated

and very elastic filaments. To this section are referred the riccia, blasia, anthoceros, targiona, hepatica, and jungermannia. In the Linnæan system the algæ are divided into two classes, viz. the *terrestres* and *aquatice*. The former include the anthoceros, blasia, riccia, lichen, and byssus; and the latter are the ulva, fucus, and conferva. The fructification of the algæ, and particularly of those called aquaticæ, is denominated by a judicious botanist, the *opprobrium botanicorum*. See observations on this order of plants by Dr. Goodenough and Mr. Woodward in the Linnæan Transactions, vol. iii. p. 84, &c.

ALGÆ, in *Ancient Geography*, an inland city of the island of Eubœa, called by Strabo, the Euboic Algæ, and also Æges, to distinguish it from two other cities of that name, one in Achaia, near the river Cratis, the other in Æolis. He conceives, that from this place, in which was a temple of Neptune, the ÆGEAN Sea derived its name. See ÆGÆ.

ALGÆ, a port of Italy, which Antonine places three miles from Centumcellæ.

ALGAGLIOLA, a sea-port town of Corsica, defended by a castle, situated upon a rock, was almost destroyed by the malcontents in 1731, but soon afterwards rebuilt. N. lat. 42° 20'. E. long. 9° 45'.

ALGAIRA, or ALIARA, in *Geography*, a river of Spain, joins the Cabriel, before its conflux with the Xucar.

ALGALA, or ALGALIE, in *Surgery*, the Arabian name of a hollow curved instrument employed for drawing off the urine, or searching for a stone, by introducing it into the bladder. The more common appellation of this tube is CATHETER or SOUND, which see.

ALGARDI, ALESSANDRO, in *Biography*, an eminent artist, both as a sculptor and architect, was born at Bologna in 1598, and became a disciple of Julius Cæsar Conventi, under whose instruction he acquired a reputation in sculpture little inferior to that of Michael Angelo Buonaroti. He also frequented the school of the Caraccii, where he probably learned the art of engraving; his style, resembling that of Augustino Caracci, being slight and free, and his execution with the graver bold and open. Having studied at Mantua and Venice, he visited Rome in 1625, and became acquainted with Domenichino, by whom he was recommended to the statuary work of the chapel Bandini, which he was painting. For some years he was chiefly employed in repairing antiques and modelling for goldsmiths; but his talents and reputation procured him superior work. Among his performances may be recounted a statue of St. Philip de Neri, in the sacristy of the fathers of the oratory at Rome; his group of the decollation of St. Paul for the Barnabite church at Bologna, and the tomb of Leo. XI. at St. Peter's. One of his capital performances was a bas-relief in this cathedral, representing the story of Attila, 32 feet by 18, which was the labour of four years, and which gained him universal applause, with the honour of knighthood and the golden cross. His bronze figure of Innocent XI. is reckoned the finest of the statues of the popes in Rome. A crucifix likewise, called, by way of distinction, Algardi's crucifix, has been much celebrated, and often copied by many of the principal artists. He was assiduous and quick in execution, but becoming corpulent and infirm, he was under a necessity of recurring to the assistance of his pupils, of whom he formed an eminent school. He died in 1654, at the age of 52 years. His disposition was lively, his conversation pleasant, and his manners irreproachable. He lived in celibacy, and left his property to his sister. His works, which are held in high estimation, though the air of his heads

is the most beautiful and polished, and he is somewhat of a miser in the midst of his draperies, are chiefly in black and red, and in yellow. Two gowns, supposed to be his, are "Cinct upon the Clouds," a large upright gown, and "the Delivery of the Soul from Purgatory," a small and elegant. Gen. Haag.

ALGAROTTI, PAVLOTTI, in *Chemistry*, is a white oxyd of antimony, or a double oxyd pure with the butter or oxydurate of tartar, when by the volatile oxyd is precipitated. This, when thoroughlyedulcorated and dried, forms the powder of algarotti, and is a very perfect oxyd of antimony. It was first applied, as an internal medicine, by *Algarotti*, an Italian physician. It is not now to be found in the later pharmacopœias of the London college, but if it were of any advantage to increase the number of antimonial medicines, it might deserve notice from the ease with which it is prepared, and the apparent uniformity of its composition. It is retained by the Edinburgh pharmacopœia, and in several parts of the continent as the basis of the emetic tartar, or tartarized antimony. See *ANTIMONY, muriate and tartrite of*.

ALGAROTTI, FRANCIS, in *Biography*, was born at Padua in 1712, and finished his studies in the university of Bologna. He commenced his travels at an early period, and in his visit to England acquired a predilection for the Newtonian philosophy, which led him to write his "Newtonianismo par le Dame;" or, "Newtonianism for the Ladies," dated at Paris in 1736. This popular work is formed upon the model of Fontenelle's "Plurality of Worlds," and is equally instructive and amusing. At Berlin Algarotti was kindly received by Frederick, king of Prussia, who conferred upon him the knighthood of the order of Merit, the title of count, and the post of chamberlain. By Stanislaus, king of Poland, who admitted him into his court, he was appointed a privy-counsellor. His character was that of a man of letters, a philosopher, and one of the first connoisseurs in Europe in the arts of music, painting, sculpture, and architecture. He contributed much to the improvement of the Italian opera, and wrote verses in his own language replete with sentiment and imagery. An associate at Berlin represents him, somewhat in the style of satire, "as full of wit, affectation, and self-love; a Frenchman in genius, an Italian in character, disagreeable in society, often exposed to royal witticisms, and receiving them as tokens of favour." After his return to Italy he died at Pisa, May 24, 1764. The mausoleum which he erected for himself indicates both his taste and his vanity. The epitaph for his tomb was written by himself; "Hic jacet Algarottus, sed non omnis." A collection of his works, in Italian, was published at Leghorn in 1765, in four volumes, 8vo. They consist of his dialogues on the philosophy of Newton, of essays on the fine arts and on commerce, of dissertations on subjects of language, of historical disquisitions, and of miscellanies, literary and philosophical. An edition of them, in French, was published at Berlin in 1772, in eight vols. 8vo.; and they have been also translated into English and other languages. They display genius and profound reflection, but are thought by competent judges deficient with respect to nature and simplicity. He designed and engraved, for his amusement, several plates of heads in groups, one of which, containing 13, in the antique style, is dated Feb. 15, 1744. *Nouv. Dict. Hist. Strutt.*

ALGARVA, in *Geography*, the most southern province, anciently a kingdom of Portugal, is bounded on the south and west by the ocean, and hence formerly called *Cuneus* or wedge, on the east by Andalusia, from which it is separated

by the Guadiana, and on the north by a ridge of hills, called *Serra de Algarve* and *Serra de Monchique*, which divides it from Alentejo. The greatest length of this province is about 90 miles, and its greatest breadth is about 28. The city of Lagos is properly the chief town of Algarva, though Tavira is now the residence of the governor, and Faro possesses the greatest part of its trade. According to the last enumeration in 1780, this small kingdom contained 93,472 inhabitants, of whom 6521 were husbandmen, and 5575 labourers. It lies close to the sea, and is well cultivated; but this cultivation does not extend more than two leagues inland, beyond which are desert hills. Corn is not grown in sufficient quantity for the consumption; the oil that is produced here is reckoned the best in Portugal, and exported. The wine is white, and good. Figs constitute the principal produce of Algarva, and it also abounds with almonds, particularly about Tavira, which are exported. This is the only province of Portugal from which dried figs are exported. Oranges are also cultivated, especially in the vicinity of Monchique and Faro; and these, together with oranges and Spanish reeds (*arundo donax*), are exported from Faro to England. Algarva, it is said, is the only country, Greece excepted, where *CAPRIFICATION* is practised; for there are some varieties of figs, which are very excellent, that fall to the ground immature, unless they are punctured by the guats. The common people live principally on fish, and are very poor, because the province, though capable of great cultivation, is shamefully neglected. A quantity of tunny-fish is taken on the coast, and particularly in the neighbourhood of Lagos and Cape St. Vincent, and salted in May and June; the colour of it resembles that of smoked beef; and a storehouse for it is opened at Lisbon, where it is found to supply the place of cod. The inhabitants, in general, are less refined and polite than the other Portuguese, but they are celebrated through the country for their wit and shrewdness. They are also considered as the best mariners in Portugal; and on this account many of them emigrate, and most of the boatmen at Lisbon come from this province. The mountains that separate this province from Alentejo, rise in height as they approach the north, and consist of argillaceous slate and sand-stone. They are arid and barren, and only bear the cistus ladaniferus, with two other kinds of cistus. The province is for the most part surrounded by lime-stone mountains, which exhibit few, if any, traces of cultivation. Olive-trees and fig-trees, and also the caob-tree (*ceraonia siliqua*) grow abundantly in the corn-fields, and afford a pleasant shade. The fan palm (*chamærops glabra* of Linnæus) is very plentiful throughout the whole of this province; and its fan-shaped leaves are used for making the baskets in which figs are packed. *Link's Travels through Portugal*, p. 432, &c.

ALGAS, a river of Spain, which runs into the Matagorda, near Nonaspe, in Aragon.

ALGATRANE, a sort of pitch found in the bay formed by the point of the Cape of St. Helena, on the south of the Isle of Plata.

ALGAU. See **ALGOW**.

ALGAVAREIA, the language anciently spoken by the Moors of Spain, which was a sort of Arabic, and was contradistinguished from the *Aljamia*.

ALGAZEL, in *Biography*, a learned Arabian, about the beginning of the 12th century, was a native of Tos, or Tus, in Asia, and celebrated among the Mahometan theologians for his numerous treatises in defence of the Mahometan religion, against the Jews and Christians; particularly for his "Demonstration of Islamism," and his "Treatise on the

Unity

Unity of God." But he was suspected of heresy, and one of his pieces, entitled, "the Resurrection of the Law of Science," was condemned after his decease, because it censured some of the indulgences of the Islamic law; and if any copy of it was found within the Saracen empire, it was ordered to be burned. He also wrote a treatise "On the Opinions of Philosophers;" and another, entitled, "The Destruction of Philosophers." After long in great splendour as a public preceptor at Bagdat, he distributed his riches among the poor, assumed the habit of a hermit, and retired to Mecca. From Mecca he travelled into Syria and Egypt, and staying some time at Cairo, and afterwards at Alexandria, he returned to Bagdat, where he died. Pococke Spec. Hist. Arab. p. 371. Herbelot, p. 362. Leo Afr. c. 12. Brucker's Hist. Phil. by Enfield, v. ii. p. 243.

ALGAZEL, in *Zoology*. See ANTHROPE.

ALGEBRA, a general method of resolving mathematical problems, by means of equations: or, it is a method of computation by symbols, which have been invented for expressing the quantities that are the objects of this science, and also their mutual relation and dependence. These quantities might probably, in the infancy of the science, be denoted by their names at full length; these, being found inconvenient, were succeeded by abbreviations, or by their mere initials. And, at length, certain letters of the alphabet were adopted as general representations of all quantities; other symbols or signs were introduced to prevent circumlocution, and to facilitate the comparison of various quantities with one another; and, in consequence of the use of letters or species, and other general symbols, or indeterminate quantities, algebra obtained the appellation of *specious, literal, and universal* ARITHMETIC.

The term, *algebra*, is of Arabic original; but its etymology has been variously assigned by different writers. Among the Arabians, from whom it was immediately transmitted to us, this science was denominated *al-giabr almocabalah*; and as *giabara* signifies to *restore*, and *kabala* to *compare* or to *oppose*, the nouns formed from these words, with the prefix *al*, denote the science of *restitution* and *comparison*, or *resolution* and *equation*; and thus understood, they express its nature with sufficient precision. Accordingly, Lucas de Burgo, the first European author on algebra, calls it the *rule of restoration* and *opposition*. Others, however, have derived it from *Geber*, either the name of a celebrated mathematician, to whom they ascribe the invention of the science; or from the word *geber*, which forms, with the particle *al*, the appellation *algebra*, signifying, according to Golius, in his Arabic lexicon, a reduction of broken numbers or fractions to integers. Herbelot says, that *geber* or *gibr* is never used by the Arabs for algebra, without adding the word *mokabelah*; but Dr. Russell (Hist. Aleppo, v. ii. 107.) observes, that, at Aleppo, and also in books, *al Gibr* is used sometimes alone, as well as in conjunction with *mokabelah*. This science has been distinguished by other names, besides algebra. Lucas de Burgo calls it *Parte maggiore*, or the greater art, by way of contradistinction to common arithmetic, which is denominated *Parte minore*, or the lesser art. The Italians called it *regola de la cosa*, or *rei*; *cosa* with them signifying *res*, or *thing*, and being used in the same sense with *radix*, or root; whence proceeded the terms rule of *cofs*, and *coff* numbers, denoting the root, square, cube and other powers. Other Italian and Latin writers have called algebra *regula rei et census*, or the rule of the root and square; *census* being used for improvement, or the square. By a corruption of *census* were formed *zenzus*, for the square, and the term *zenzie* applied

to the square root. Hence also the characters $\mathcal{Z}$, $\mathcal{S}$, $\mathcal{C}$, deduced from the letters *z*, *s*, *c*, became the letters of *res*, *zenzus*, and *census*; or, in our mode of expression, the root, square and cube; just as R and $\sqrt{\quad}$ formed from *R*, *r*, are with us the signs of radicality. Wallis's Algebra, c. i. p. 3.

Some authors have defined algebra, as the art of resolving mathematical problems; but this is rather the idea of ANALYSIS, or the analytic art in general, than of algebra, which is only a particular branch of it. Algebra, duly considered, consists of two parts, viz. the method of calculating magnitudes or quantities, represented by letters or other characters, and the mode of applying these calculations to the solution of problems. When algebra is applied to the solution of problems, all the quantities that are involved in the problem are expressed by letters, and all the conditions that serve to denote their mutual relation, and by which they are compared with one another, are signified by their appropriate characters, and they are thus thrown into one or more equations, as the case requires: this is called *synthesis*, or *composition*. When this has been done, the unknown quantity is disengaged by a variety of analytical operations from those that are known, and brought to stand alone on one side of the equation, whilst the known quantities are on the other side; and thus its value is investigated and obtained. This process is called *analysis* or *resolution*: and hence algebra is a species of the analytic art, and is called the modern analysis, in contradistinction to the ancient analysis, which chiefly regarded geometry and its application.

The origin of algebra, like that of other sciences of ancient date and gradual progress, is not easily ascertained. The most ancient treatise on that part of analytics, which is properly called algebra, now extant, is that of Diophantus, a Greek author of Alexandria, who flourished about the year of our Lord 350, and who wrote 13 books, though only six "Arithmeticonum," of them are preserved, which were printed together with a single imperfect book on multangular numbers, in a Latin translation by Xylander, in 1575, and afterwards in Greek and Latin, with a Comment, in 1621 and 1670, by Gaspar Bachet, and M. Fermat. Tolosæ, fol. These books do not contain a treatise on the elementary parts of algebra, but merely collections of some difficult questions relating to square and cube numbers, and other curious properties of numbers, with their solutions. In his prefatory remarks, addressed to one Dionysius, for whose use Diophantus probably wrote, he recites the names and generation of the powers, the square, cube, 4th, 5th, 6th, &c. which he calls *dynamis*, *cube*, *dynamodnamis*, *dynamocubus*, *cubocubus*, according to the sum of the indices of the powers, and he marks those powers with the Greek initials; and he expresses the unknown quantity by $\alpha\epsilon\iota\delta\mu\omicron\varsigma$, or the number, simply marking it in the solutions by the final σ , and denoting the monades, or indefinite unit, by μ° . In his researches on the multiplication and division of simple species, he shews what powers they produce, and observes that minus ($\lambda\epsilon\upsilon\psi\iota\varsigma$) multiplied by minus, produces plus ($\upsilon\pi\alpha\rho\epsilon\iota\varsigma$), and that minus multiplied by plus produces minus: the mark which he uses for minus is $\uparrow$ or the $\downarrow$ inverted and curtailed; but he has no mark for plus, expressing it by a word or conjunctive copulative. Supposing his reader acquainted with the common operations, viz. addition, subtraction, multiplication and division of compound species, he proceeds to remark on the preparation of the equations that are deduced from the questions, which we call reduction of equations, by collecting like quantities together, adding quantities that are minus, and subtracting those that are plus, called by the moderns transposition,

transposition, so as to bring the equation to simple terms, and then deprelling it to a lower degree by equal division, when the powers of the unknown quantity are in every term: which preparation or reduction of the complex equation, being made, or reduced to what we call a final equation, this author proceeds no further, but merely says, what the root, or *resignata*, is, without giving any rules for finding it, or for the resolution of equations; thus intimating, that rules for this purpose were to be found in some other work, either of his own or of some other person. The chief excellence of Diophantus's collection of questions, which seems to be a series of exercises for rules which had been elsewhere given, is the neat mode of substitution or notation, which being once made, the reduction to the final equation is easy and obvious. This work indicates much accurate knowledge of the science of algebra, in some of its most abstruse parts. But as the author reduces all his notations to a simple equation, or a simple quadratic, it does not appear how far his knowledge extended to the resolution of compound or affected equations.

Algebra, however, seems not to have been wholly unknown to the ancient mathematicians, long before the age of Diophantus. We observe the traces and effects of it in many places, though it seems as if they had intentionally concealed it. Something of it appears in Euclid, or at least in Theon upon Euclid, who observes that Plato had begun to teach it. And there are other instances of it in Pappus, and more in Archimedes and Apollonius. But it should be observed, that the analysis used by these authors is rather geometrical than algebraical; this appears from the examples of it that occur in their works; and therefore, Diophantus is the first and only author among the Greeks, who has treated professedly of algebra. Our knowledge of the science was derived, not from Diophantus, but from the Moors or Arabians; but whether the Greeks or Arabians were the inventors of it has been a subject of dispute. It is probable, however, that it was much more ancient than Diophantus, because his treatise seems to refer to works similar and prior to his own. Abuliamgius, an Arabic historian, in one place ascribes the invention, or rather the arrangement of the principles and rules of the science, to Diophantus; and from him we learn that the arithmetic of Diophantus was translated into Arabic by Mahomet Ben-Yahya Baziani: but in another place he seems to ascribe it to Mahomet Ben Musa, who is said to have lived about the year 850 or 900, and who was the first of the Arabs by whom this science was cultivated. Cardan attributes the invention of it to this Arabian, and apprehends that he obtained the appellation of Geber from this art. See Bib. Arab. et Hisp. tom. i. p. 370. cited by Ruffel in his Hist. of Aleppo, vol. ii. p. 409. Stevinus is of opinion that this science, and other parts of mathematics, were much more ancient among the Orientals, than any learning they derived from the Greeks. Dr. Wallis adopts the sentiments of those who think that the Arabs derived this science, as well as the knowledge of numeral figures, from the Persians, and originally by their means from the Indians; and he alledges, as a presumptive evidence of their not having derived it from the Greeks, that the name they give it, viz. *al-giabr w'al-mokabala*, seems to have no affinity with any Greek name. We may here add, that some vestiges of algebraical calculation have been discovered among the Brahmins; particularly rules for the solution of certain arithmetical questions, with which it would seem that nothing but algebra could have furnished them. Asiatic Researches, vol. ii. p. 468. note. 487, 495. But wherever algebra was invented or first cultivated, the science, and also the name of it, were transmitted

to Europe, and particularly to Spain, by the Arabians or Saracens, about the year 1100, or somewhat sooner. Italy seems to have taken the lead in the cultivation of this science, after its introduction into Europe: and Lucas Pacioli, or Lucas de Burgo, a minorite Franciscan friar, was the first author on the subject, who wrote several treatises in the years 1476, 1481, 1470, 1487, and 1509; but his principal work, entitled, "*Summa Arithmetice et Geometrie, Proportionumque et Proportionalitatum*," was published in Italian at Venice, in 1494, and again in 1523. In this work he mentions several writers, and particularly Leonardus Pisanus, placed by Vossius about the year 1400, or a little sooner, and said to be the first of the moderns who wrote of algebra, from whom he derived his knowledge of those sciences; and from the treatise of Leonard, not now extant, the contents of that of Lucas were chiefly collected. The age of Leonard of Pisa has been usually fixed to the end of the 14th century. But it now appears by a manuscript of this algebraist, discovered in a library of Italy, by M. Targioni Tozzetti, and communicated to M. Cossali, a canon regular of Parma, that he lived two centuries before this period, or at the commencement of the 13th century: and of course that Italy is indebted to him for its first knowledge of algebra. His proper name was Bonacci, and he was a merchant, who traded in the sea ports of Africa, and the Levant. Being ambitious of obtaining an acquaintance with the sciences that flourished amongst the Arabs, and particularly that of algebra, he travelled into their country. Accordingly his arithmetic was published in 1202, and a new enlarged edition of it appeared in 1228. At this time, however, algebra was not a part of arithmetic, but was distinguished from it by the title of "*Ars Magna*," or "*Arte Maggiore*." From the manuscript above-mentioned it appears, according to Cossali's account of it, that Leonard had penetrated deeply into the secrets of the algebraic analysis; that he was particularly acquainted with the analysis of problems similar in kind to those of Diophantus, and with the resolution of equations of the second degree; and that he had written a treatise, entitled "*De Numeri Quadrati*," which is not extant, but which Cossali has restored from some fragments of Lucas del Burgo. This Leonard, therefore, must not be confounded with another called Camillus Leonardus of Pefaro, author, as it is said, of a book entitled, "*Liber desideratus canonum æquatorii motuum celestium sine calculo, &c.*" Pisaur. 1496, 4to. Montucla Hist. Math. tom. ii. p. 716. This Leonard of Pisa made long voyages into Arabia and other eastern countries, in order to gain the knowledge of the mathematics. Montucla (tom. i. p. 536.) mentions two other persons who previously to this discovery were thought to have preceded Leonard in this department of science, viz. Paul dell'Abaco, who lived towards the end of the 14th century, and who is supposed by Ximenes, to have been the first person in Italy who used algebraic equations; and also Profdocimo Belmando, or Beldomando, of Padua, who was supposed to have shared with Leonard the honour of introducing into Italy the knowledge of algebra. His book, entitled, "*Dell'Algorithmo*," was printed in 1483, but dated at the beginning of the 15th century. Lucas informs us, that algebra came originally from the Arabs, and never mentions Diophantus; from which circumstance it has been inferred that this Greek author was not then known in Europe. From the book of Lucas de Burgo, we learn, that the knowledge of the Europeans in his time, or about the year 1500, extended no further than to quadratic equations, of which they used only the positive roots; that they admitted only one unknown quantity; that they had no marks or signs for

either quantities or operations, excepting some few abbreviations of the words or names; and that the art was merely employed in resolving certain numeral problems. If the science had been carried further in Africa than quadratic equations, which was probably the case, as we may infer from an Arabic manuscript, said to be on cubic equations, deposited in the library of the university of Leyden, by Warner, the Europeans had at this period obtained only an imperfect knowledge of it. The publication of the works of Lucas de Burgo promoted the study, and extended the knowledge of algebra; so that about the year 1505, Scipio Ferreus, professor of mathematics at Bononia, in Italy, discovered the first rule for resolving one case of a compound cubic equation. The next Italian, who distinguished himself by the cultivation and improvement of algebra, was Hieronymus Cardanus, of Bononia, who published nine books of his arithmetical writings, in 1539, in Latin, at Milan, where he practised physic, and read lectures on mathematics; and in 1545, a tenth book, containing the whole doctrine of cubic equations. Cardan denominates algebra, after Lucas de Burgo and others, "*Ars Magna quam vulgo Cossam vocant,*" or "*Regulæ Algebraicæ,*" and ascribes the invention of it, on the authority of Leonard of Pisa, to Mahomet, the son of Moses, an Arabian. He adds, that this supposed inventor left four rules or cases, which perhaps only included quadratic equations; that afterwards three derivatives were added by an unknown author, supposed by some to have been Lucas Pacioli, and afterwards three other derivatives for the cube and sixth power, by another unknown author; all which were resolved like quadratics; that then Scipio Ferreus, about 1505, found out the rule for the case "*cubum et rerum numero æqualium,*" or, as it is now written, $x^3 + bx = c$, which he represents as a thing admirable; that the same discovery was made in 1535, by Tartalea, who, after earnest intreaties, disclosed it to him (Cardan); and that he and his former pupil, Lewis Ferrari, much augmented and extended the cases; and that all the demonstrations of the rules are his own, except three of Mahomet for quadratics, and two of Ferrari for cubics.

To Cardan's treatise on cubic equations is annexed, "*Libellus de Aliza Regula,*" or the Algebraic Logisticks, in which he treats of some of the more abstruse parts of arithmetic and algebra, especially cubic equations, with many additional attempts for the solution of the irreducible case, $x^3 = bx + c$.

From a minute and accurate detail of the contents of Cardan's treatise, given by Dr. Hutton, it appears, that the improvements in algebra, communicated by this author, are as follow. To the rules furnished by Tartalea for resolving these three cases of cubic equations, *viz.* $x^3 + bx = c$, $x^3 = bx + c$, and $x^3 + c = bx$; he has added rules for all forms and varieties of cubic equations, demonstrating these rules geometrically, and fully discussing almost all sorts of transformations of equations in a manner before unknown. Cardan also appears to have been well acquainted with all the real roots of equations, both positive and negative, or, as he calls them, true and fictitious, both of which he occasionally used. He has also shewn that the even roots of positive quantities are either positive or negative; that the odd roots of negative quantities are real and negative; but that the even roots of them are impossible, or nothing as to common use. He also well knew the number and nature of the roots of an equation, partly from the signs of the terms, and partly from the magnitude and relation of the co-efficients. He also knew that the number of positive roots is equal to the

number of changes of the signs of the terms; that the co-efficient of the 2d term of the equation is the difference between the positive and negative roots; that when the second term is wanting, the sum of the negative roots is equal to the sum of the positive roots; how to compose equations that shall have given roots; that changing the signs of the even terms changes the signs of all the roots; that the number of roots failed in pairs, or that the impossible roots, as they are now called, were always in pairs; to change the equation from one form to another, by taking away any term from it; and to increase or diminish the roots by a given quantity. It appears also, that Cardan had a rule for extracting the cube root of such binomials as admit of extraction; that he often used the literal notation a, b, c, d , &c.; that he gave a rule for biquadratic equations, suiting all their cases; and that, in the investigation of that rule, he made use of an assumed indeterminate quantity, and afterwards found its value by the arbitrary assumption of a relation between the terms; that he applied algebra to the resolution of geometrical problems; and that he was well acquainted with the difficulty of the irreducible case, and that he devoted much time and attention to the solution of it; and that, though he did not completely succeed, he laid down rules for many particular forms of it, and shewed how to approximate very nearly to the root in all cases whatever.

Tartalea, or Tartaglia, of Brescia, was a contemporary of Cardan, and published his book of algebra, entitled, "*Questi è Invenzioni diverse,*" in 1546, at Venice, where he resided as public lecturer in mathematics. This work was dedicated to Henry VIII. of England, and consists of nine books, the last of which contains all those questions that relate to arithmetic and algebra. These questions comprehend exercises of simple and quadratic equations, with complex calculations of radical quantities, evincing the skill of the author in the science of algebra. He retained the notation or forms of expression used by Lucas de Burgo, calling the 1st power of the unknown quantity "*cosa,*" the 2d power "*censo,*" the third "*cubo,*" &c.; and he expressed the names of all the operations in words, without any contractions, except the initial R for root, or radicality. What is most remarkable in this collection of questions is the discovery of the rules for cubic equations, together with the various circumstances that attended it. The first two of these were discovered by Tartalea in 1530, *viz.* those for $x^3 + ax^2 = c$, and $x^3 = ax^2 + c$; and the rules for the other two cases, *viz.* $x^3 + bx = c$, and $x^3 = bx + c$, were discovered, in 1535, at Venice. Under question 31, we have an account of the correspondence between Tartalea and Cardan on the subject of cubic equations, and on the manner in which Cardan drew from him his discoveries relating to them; for a more particular account of which, see the biographical article CARDAN. Tartalea published at Venice, in 1556, &c. a very large work, in folio, on arithmetic, geometry, and algebra; the latter of which is imperfect, and extended no farther than quadratic equations, his death having prevented his completion of it.

The contemporaries of Tartalea and Cardan were Michael Stifelius and Scheubelius. The "*Arithmetica integra*" of Stifelius was printed at Norimberg in 1544, and is, says Dr. Hutton, an excellent treatise on arithmetic and algebra. The invention of the science is ascribed by this author to Geber, an Arabian astronomer. The improvements of Stifelius and other Germans beyond those of the Italians, recited in Cardan's book of 1539, were as follow. He introduced the characters $+$, $-$, $\sqrt{}$, for plus, minus, and root, or radix; and the initials 2 , 3 , 4 , 5 , 6 , &c. for the powers 1, 2,

3, 4, 5, &c. He treated all the highest orders of quadratics by the method of exponents. He introduced the numeral exponents of the powers, $= 3, = 2, = 1, = 0, 1, 2, 3$, &c. both positive and negative, as far as integral numbers, but not fractions; and called them by the name *exponents*, exponents; and taught the use of exponents in the operations of powers; and he used the literal notation A, B, C, D, &c. for so many different unknown and general quantities.

John Scheubelius, professor of mathematics at Tubingen, in Germany, published several treatises on arithmetic and algebra. From one of them, entitled, "*Algebrae compendiosa faciliisque Description, qua depromuntur magna Arithmetice miracula*," printed at Paris in 1552, which Dr. Hutton has analysed, it appears, that he was the first modern algebraist who mentioned Diophantus, to whom writers, as he says, ascribe the art; that his characters and operations are much the same with those of Stifelius, but that he used $\&$ for 1 or the 0 power; and prefixes the numeral coefficients. He treats merely of two orders of equations, *viz.* simple and quadratic equations, though, he says, they may be of infinite degrees; and he uses for the square root $\sqrt{}$; for the cube root $\sqrt[3]{}$; and $\sqrt[4]{}$ for the 4th root. He gives the four fundamental rules in the arithmetic of furds; in squaring the sum or difference of the furds he sets the root to the whole compound; and this root, called by Cardan, "*radix universalis*," he denominates "*radix collecta*;" but when they may be reduced to a common furd, he unites them into one number. He proceeds in a similar manner with cubic furds and 4th roots. He remarks the different kinds of binomial and residual furds, corresponding to the several irrational lines in the 10th book of Euclid's Elements; and gives the following general rule for extracting the root of any binomial or residual $a \pm b$, in which one or both parts are furds, and a the greater quantity, *viz.* that the square root of it is

$$\sqrt{\frac{a + \sqrt{a^2 - b^2}}{2}} \pm \sqrt{\frac{a - \sqrt{a^2 - b^2}}{2}},$$

by examples. As he takes no notice of cubic equations, it is probable that though they were known in Italy he had not heard of them in Germany.

Robert Recorde, in England, published the first part of his arithmetic in 1552, and the second part in 1557, under the title of "*The Whetstone of Witte*, which is the seconde parte of Arithmetike; containing the Extraction of Rootes, the Cossike Practise, with the Rule of Equation; and the Workes of Surde Numbers." What is principally new in this work comprehends the extraction of the roots of compound algebraic quantities, the use of the terms binomial and residual, and the use of $=$, as the sign of equality.

The Algebra of Peletarius was printed at Paris in 4to. in 1558, under this title, "*Jacobi Peletarii Cenomani, de Occulta Parte Numerorum, quam Algebram vocant. Lib. duo*." This work, containing an account of rational and irrational or furd quantities, is an ingenious treatise on those parts of the science that were then known, cubic equations excepted; and the discoveries or improvements of the author are the following, *viz.* that the root of an equation is one of the divisors of the absolute term; that trinomials may be reduced to simple terms by multiplying them by compound factors; and that a series both of square and cube numbers may be constructed by addition only, that is, by adding successively their several orders of differences.

Peter Ramus wrote his Arithmetic and Algebra about the year 1560. He expresses the powers by l, q, c, b, g , the initials of *latus*, *quadratus*, *cubus*, and *biquadra-*

tus; and he treats only of simple and quadratic equations. In 1567, Peter Nonius, or Nunez, a Portuguese, published his Algebra in Spanish, though he informs us in an epistle, dated 1564, that it had then been written 30 years before in Portuguese. He proceeds no further than quadratic equations. The Algebra of Raphael Bombelli was published at Bologna, in 1579, in the Italian language, but was written some time before, as the dedication bears the date of 1572. Among other writers on this science he particularly mentions Diophantus, whose Greek work had been found in the Vatican library; and he adds, that he and Antonio Maria Pazzi Leggiano, professor of mathematics at Rome, had translated five out of the six books which were then extant; and that they had found in the said work frequent citations of the Indian authors. Hence, they inferred, that this science was known among the Indians before the Arabians became acquainted with it. Such references, if they actually existed, would serve to determine the controversy relating to the origin of this science; but they do not now remain in the work, nor are they mentioned by any other writer. In his work Bombelli has very well explained the rules and methods of former writers; but, except the trisection of angles by means of a cubic equation, and his mode of notation, he has not introduced any new invention or improvement. In this notation he uses the initial R for root, with q or c after it for quadratic or cubic, &c. root; p for plus, and m for minus. He calls the unknown quantity *tanto*, and marks it thus r ; the 2d power 2 , its cube 3 , and the highest powers 4 , 5 , &c. denoting all the

powers, which he denominates *dignita*, or *dignity*, by their exponents set over the common character $\sim$. Christopher Clavius, who follows Stifelius and Schubelius in his notation and method, without scarcely any variation, wrote his Algebra about the year 1580, which was published at Orleans in 1608. Simon Stevinus, of Bruges, published his Algebra soon after his Arithmetic, which appeared in 1585; and both were printed in an edition of his works in 1634, with notes and additions by Albert Girard. The peculiar inventions contained in this ingenious and original work are as follow. The author invented a new character, *viz.* a small circle $\circ$ for the unknown quantity; and he also improved the notation of powers by numeral indices, first applied to integral exponents by Stifelius, which Stevinus inclosed within a circle, thus, $\circ$, $\textcircled{1}$, $\textcircled{2}$, $\textcircled{3}$, &c. or the 0, 1st, 2d, 3d, &c. powers of the quantity $\circ$; and he further extended them to fractional and all other sorts of exponents; so that $\textcircled{\frac{1}{2}}$, $\textcircled{\frac{1}{3}}$, $\textcircled{\frac{1}{4}}$, &c. are the square, cube, 4th roots, &c. and $\textcircled{\frac{2}{3}}$ is the cube root of the square, and $\textcircled{\frac{3}{2}}$ is the square root of the cube, &c. Stevinus also extended the use and notation of co-efficients, making them to comprehend fractions, radicals, and all sorts of numbers. He distinguished a quantity of several terms by the general appellation of a multinomial; and denoted all nomials whatever by particular names, expressing the number of their terms as binomial, trinomial, quadrimomial, &c. He also proposed one general method for a numeral resolution of all equations whatever.

About the same time with Stevinus appeared Francis Vieta, who contributed more to the improvement of algebraic equations than any former author. His algebraical works were written about the year 1600; some of them were not published till after his death in 1603; and all his mathematical works were collected by Francis Schooten, and printed in 1646 in folio. The two books, which contain his chief improvements in algebra, are intitled "*De Æquationum*

Recognitione, et Emendatione;" and were not published till the year 1615, by Alexander Anderfon, an ingenious Scotifman, with various corrections and additions. Vieta's improvements comprehend the following particulars. He first introduced the general ufe of the letters of the alphabet to denote indefinite given quantities. Accordingly he expreffes unknown quantities by the vowels A, E, I, O, U, Y, and the known ones by the confonants B, C, D, &c. He alfo invented many terms and forms of expreffion which are in prefent ufe; as co-efficient, affirmative and negative, pure and affected or affected, unciæ, homogeneum adfectionis, homogeneum comparationis, and the line or vinculum over compound quantities, thus $\overline{A+B}$: And his method of arrangement is to place the homogeneum comparationis, or absolute known term on the right-hand fide alone, and all the terms that contain the unknown quantity, with their proper figns, on the other fide. He fomewhat improved the rules and modes of reduction for cubic and other equations; he fhewed how to change the root of an equation in a given proportion; he deduced the cubic and biquadratic, &c. equations from quadratics, not in Harriot's way by compofition, but by fquaring and otherwife multiplying certain parts of the quadratic; and as fome quadratic equations have two roots, the cubic and other equations raifed from them will alfo have two roots and no more. In this way Vieta perceived the relation which the two roots bear to the co-efficients of the two loweft terms of cubic and other equations, when they have only three terms, namely, by comparing them with fimilar equations thus raifed from quadratics; and, *vice verfa*, what the roots are in terms of fuch co-efficients. He alfo made fome obfervations on the limits of the two roots of certain equations; he ftated the general relation between the roots of certain equations and the co-efficients of the terms, when the terms are alternately plus and minus, and none of them are wanting, or the roots all pofitive. He extracted the roots of affected equations by a method of approximation fimilar to that for pure powers; and moreover, he gave the conftruction of certain equations, and exhibited their roots by means of angular fections.

In the Hiftory of Algebra, Albert Girard, an ingenious Dutch or Flemifh mathematician, already mentioned, as the editor of Stevinus's arithmetic, who died about the year 1633, deferves particular notice, on account of his work, entitled, "Invention Nouvelle en l'Algebre, tant pour la Solution des Equations, que pour reconnoître le nombre des Solutions qu'elles reçoivent, avec plufieurs chofes qui font néceffaires à la perfection de cette divine Science;" printed at Amftterdam in 1629, 4to. From an analysis of this work, it appears that Girard was the firft perfon who underftood the general doctrine of the formation of the co-efficients of the powers from the fums of the roots, and their products, &c. He was alfo the firft who underftood the ufe of negative roots in the folution of geometrical problems; who fpoke of the imaginary roots, and underftood that every equation might have as many roots real and imaginary, and no more, as there are units in the index of the higheft power, and who applied the denomination of *quantities left then wanting* to the negative: and he was the firft perfon who difcovered the rules for fummung the powers of the roots of any equation.

The next perfon who claims particular notice in the hiftory of this fcience is Thomas Harriot, who died at the age of 60 years in 1621, and whofe Algebra was published by his friend Walter Warner, in 1631. The book is a folio volume, and entitled, "Artis Analyticæ Praxis, ad Equations Algebraicas nova, expedita, et generali methodo, refolvendas;" a work, fays Dr. Hutton, in all parts of it,

fhewing marks of great genius and originality, and the firft inftance of the modern form of algebra in which it has ever fince appeared. On the foundation laid by Harriot, fays Dr. Wallis (Algebra, p. 120,) Decartes, without naming him, hath built the greateft part, if not the whole, of his algebra or geometry; without which, as he adds, "that whole fuperftructure of Decartes (I doubt) had never been." A fummery of Harriot's improvements is as follows: He introduced the uniform ufe of the fmall letters *a, b, c, d, &c.* expreffing the unknown quantities by the vowels *a, e, &c.* and the known ones by the confonants *b, c, d, f, &c.* joining them together in the form of a word to represent the product of any number of thefe literal quantities; and prefixing the numeral co-efficient, feparated from the quantity connected with it by a point, thus *5. bce*. For a root, he placed the index of the root after the radical mark $\sqrt{\quad}$, as $\sqrt[3]{3}$, for the cube root. He alfo introduced the characters $\rhd$ and $\lhd$ for greater and lefs; and in the reduction of equations, he arranged the operations in feparate fteps or lines, fetting the explanations in the margin on the left hand, for each line. In thefe refpects he introduced and eftablifhed the form of algebra as it now exifts. He alfo fhewed the univerfal generation of all the compound or affected equations, by the continual multiplication of fo many fimple ones, or binomial roots; thus plainly exhibiting to the eye all the circumftances of the nature, myftery and number of the roots of equations, with the compofition and relations of the co-efficients of the terms; from which many of the moft important properties have been fince deduced. He alfo improved the numeral exegelsis, or extraction of the roots of all equations, by clear and explicit rules and methods, drawn from the foregoing generation or compofition of affected equations of all degrees.

Oughtred, contemporary with Harriot, was born about the year 1573, and died in 1660. His "Clavis" was published in 1631. In this work he chiefly follows Vieta, in the notation by the capitals A, B, C, D, &c. and in the designation of products, powers and roots, with fome few variations. To him we owe the feparation of decimals from the integers after this manner, $21\text{—}56$, and having the decimals annexed without a denominator. In algebraical multiplication Oughtred either joins the letters in a word, or connects them by the fign $\times$, introducing for the firft time this character of multiplication; thus, $A \times A$, or AA , or Aq ; but he omits the vinculum of Vieta. He alfo introduces many ufeful contractions in the multiplication and divifion of decimals; fuch as that of inverting the multiplier for reducing the number of decimals, and abridging the work, that of omitting one figure at a time, of the divifor, and that of dividing by the factors of a number inftead of the number itfelf, and many others. He ftates proportion thus, $7.9 :: 28.36$; and denotes continued proportion by $\frac{a}{b} = \frac{c}{d}$. With refpect to the genera and analysis of powers he follows Vieta; and he furnifhes a table of the powers of the binomial $A + E$ as far as the 10th power, with all their terms and co-efficients, or unciæ, an expreffion which he adopts from Vieta. He gives particular directions for the reduction of equations, correffponding to their various forms: he ufes the letter *a* after $\sqrt{\quad}$, for univerfal, inftead of the vinculum of Vieta: and he obferves, that the figns of all the terms of the powers of $A + E$ are pofitive, and thofe of $A - E$ alternately pofitive and negative. He fubjoins many properties of triangles and other geometrical figures, and the firft inftance of applying algebra to geometry, fo as to inveftigate new geometrical properties; and after the algebraical refolution of each problem, he commonly deduces and gives a geometrical conftruction adapted to it. He gives alfo a good

tract on angular sections; and concludes the work with the rational resolution of affected equations, in the manner of Vieta, but more explicit.

In 1637 Des Cartes first published his geometry, which may be considered as an application of algebra to geometry, and not as a separate treatise on either of these sciences. As Dr. Wallis has manifested too great a degree of partiality to our countryman Harriot, and ascribed to him discoveries which had been made by Vieta and others; and as Bombelli and M. de Gua, in the Memoirs of the Academy of Sciences for 1741, cited in the last edition of the Encyclopedie, have deviated far into the other extreme, in unduly extolling the discoveries of Vieta, and those of Des Cartes, to the prejudice of Harriot, we shall avail ourselves of the analysis of Dr. Hutton in giving a particular account of the improvements and inventions of Des Cartes, that our readers may be able to form their own judgment in this controversy. Montucla indeed seems to have given an impartial account of the discoveries both of Harriot and Des Cartes, intermixed with reflections, which some may think less candid than they ought to have been, on our illustrious countryman Dr. Wallis. Hist. des Mathem. tom. ii. p. 106—186. This excellent historian of the mathematical sciences acknowledges, that Des Cartes might possibly have been indebted to Harriot, though he thinks it very probable that the principal discoveries of his geometry were anterior to the date of the work of the English analyst. It ought however to be recollected, that the work of Harriot was posthumous, that he lived to the age of 60, and that his discoveries, at a period when the spirit of enquiry was excited, might have been communicated to men of science, between whom an intercourse subsisted, long before he died. Montucla, by way of balancing the account between Des Cartes and Harriot, or rather between Wallis and the partial advocates of Des Cartes, intimates, that if Des Cartes was indebted to Harriot, the latter was under no less important obligations to Vieta, whose works were published before the year 1600. To strengthen the presumption that this might have been the case, he alleges, on the authority of Sherburn, the translator of Manilius, that Vieta had for some time employed an English secretary, or amanuensis, whose name was Nathaniel Torporley: and as this Torporley was frequently in familiar intercourse with Harriot at the table of the Duke of Northumberland, he suggests the probability of his having communicated the ideas and manuscripts of Vieta, of which he was the depositary to Harriot.

The geometry of Des Cartes (Apud Opera. tom. iii. Francof. ad Moenum, 1695, 4to.) consists of three books. The first is entitled, “De Problematibus, quæ contrui possunt, adhibendo tantum rectas lineas et circulos.” In this book the author shews how to accommodate arithmetical computation to geometrical operations. For this purpose he assumes a line to represent unity, and then, by means of proportionals, teaches the method of multiplying, dividing, and extracting of roots by lines. He proceeds to explain his mode of notation, which is not different from that of other authors. Assuming a and b for two quantities, their sum is expressed by $a + b$, their difference by $a - b$, their product by ab , their quotient by $\frac{a}{b}$, the square of a by aa or a^2 , its cube by a^3 , &c. the square root of $a^2 + b^2$ by $\sqrt{a^2 + b^2}$, and the cube root by $\sqrt[3]{c^3 - a^3 - b^3 + abb}$, &c. He then shews, as Stifelius had done, that there must be as many equations as there are unknown lines or quantities, and that all of them must be reduced to one final equation, by extermin-

nating all the unknown letters except one; so that the final equation will appear in the following forms, the character $\propto$ being substituted for $=$ or equality, and the highest term or power being on one side of the equation, and the other terms with their proper signs on the other side:

$$\begin{aligned} x &\propto b, \text{ or,} \\ x^2 &\propto -ax + b^2, \text{ or,} \\ x^3 &\propto +ax^2 + bx - c^3, \text{ or,} \\ x^4 &\propto +ax^3 + b^2x^2 - cx + d^4, \text{ &c.} \end{aligned}$$

Having defined plane problems, or such as can be resolved by right lines and circles, described on a plane superficies, and having in the final equation only the 2d power of the unknown quantity, he constructs such equations or quadratics by means of the circle, and thus geometrically investigates the positive root or roots. But if the lines, by which the roots are determined, neither cut nor touch, he observes that the equation in this case has no possible root, or that the problem is impossible. This book closes with the algebraical solution of the celebrated problem, considered by the ancients, which is that of finding a point, or the locus of all the points, from which if a line be drawn to meet any number of given lines in given angles, the product of the segments of some of them shall have a given ratio to that of the rest.

The second book is entitled, “De Natura Linearum Curvarum.” This is the first treatise of the kind on curve lines produced by the moderns. The nature of the curve is here expressed by an equation, containing two unknown or variable lines, and others that are known or constant, as $y^2 \propto cy - \frac{cxy}{b} + ay - ac$. See CURVE. We have in this

book a discovery of importance, as it is the first step towards the arithmetic of infinites; and that is the method of tangents, or of drawing a line perpendicular to a curve at any point, which is an ingenious application of the general form of an equation, generated in the method of Harriot, that has two equal roots, to the equation of the curve. See TANGENT.

The third book, entitled, “De Constructione Problematum Solidorum, et Solida excedentium,” commences with remarks on the nature and roots of equations; and the author observes, that they have as many roots as dimensions; and he shews, after Harriot, that they may be obtained by multiplying a certain number of simple binomial equations together, as $x - 2 \propto 0$, $x - 3 \propto 0$, and $x - 4 \propto 0$, which produce $x^3 - 9xx + 26x - 24 \propto 0$, in which equation x has three dimensions, and also three values, viz. 2, 3, and 4. He here remarks, that some equations have their roots false, or, as he expresses it, less than nothing, called by us negative, and these he contradistinguishes to those that are true or positive, which Cardan had before done. E. G. Let $x + 5 \propto 0$ be multiplied by $x^3 - 9xx + 26x - 24 \propto 0$, and we shall have $x^4 - 4x^3 - 19xx + 106x - 120 \propto 0$, in which equation three roots, viz. 2, 3, and 4 are true, and one, viz. 5, false. From the generation or composition of equations by multiplication Des Cartes naturally deduces their resolution, depression, or decomposition, by dividing them by the binomial factors which composed them; and hence he observes, that this divisor is one of the binomial roots, and that there can be no more roots than dimensions, or than such as form with the unknown quantity x binomials that will exactly divide the equation, as Harriot had before shewn. Our author adverts to other properties, most of which had been noticed before; e.g. that equations may have as many true roots as the terms have changes of the signs $+$ and $-$, and as many false

false ones as successions of the same signs; which had before been partly shewn by Cardan and Vieta from the relation of the co-efficients and their signs, and more fully by Harriot. Hence Des Cartes was led to adopt Cardan's method of changing the true roots to false, and the false to true, by merely changing the signs of the even terms. He then directs his attention to other reductions or transmutations taught by Cardan, Vieta, and Harriot; such as increasing or diminishing the roots by any quantity, taking away the second term, and altering the roots in any proportion, and thus extricating the equation from fractions and radicals. Having observed (p. 76.) that the roots of equations, both true and false, may be either real or imaginary, which imaginary roots were first noticed by Albert Girard, as in the equation $x^3 - 6xx + 13x - 10 = 0$, that has only one real root, viz. 2; he proceeds to the depression of a cubic equation to a quadratic or plane problem, &c. that it may be constructed by the circle, by dividing it by one of the binomial factors, which, in Harriot's method, compose the equation. As Peletarius had shewn that the simple root is one of the divisors of the known term of the equation, and Harriot had observed that this term is the continual product of all the roots; Des Cartes tries all the simple divisors of that term, till he finds one of them, which connected with the unknown quantity x by $+$ or $-$, will exactly divide the equation: and the same process serves for higher powers than the cube. But when a divisor cannot be found in this way, in order to depress a biquadratic equation into a cubic one, he gives a new rule for dissolving it into two quadratics, by means of a cubic equation, in the following manner (p. 79, &c.): Let the given biquadratic equation be $+x^4 + pxx \cdot qx \cdot r = 0$;

And suppose it composed of these two others, viz.

$$\begin{cases} +xx - yx + \frac{1}{2}yy \cdot \frac{1}{2}p \cdot \frac{q}{2y} = 0, \\ +xx + yx + \frac{1}{2}yy \cdot \frac{1}{2}p \cdot \frac{q}{2y} = 0: \end{cases}$$

in which two quadratic equations the sign of $\frac{1}{2}p$ must be the same with the sign of p in the given equation; and in the first of them, having $-yx$, the sign of $\frac{q}{2y}$ must be the same with that of q or $+$; and in the second quadratic, having $+yx$, its sign must be $-$; and *vice versa*. Then find the root

$\frac{yy}{qq}$ of the following cubic equation, viz. $y^6 \cdot 2py^4 + 4py^3 - 4r yy - qq = 0$, in which the sign of $2p$ is the same with that of p in the given biquadratic, but the sign of $4r$ contrary to that of r in the same equation; and the value of y , deduced hence, and substituted for it in the two quadratic equations, and their two pairs of roots being taken, these will be the four roots of the proposed biquadratic. *E. G.* Let the biquadratic be $x^4 - 4xx - 8x + 35 = 0$, for which must be substituted $y^6 - 8y^4 - 12xy - 64 = 0$; because the quantity called p being in this case -4 , $-8y^4$ must be substituted for $2py^4$, and r being $+35$, $\frac{+16}{-140} yy$, or $-124yy$,

must be substituted for $\frac{+4p}{-4r} yy$; and q being 8, $-qq$ will

be -64 . And so of others. In the same manner, says Des Cartes, may equations of the 6th power be reduced to those of the 5th, and those of the 8th power to those of the 7th, &c. The investigation of this rule is not given by Des Cartes; but it has been evidently done by assuming indeterminate quantities after the manner of Ferrari and Cardan, as co-efficients of the terms of the two quadratic equations, and after multiplying the two together, determining their values by comparing the resulting terms with those of the proposed

biquadratic equation. Des Cartes, after these reductions, in order to simplify and depress the equations as much as possible, proceeds to give the construction of solid and other higher problems, or of cubic and higher equations by means of parabolas and circles; observing, that the false roots are denoted by the ordinates to the parabola lying on the contrary side of the axis to the true roots: and he closes the book with illustrating these constructions by various problems concerning the trisection of an angle, and the investigation of two or four mean proportionals.

Of the improvements contained in this work, it is observed by Dr. Hutton, that Des Cartes, with a view to the more easy application of equations to the construction of problems, mentions many particulars concerning the nature and reduction of equations, and states them in his own language and manner, which is usually more clear and explicit than that of others, and frequently accompanied with his own improvements. Here he chiefly followed Cardan, Vieta, and Harriot, and especially the last; explaining some of their rules and discoveries more distinctly, and with some little variation in the notation, in which he puts the first letters of the alphabet for known, and the latter letters for unknown quantities, a^3 for aaa , &c. and ∞ for $=$. But Herigone had two years before used the same numeral exponents. Des Cartes explained or improved most parts of the reduction of equations, in their various transmutations, the number and nature of their roots, true and false, real and imaginary, as he calls them, or as they are denominated by Girard, involved; and also the depression of equations to lower degrees. His inventions and discoveries comprehend the application of algebra to the geometry of curve lines, the construction of equations of the higher orders, and a rule for resolving biquadratic equations by means of a cubic and two quadratics.

Fermat, who published Diophantus's arithmetic with valuable notes, was a contemporary of Des Cartes, and also a competitor for some of his most valuable discoveries. This ingenious mathematician, before the publication of Des Cartes's geometry, had applied algebra to curve lines, expressed them by an algebraic equation, and by them constructed equations of the 3d and 4th orders; and he had also discovered a method of tangents, and a method de maximis et minimis, approaching very nearly to the method of fluxions or increments, in the manner of treating the problems as well as in the algebraic notation and process. Fermat was also distinguished by his knowledge of the Diophantine problems.

At the period to which we have now referred, algebra had acquired a regular and permanent form; and from this time the writers on the whole, or detached parts of this science, became so numerous, that the limits of this article will scarcely admit our reciting their names and publications, and much less doing justice to the improvements which this branch of mathematical science derived from their performances. In the course of our biographical articles, and on other occasions, we shall endeavour to supply the defects of the present cursory notice.

The geometry of Des Cartes engaged the attention of several mathematicians in Holland, where it was published; and also in France and England. Francis Schooten, professor of mathematics at Leyden, was one of the first cultivators of the new geometry; and in 1649 he published a translation of Des Cartes's geometry, from the French into Latin, with his own commentary and notes by M. de Beune. In 1659, appeared an enlarged edition in two volumes, with several additional pieces by De Beune, Hudde, Van Heuraet, De Witt, with some tracts by Schooten the editor. Rabuel, a jesuit, published an elaborate commentary on the same

work; which was enriched with notes by James Bernouilli, and printed at Basel. Huygens also directed his attention to the calculus, and his inventions are cited by Simon Stevin, who was his pupil. Stavius, canon of Liege, published in 1659, "*Mathematicum, seu duae media proportionales per Circulum et Ellipsin, vel Hyperbolam, infinitis*" &c. an edition of which appeared in 1668, containing much valuable matter relating both to algebra and geometry.

But before the time of Des Cartes, as well as after the publication of his geometry, algebra engaged the attention of mathematicians. In 1619 several pieces of Van Ceulen, of Ceulen, were translated from Dutch into Latin, and published at Leyden, by W. Snell; one of which is a treatise on Surds. In 1621, Bachet published an edition of Diophantus with notes, and Bernart's edition, with additions, appeared in 1670. The same author published in 1624, a treatise of mathematical recreations under the title of "*Problèmes plumeux et delectables*." Herigone, in 1634, published at Paris the first course of mathematics, in 5 vols. 8vo; containing a treatise on algebra, and bearing, says Hutton, evident marks of originality and ingenuity, in which he uses the notation by small letters, introduced three years before by Harriot; he also expresses plus by +, and by $\propto$, and | for equality, with other abbreviations. In his notation of powers and roots, he annexes to the letter the numeral exponents. Cavalierius, in 1635, published his "*Indivisibles*," and introduced a new æra in analytical science and new modes of computation. He was followed in 1640 by Roberval, whose improvements in analytics were published in the early volumes of the memoirs of the Academy of Sciences, by De Billy, who published in 1643, "*Nova Geometrie clavis Algebra*," and in 1670, "*Diophantus redivivus*;" and by Renaldine, who, in 1665, published in 4to, "*Opus Mathematicum*," both ancient and modern, with mathematical resolution and composition, enlarged and republished in folio, in 1662, 1667, and 1682, under the title of "*Ars analytica Mathematicum, in tres partes distributa, &c.*" This author uses the parentheses $(a + b)$ as a vinculum. In 1655, Dr. Wallis published his "*Arithmetica Infinitorum*," which greatly improved the Indivisibles of Cavalierius, and led the way to infinite series, the binomial theorem, and the method of fluxions. The "*Algebra Rhonii, (or Rahnii) Germanicæ*," was published in 1659, and translated into English in 1668, by Mr. Thomas Brancker, with alterations and additions, by Dr. John Pell, who used a peculiar method of registering the steps of an algebraic process by means of marks and abbreviations in the margin, explaining each line or step, as Harriot had before done in words at length. Hemeling was also the author of a German work, resolving 600 questions, published in 1684. Mr. Kinckhuysen, in 1661, published a treatise of algebra in Dutch, which Sir Isaac Newton, when professor of mathematics at Cambridge, used and improved, and which he designed to republish, with his method of fluxions and infinite series, but was prevented by the accidental burning of some of his papers. In 1667 Jacob Ferguson published his "*Labyrinthus Algebrae*," in 4to, Dutch; and in 1679, De Graaf gave a course of mathematics, in the same language and size. In 1665 or 1666, Sir Isaac Newton made several of his most valuable discoveries, though they were not published till a later period; such as the binomial theorem, the method of fluxions and infinite series, the quadrature, rectification, &c. of curves, the investigation of the roots of all sorts of equations, both numeral and literal, in infinite converging series, the reversion of series, &c.

M. Frenicle, in 1666, communicated several tracts concerning combinations, magic squares, triangular numbers, &c. which were printed in the early volumes of the Memoirs of the Academy of Sciences. In 1668, Mercator published his "*Logarithmotechnia*," in which he gives the quadrature of the hyperbola, by means of an infinite series of algebraic terms, found by dividing a simple algebraic quantity by a compound one; which operation was now first made public, though Newton had before expanded all sorts of compound algebraic quantities into infinite series. The demonstration of Mercator's quadrature of the hyperbola by the same series, was published in this year, by James Gregory, in his "*Exercitationes Geometricæ*;" and in the same year Lord Brouncker published in the Philosophical Transactions, his quadrature of the hyperbola by another infinite series of simple rational terms, of which he had been in possession since the year 1657, when Dr. Wallis announced it to the public. His series for the quadrature of the circle had been published by Wallis in his "*Arithmetica Infinitorum*." In 1669, Dr. Barrow published his "*Optical and Geometrical Lectures*," abounding with profound researches on the dimensions and properties of curve lines, and containing his method of tangents, by a mode of calculation similar to that of fluxions or increments, and little differing from it, except in the notation. In the 13th lecture, (p. 277. Stow's Edit.) the subject of which is equations, he adopts a new method of explaining their nature, different from that of Vieta, who illustrates it by the analogy of the terms, or that of Harriot and Des Cartes, by multiplying them into one another. His method of explaining them depends upon the description of lines adapted to each; and thus he investigates the nature and number of their roots, and the limits of their magnitudes, considering the subject as a branch of the maxima and minima.

The "*Elements of Algebra*" were published by John Kersey in 1675, in 2 vol. folio, containing the illustration of the science and of the nature of equations, the explication of Diophantus's problems, and many additions concerning mathematical composition and resolution, from Ghetaldus. This work, says Hutton, is very ample and complete. The first part appeared in 1673, and the second in 1674. In 1675 Prettet published his "*Nouveaux Elemens des Mathematiques*," to which the author, with a presumption hardly excusable, has prefixed a dedication of the work to God Almighty. In 1677 Leibnitz discovered his "*Methodus Differentialis*," or made a variation in Newton's fluxions or extended Barrow's method, of which he gave the first instance in the Leipzig acts for 1684. See FLUXIONS. In the same acts for 1682, he communicated an improvement of infinite series, and a simple series for the quadrature of the circle. An amplification of Wallis's arithmetic of infinities was published in folio, in 1682, by Ismael Bulliald, entitled, "*Opus novum ad Arithmetice Infinitorum*." Tschirnhausen, in 1683, communicated a memoir in the Leipzig acts, proposing the extraction of the roots of all equations in a general way; but his method did not succeed. Baker's "*Clavis Geometrica Catholica, Geometrical Key, or Gate of Equations unlocked*," was published in Latin and English in 1684. This was an improvement of Des Cartes's construction of all equations under the 5th degree, by means of a circle and parabola for all equations, any diameter being used instead of the axis of the parabola. Dr. Wallis's "*Treatise of Algebra, both Historical and Practical, shewing the original, progress, and advancement of it from time to time*," was published in 1685, in folio. In 1687, Dr. Halley communicated in

the Philosophical Transactions the construction of cubic and biquadratic equations, by a parabola and circle, with improvements of the methods of Des Cartes, Baker, &c.; and also a memoir on the number of the roots of equations, with their limits and signs. M. Rolle, in 1690, published in 4to, "Traité d'Algebre;" in 1699, "Une methode pour resoudre les questions indeterminées;" and in 1704, "Memoirs sur l'inverse des Tangents," and some other pieces. Joseph Raphson, in 1690 published his "Analysis Equationum Universalis," which is a general method of approximating to the roots of equations in numbers. His "History of Fluxions" was published in English and Latin in 1715. Dechaes published his "Cursus seu Mundus Mathematicus," in 4 vols. folio, in 1690. About the year 1691, &c. De Lagny published many pieces on the resolution of equations in numbers; and in 1693 appeared a little volume, entitled, "Synopsis Algebraica, opus posthumum Johannis Alexandri." An ingenious tract on the numeral extraction of all roots, without any previous reduction, was communicated in the Philosophical Transaction, by Dr. Halley in 1694. This tract is annexed to some editions of Newton's Universal Arithmetic. Craig published, in 1694, in 4to, his treatise, "De fig. curvil. quadraturis et locis geometricis," in which he proposed new formulæ for the construction of equations; and this method was improved by Herman in 1737, in Mem. of Petersburg. Mr. John Ward of Chester, published in 1695, "A Compendium of Algebra;" and in 1706, the first edition of "The Young Mathematician's Guide," which has been much used. In 1696 the "Analyse des Infiniment Petits," of the Marquis de l'Hopital, was published, and a posthumous treatise by the same author, entitled, "Traité Analytique des Sections Coniques, et le Construction des lieux Geometriques," was published in 1707. Mr. Ab. Demoivre, in 1697, and succeeding years, furnished the Philosophical Transactions with various papers, containing improvements in algebra: in 1697, a method of raising an infinite multinomial to any power, or extracting any root of the same; in 1698, the extraction of the root of an infinite equation; in 1707, an analytical solution of certain equations of the 3d, 5th, 7th, &c. degrees; in 1722, of algebraic fractions, and recurring series; in 1732, the reduction of radicals into more simple forms; and in 1730 he published "Miscellanea Analytica de Seriebus et Quadraturis," containing great improvements in series, &c. Mr. Richard Sault published, in 4to, "A new Treatise of Algebra, applied to numeral questions, and geometry; with a converging series for all manner of affected equations," which series is Raphson's method of approximation, which had been lately published. In 1698 Hugo d'Omer published his "Analysis Geometrica, &c." in which, by combining the algebraic analysis of the moderns with that of the ancients, he resolved in an elegant and simple manner many curious problems. In 1699 Hyac. Christopher published at Naples, in 4to, a tract, entitled, "De Constructione Equationum." Ozanam's algebra, containing the Diophantine analysis, was published in 1702, his mathematical dictionary in 1691, and his course of mathematics, in 5 vols. 8vo, in 1693. In 1705, Dr. Harris, the author of the "Lexicon Technicum," published a small piece on algebra and fluxions. M. Guisnee published, in 1705, his "Application de l'Algebre a la Geometrie," in 4to. In 1706, Mr. Jones published his "Synopsis Palmariorum Matheseos," which is an useful compendium of the mathematical sciences; and in 1711, he published in 4to, a collection of Sir Isaac Newton's papers, entitled, "Analysis per quantitatum series, fluxiones, ac differen-

tias; cum enumeratione linearum tertii ordinis." The first edition of Newton's "Arithmetica Universalis, five de Compositione et Resolutione Arithmetica liber," was published by Whiston in 1707; and many editions have been published since. It is of course included in Horsley's edition of Newton's works. This treatise was the text book of the author at Cambridge; and though not designed for publication, it contains many very considerable improvements in analytics; particularly in the nature and transmutation of equations; the limits of their roots; the number of impossible roots; the invention of divisors, both surd and rational; the resolution of problems, arithmetical and geometrical; the linear construction of equations; the approximation to the roots of all equations, &c. Commentaries have been published on this work for the assistance of beginners, by S^r Gravefande, Castillon, Wilder, &c. The "Analyse Demontrée" of Reyneau, was published in 4to. in 1708, and in 1714, "La Science du Calcul," and reprinted with additions in 1736, under the title of "Usage de l'Analyse," &c. In 1709 an English translation of Alexander's algebra was published, with an appendix, by Humphry Ditton. In 1715, Dr. Brooke Taylor published his valuable work, entitled, "Methodus Incrementorum;" and in the Philosophical Transactions for 1718 an improvement of the method of approximating to the roots of equations in numbers. M. Nicole, in 1717, communicated, in the Memoirs of the Academy of Sciences, a tract on the calculation of finite differences, and in following years various other tracts on the same subject, and also on the resolution of equations of the third degree, and on the irreducible case in cubic equations. Ronayne, in 1717, published a treatise on algebra; and in the same year Mr. James Stirling published a work of improvement on analytics, entitled, "Lineæ tertii Ordinis;" and in 1730, "Methodus Differentialis; five tractatus de summatione et interpolatione serierum infinitarum;" with great improvements on infinite series. Maclaurin, in 1726 and 1729, gave, in the Philosophical Transactions, tracts on the imaginary roots of equations, and afterwards his "Algebra," was published from his posthumous papers, with its application to curves. S^r Gravefande's algebra, with a commentary on Newton's Un. Arithm. appeared in 1727; and in 1728 Mr. Campbell communicated, in the Philosophical Transf. an ingenious paper on the number of impossible roots of equations, and the papers of Maclaurin and Campbell were annexed to Gravefande's edition of the "Arithm. Univ." at Leyden in 1732. Lecchi, a Jesuit, published the "Arithm. Univ." with an imperfect commentary, in 3 vols. 8vo. in 1752. Wolfius's algebra was published in 1732, in his "Elementa Matheos Universalæ." in 5 vols. 4to. Mr. John Kirkby's arithmetic and algebra were published in 1735, and in 1748 his doctrine of ultimators. Several improvements in series, and other parts of algebra, are contained in Mr. Thomas Simpson's "Essays," published in 1740, in his "Dissertations," 1743, and in his tracts, 1757; and also in his "Algebra," first printed in 1745, and in his "Select Exercises," in 1752. In 1740, Saunderson's "Elements of Algebra," were published in 2 vols. 4to. M. de la Caille, published in 1741, "Leçons de Mathematiques; ou Elemens d'Algebre et Geometrie;" and in the same year M. de Gua, in the Memoirs of the Academy of Sciences, communicated two articles on the number of positive, negative, and imaginary roots of equations, with an historical account of the improvements in algebra, in which he severely censures Wallis for his partiality, whilst he himself is, at least, equally faulty. M. Clairaut published his "Elemens d'Algebre," in 1746, in which he has many improvements,

improvements, particularly with reference to the irreducible cubic equations. A fifth edition of this valuable treatise, with notes and additions, was published at Paris in 1797, in 2 vols. 8vo. He has also several papers on analytics, in the *Memoirs of the Academy of Sciences*. In 1747, M. Fontaine gave, in the same memoirs, a paper on the resolution of equations, and other papers in subsequent memoirs. In 1748, Maderonelle M. G. Agnesi, published at Milan in Italian, "Analytical Institutions, in 2 vols. 4to. M. Castillon, in 1761, published in 2 vols. 4to, Newton's Universal Arithmetic, with an ample commentary. In 1763, Mr. Emerson published his "Increments," and in 1764 his "Algebra." Mr. Landen published his "Residual Analysis," in 1764, his "Mathematical Lucubrations," in 1765, and his "Mathematical Memoirs," in 1780. M. Euler published his "Elements of Algebra," in the German language in 1770, and in 1774, a French translation was published, by J. Bernouilli, with the analysis of indeterminate problems, by M. de la Grange. An English translation was published in 1797, in 2 vols. The memoirs of Berlin and Petersburg abound with various improvements on series and other branches of analysis by this celebrated mathematician. Dr. Waring, late of Cambridge, has communicated several valuable papers to the Philosophical Transactions, and many of his improvements, are contained in his separate publications, particularly the "Meditationes Algebraicae," published in 1770; the "Proprietates Algebraicarum Curvarum," in 1772; and the "Meditationes Analyticae," in 1776. The first of these publications deserves particular notice. The first chapter treats of the transformation of algebraical equations into others, of which the roots have given algebraical relation to the roots of the given equations. The limits and number of impossible and affirmative and negative roots of algebraical equations are the subjects of the second chapter. The third chapter comprehends the investigation of the roots of equations or irrational quantities, which have given relations to one another, the resolution of equations, &c. &c. The fourth chapter is principally conversant concerning more algebraical equations and their reduction to one; and the fifth chapter treats of rational and integral values of the unknown quantities of given equations. Francis Maferes, Esq. claims honourable mention, not only as an original writer, who has contributed to the explanation and improvement of some of the most abstruse and yet most interesting branches of algebra and analysis, but on account of the labour and expence which he has bestowed on the publication of the "Scriptores Logarithmici," in three vols. 4to., 1791, 1796, containing many curious and useful tracts, which are thus preserved from being lost, and many valuable papers of his own on the binomial theorem, series, &c. After this detail, for which we are in a considerable degree indebted to the research of Montucla and Dr. Hutton, many authors who have, in separate treatises or in occasional essays, contributed to the improvement of algebra in general, or some particular branches of it, or who have published treatises on the science, still remain unnoticed; and we must content ourselves with merely mentioning Franciscus Caligarius, Rudolphus, Adam Gigas or Rifeu, Bruno, R. Wentworth, Ant. Maria Floridus, Lazarus Schonerus, Bernard Salignac, Leonard, Digges, and Robert Norman, in the 16th century, Christopher Clavius, in 1608, Georgius Heneschiuss, in 1609, Sebastian Kurtz, Coignet, Lalouberre, Degraave, Mefcher, the Bernouillis, Malbranche, Wells, Dodson, Manfredi, Regnault, Rowning, Hammond, Lorgna, Hellins, de la Grange, de la Place, Bertrand, Kuhnus, Hales, Maskelyne, Vince, Wood, Manning, Freund, Bonnycastle, &c. &c. &c.

Algebra is a peculiar kind of ARITHMETIC, which takes the quantity sought, whether it be a number, or a line, or any other quantity as if it were granted; and by means of one or more quantities given, proceeds by a train of deduction, till the quantity at first only supposed to be known, or at least some power of it, is found to be equal to some quantity or quantities which are known, and consequently itself is known.

Algebra is of two kinds, *numeral* and *literal*.

Algebra, numeral, or vulgar, is that which is chiefly concerned in the resolution of arithmetical questions. In this, the quantity sought is represented by some letter or character; but all the given quantities are expressed by numbers. Such is the algebra of the more ancient authors, as Diophantus, Pacioli, Stifelius, &c. This is thought by some to have been an introduction to the art of keeping merchants' accounts by double entry.

Algebra speciosa, or literal, or the new algebra, is that in which all the quantities, known and unknown, are expressed or represented by their species, or letters of the alphabet. There are instances of this method from Cardan and others about his time; but it was more generally introduced and used by Vieta. Dr. Wallis (*Algebra*, p. 66.) apprehends, that the name of specious arithmetic applied to algebra is given to it with a reference to the sense in which the Civilians use the word species. Thus, they use the names Titius, Sempronius, Caius, and the like, to represent indefinitely any person in such circumstances; and cases so propounded, they call species. Vieta, accustomed to the language of the civil law, gave, as Wallis supposes, the name of species to the letters A, B, C, &c. which he used to represent indefinitely any number or quantity, so circumstanced as the occasion required.

This mode of expression frees the memory and imagination from that stress or effort, which is required to keep several matters, necessary for the discovery of the truth investigated, present to the mind; for which reason this art may be properly denominated metaphysical geometry. Specious algebra is not like the numeral, confined to certain kinds of problems; but serves universally for the investigation or invention of theorems, as well as the solution and demonstration of all kinds of problems, both arithmetical and geometrical. The letters used in algebra do each of them separately represent either lines or numbers, as the problem is either arithmetical or geometrical; and together, they represent planes, solids, and powers more or less high, as the letters are in a greater or less number. For instance, if there be two letters, *ab*, they represent a rectangle, whose two sides are expressed, one by the letter *a*, and the other by *b*; so that by their mutual multiplication they produce the plane *ab*. Where the same letter is repeated twice, as *aa*, they denote a square. Three letters *abc*, represent a solid or a rectangular parallelepiped, whose three dimensions are expressed by the three letters *abc*; the length by *a*, the breadth by *b*, and the depth by *c*; so that by their mutual multiplication, they produce the solid *abc*.

As the multiplication of dimensions is expressed by the multiplication of letters, and as the number of these may be so great as to become inconvenient, the method is only to write down the root, and on the right hand to write the index of the power, that is, the number of letters of which the quantity to be expressed consists; as a^2 , a^3 , a^4 , &c. the last of which signifies as much as *a* multiplied four times into itself; and so of the rest. But as it is necessary, before any progress can be made in the science of algebra, to understand the method of notation, we shall here give a general view of it.

In algebra, as we have already stated, every quantity, whether it be known or given, or unknown or required, is usually represented by some letter of the alphabet; and the given quantities are commonly denoted by the initial letters, a, b, c, d , &c. and the unknown ones by the final letters, u, w, x, y . These quantities are connected together by certain signs or symbols, which serve to shew their mutual relation, and at the same time to simplify the science and to reduce its operations into a less compass. Accordingly the sign $+$ plus or more, signifies that the quantity, to which it is prefixed, is to be added, and it is called a positive or affirmative quantity. Thus, $a + b$ expresses the sum of the two quantities a and b , so that if a were 5, and b , 3, $a + b$ would be 5 + 3, or 8. If a quantity have no sign, $+$ plus is understood, and the quantity is affirmative or positive. The sign $-$, minus or less, denotes that the quantity which it precedes is to be subtracted, and it is called a negative quantity. Thus $a - b$ expresses the difference of a and b : so that a being 5, and b , 3, $a - b$ or 5 - 3 would be equal to 2. If more quantities than two were connected by these signs, the sum of those with the sign $+$ must be subtracted from the sum of those with the sign $-$. Thus, $a - b + c - d$ represents the quantity which would remain, when c and d are taken from a and b . So that if a were 7, b , 6, c , 5, and d , 3, $a - b + c - d$ or 7 + 6 - 5 - 3, or 13 - 8, would be equal to 5. If two quantities are connected by the sign $\propto$, as $a \propto b$, this mode of expression represents the difference of a and b , when it is not known which of them is the greatest.

The sign $\times$ signifies that the quantities between which it stands are to be multiplied together, or it represents their product. Thus, $a \times b$ expresses the product of a and b ; $a \times b \times c$ denotes the product of a, b , and c ; $\overline{a + b} \times c$ denotes the product of the compound quantity $a + b$ by the simple quantity c ; and $\overline{a + b + c} \times \overline{a - b + c} \times \overline{a + b}$ represents the product of the three compound quantities, multiplied continually into one another; so that if a were 5, b , 4, and c , 3, then would $\overline{a + b + c} \times \overline{a - b + c} \times \overline{a + b}$ be $12 \times 4 \times 8$, or 384. The line connecting the simple quantities and forming a compound one, placed over them, is called a vinculum. Quantities that are joined together without any intermediate sign form a product; thus abc is the same with $a \times b$, and abc the same with $a \times b \times c$. When a quantity is multiplied into itself, or raised to any power, the usual mode of expression is to draw a line over the quantity and to place the number denoting the power at the end of it, which number is called the index or exponent. Thus, $\overline{a + b}^2$ denotes the same as $\overline{a + b} \times \overline{a + b}$ or second power, or square, of $a + b$ considered as one quantity; and $\overline{a + b}^3$ denotes the same as $\overline{a + b} \times \overline{a + b} \times \overline{a + b}$, or the third power, or cube, of $a + b$. In expressing the powers of quantities represented by single letters, the line over the top is usually omitted; thus, a^2 is the same as $a \times a$ or $a \times a$, and b^3 the same as $b \times b \times b$ or $b \times b \times b$, and $a^2 b^3$, the same as $a \times a \times b \times b \times b$. The full point, and the word into, are sometimes used instead of $\times$, as the sign of multiplication. Thus, $\overline{a + b} . \overline{a + c}$, and $\overline{a + b}$ into $\overline{a + c}$, signify the same thing as $\overline{a + b} \times \overline{a + c}$, or the product of $\overline{a + b}$ by $\overline{a + c}$.

The sign $\div$ is the sign of division, as it denotes that the quantity preceding it is to be divided by the succeeding quantity. Thus, $c \div b$ signifies that c is to be divided by b ; and $\overline{a + b} \div \overline{a + c}$, that $\overline{a + b}$ is to be divided by $\overline{a + c}$. The mark $)$ is sometimes used as a note of divi-

sion; thus, $a + b \overline{) ab}$ denotes that ab is to be divided by $a + b$. But the division of algebraic quantities is most commonly expressed by placing the divisor under the dividend with a line between them, like a vulgar fraction. Thus, $\frac{c}{b}$ represents the quantity arising by dividing c by b , or the

quotient, and $\frac{a + b}{a + c}$ represents the quotient of $a + b$ divided by $a + c$. Quantities thus expressed are called algebraic fractions. See FRACTION.

The sign $\sqrt{\quad}$ expresses the square root of any quantity to which it is prefixed; thus $\sqrt{25}$ signifies the square root of 25 or 5, because 5×5 is 25; and $\sqrt{ab}$ denotes the square root of ab ; and $\sqrt{\frac{a + b + c}{d}}$ denotes the square root of

$\frac{a + b + c}{d}$, or of the quantity arising from the division of $a + b + c$ by d ; but $\sqrt{\frac{a + b}{d} + \frac{c}{d}}$, which has the separating

line drawn under $\sqrt{\quad}$, signifies that the square root of $a + b + c$ is to be first taken, and afterwards divided by d ; so that if a were 2, b , 6, c , 4, and d , 9, $\sqrt{\frac{a + b + c}{d}}$ would be $\frac{\sqrt{36}}{9}$ or $\frac{6}{9}$; but $\sqrt{\frac{a + b}{d} + \frac{c}{d}}$ would be $\sqrt{\frac{36}{9}}$ or $\sqrt{4}$, which is 2.

The sign $\sqrt[\quad]{\quad}$ with a figure over it is used to express the cubic or biquadratic root, &c. of any quantity; thus $\sqrt[3]{64}$ represents the cube root of 64 or 4, because $4 \times 4 \times 4$ is 64; and $\sqrt[3]{ba + cd}$ the cube root of $ba + cd$. In like manner $\sqrt[4]{16}$ denotes the biquadratic root of 16, or 2, because $2 \times 2 \times 2 \times 2$ is 16, and $\sqrt[4]{ab + cd}$ denotes the biquadratic root of $ab + cd$; and so of others. Quantities thus expressed are called radical quantities, or SURDS; of which those, consisting of one term only, as $\sqrt{a}$ and $\sqrt[3]{a}$, are called simple surds; and those consisting of several terms, or numbers, as $\sqrt{a^2 - b^2}$ and $\sqrt[3]{a^2 - b^2 + c}$, are denominated compound surds. Another commodious method of expressing radical quantities is that which denotes the root by a vulgar fraction, placed at the end of a line drawn over the quantity given. In this notation, the square root is expressed by $\frac{1}{2}$, the cube root by $\frac{1}{3}$, the biquadratic root

by $\frac{1}{4}$, &c. Thus $\overline{a}^{\frac{1}{2}}$ expresses the same quantity with $\sqrt{a}$ i. e. the square root of a , and $\overline{a + b}^{\frac{1}{2}}$ the same as $\sqrt{a + b}$, i. e. the cube root of $a^2 + ab$; and $\overline{a}^{\frac{2}{3}}$ denotes the cube root of the square of a or the square of the cube root of a ; and $\overline{a + z}^{\frac{2}{7}}$ the seventh power of the biquadratic root of $a + z$; and so of others; $\overline{a}^{\frac{1}{2}}$ is a , $\overline{a}^{\frac{1}{3}}$ is a , &c. When the root of a quantity represented by a simple letter is to be expressed, the line over it may be omitted; so that $a^{\frac{1}{2}}$ signifies the same as $\overline{a}^{\frac{1}{2}}$, and $b^{\frac{1}{3}}$ the same

as $\overline{b}^{\frac{1}{3}}$ or $\sqrt[3]{b}$. Quantities that have no radical sign ($\sqrt{\quad}$) or index annexed to them, are called rational quantities.

The sign $=$, called the sign of equality, signifies that the

the powers between which it occurs are equal. Thus $2 + 3 = 5$, the sum of 2 and 3 is equal to 5; and $x = a - b$ shows that x is equal to the difference of a and b .

The ratio $a : b$ signifies that the quantities between which it occurs are proportional. Again $b : c : d$ denotes that a is to b as b is to c , or that if a be twice, three or four times, &c. as great as b , c will be twice, three or four times, &c. as great as d .

When a quantity is to be taken more than once, the number which shows how many times it is to be taken must be prefixed; thus $5a$ denotes that the quantity a is to be taken 5 times, and $3bc$ represents three times bc , and $7\sqrt{a+b}$ denotes that $\sqrt{a+b}$ is to be taken 7 times, &c. The numbers thus prefixed are called co-efficients; and if a quantity have no co-efficient, unit is understood, and it is to be taken only once.

Simple quantities are those that are expressed by the same letters under the same powers, or which differ only in their co-efficients; thus, $3bc$, $5bc$, and $8bc$, are like quantities, and so are the radicals $2\sqrt{b+c}$ and $7\sqrt{b+c}$.

But unlike quantities are those which are expressed by different letters, or by the same letters with different powers, as $2ab$, $5ab^2$, and $3a^2b$.

When a quantity is expressed by a single letter, or by several single letters multiplied together, without any intervening sign, as a , or $2ab$, it is called a *simple* quantity. But the quantity which consists of two or more such simple quantities, connected by the signs $+$ or $-$, is called a *compound* quantity; thus, $a - 2ab + 5abc$ is a *compound* quantity; and the simple quantities a , $2ab$, $5abc$, are called its *terms* or *members*. If a compound quantity consist of two terms, it is called a *binomial*; of 3 terms a *trinomial*, of 4 terms, a *quadrinomial*, &c. of many terms, a *multinomial*. If one of the terms of a binomial be negative, the quantity is called a *residual* quantity. The *reciprocal* of any quantity is that quantity inverted, or unity divided by it; thus $\frac{a}{b}$ is the reciprocal of $\frac{b}{a}$, and $\frac{1}{a}$ is the reciprocal of a .

The letters by which any simple quantity is expressed may be ranged at pleasure, and yet retain the same signification; thus ab and ba are the same quantity, the product of a and b being the same with that of b by a . The several terms of which any compound quantity consists may be disposed in any order at pleasure, provided they retain their proper signs. Thus, $a - 2ab + 5a^2b$ may be written $a + 5a^2b - 2ab$, or $-2ab + a + 5a^2b$, for all these represent the same thing; or the quantity which remains, when from the sum of a and $5a^2b$ the quantity $2ab$ is deducted.

For the method of performing the several operations in algebra, see ADDITION, SUBTRACTION, MULTIPLICATION, DIVISION, FRACTION, INVOLUTION, EVOLUTION, EQUATION, SERIES and SURD. See also APPLICATION of Algebra to Geometry, BINOMIAL THEOREM, CONSTRUCTION of Equations, and REDUCTION of Equations.

Algebra has been also applied to the consideration and calculus of infinites; and from this application of it a new and extensive branch of science has arisen, called the doctrine of FLUXIONS, or ANALYSIS of Infinites, or the CALCULUS DIFFERENTIALIS. For an account of the rise and progress of Algebra, as well as other branches of mathematics, see the last and most improved edition of Montucla's Hist. des Mathem. 2 vols. 4to., Paris, 1794.

ALGEBRAICAL, something that relates to algebra.

Thus we say, algebraical characters, or symbols, curves, solutions, &c. An algebraical curve, is a curve, wherein the relation of the abscissas to the semiordinates may be de-

fined by an algebraical equation. These are also called geometrical lines, or curves, in contradistinction to mechanical or transcendental ones. See CURVE.

ALGEBRAIST, a person skilled in algebra.

ALGEDO, *i. Scurgy*, from *algos*, a suppressed gonorrhoea, attended with pain in the genital and urinary organs. This name seldom occurs, except in old authors. See GONORRHOEA.

ALGEDYM ZANO, in Geography, is the name of a considerable chain of mountains in Independent Tartary, which stretches from the river Yaik or Urál, towards the Altaian range.

ALGEMISI, or ALGEMEZEN, a small town of Valencia, in Spain, not far from the river Xucar, near which grow quantities of Pita, as it is called, or American aloes, AGAVE, of which the people make cordage, and the Catalans spin it of a sufficient fineness for making lace; it is six leagues south of Valencia, and five north-west of Gandia.

ALGENEB, or ALGENIE, in Astronomy, a fixed star of the second magnitude, on the right side of PERSEUS.

ALGEO, or CARBON, in Geography, a river of European Turkey, which runs into the sea, eight miles west-south-west of Olympia, a town in the Morea.

ALGERANCA island, one of the Canaries, in the North Atlantic Ocean. N. lat. $29^{\circ} 23'$. W. long. $15^{\circ} 58'$.

ALGERI, or ALOHER, a small peopled city of Sardinia, situated near a bay on the Western coast. It is a bishop's see, and has a coral-fishery. It is 79 miles north-west of Cagliari. The bay of Algeri is spacious and affords good anchorage; it is formed by the south point of Cape della Caccia on the north, and by a point of land on the south. N. lat. $40^{\circ} 31'$. E. long. $8^{\circ} 30'$.

ALGEZIRA, or ALGERIZA, a sea-port town of Spain, in the province of Andalusia, on the Straits of Gibraltar, and 5 miles west from it. The Moors entered Spain by this town in 713, and were dispossessed of it in 1344. It is said to have been the first town in which cannon were used. The word Algezira in Arabic signifies an island, and as the harbour is formed by two islands, it has been called in the plural number Algeziras. It was also called Old Gibraltar. The harbour is now decayed, and the town lies in ruins. N. lat. $36^{\circ} 5'$. W. long. $5^{\circ} 20'$.

ALGEZIRA, or ALZORA, is also a town of Spain, in the province of Valencia, situate on a small island on the river Xucar, 20 miles south of Valencia. Though the town is small, its silken trade has been extensive.

ALGEZUR, a small town of Portugal, in the province of Algarve, at the mouth of a small river near the Atlantic Ocean, 17 miles north-west of Lagos. It contains about 800 inhabitants.

ALGHEMI, a country of Africa, on the Slave coast.

ALGHISI, THOMAS, in Biography. The father of this writer, who was a surgeon of eminence, at Florence, took care to imbue his mind early with the principles of his art. His instructor in anatomy was the celebrated Laurentius Bellinus. At a proper age he was made surgeon to the hospital at Florence, where applying himself particularly to the operation of lithotomy, which he performed with singular facility and success, he acquired considerable reputation. In 1703, he was made doctor in medicine at Padua. In 1707, he published a treatise on lithotomy, in 4to., written in Italian, which contains, Haller says, Bib. Chir. vol. i. p. 580., several original observations, the fruits of his own experience. Ekstat etiam, he adds, hujus Authoris, De Mumia Ægyptia involuta perpulchra epistola ad Valerianum. He died September 1713, being only 44 years of age, in consequence of the amputation of his left hand, which had been wounded by the bursting of a fustil.

ALGIABARII

ALGIABARII, a Mahometan sect of predestinarians, who attribute all the actions of men, good or evil, to the agency or influence of God.

The Algiabarii stand opposed to the ALKADARII.

ALGIBARROTA, or **ALJUBARROTA**, in *Geography*, a small town of Portugal, in Estremadura, containing two parishes and 1600 inhabitants. King John I. obtained in this place a victory over the Castilians in 1385.

ALGIDUM, in *Ancient Geography*, a town of Latium or Italy, between Preneste to the north-east, and Alba to the south-west, near the mountains. It belonged to the Æqui, according to Dionysius Hal. (lib. xi. tom. i. p. 672. ed. Oxon.), and Livy, (lib. iii. c. 38. tom. i. p. 693. ed. Burman.) and had a temple of Diana on the top of a high mountain, called by the same name. This temple was in Greek denominated Artemisia, and hence the mountain was called by the same name. It has been supposed that Algidum or Algidus was derived from *gelidus*, cold or freezing, on account of the quality of its air. Horace refers to this mountain, (lib. i. od. 21.) "Quæcunque aut gelido prominet Algidio,"—and (lib. iii. od. 23.) "— Quæ nivali pascitur Algidio," &c.

ALGIERS, in *Geography*, a kingdom of Africa, comprehends part of the ancient MAURITANIA, particularly that which was called Mauritania Cæsariensis, and the ancient Numidia, and forms one of the most considerable districts of that part of Africa which lies on the northern coast, and which in later ages has been denominated BARBARY. The country derives its name from its metropolis, called by the Turks Algezair, Al Jezair, or Al Jezirah, in Arabic, signifying the *island*, because there was an island before the city, to which it hath been since joined by a mole. The extent of this kingdom has been variously assigned by different writers. Sanfon, who marks its boundaries by the rivers Mullooiah or Malva, and the Zaine, gives it a length from east to west of 900 miles, De La Croix, 720, Luyts, reckoning 48½ miles for one degree of longitude, 630; but if with Dr. Shaw, we make the boundary of Algiers to the west the Trara mountains, which separate it from the dominions of the emperor of Morocco, or Twunt, which lies 40 miles to the eastward of the Mullooiah, and that to the east the river Zaine, formerly called Tufca, it will be found to extend 460 miles, or from 0° 16' W. long. to 9° 16' E. longitude. The breadth of Algiers is very unequal in different parts; for near Tlemsan it is not more than 40 miles, from the Sahara to the sea-coast; near the sources of the rivers Sigg and Sheliff, it is about 60 miles, and this, in the western part, may be taken at a medium for the extent of what the Arabs call Tell, or land proper for tillage. But to the east of Algiers, its breadth is much more considerable; particularly in the meridians of Boujeiah or Bugia, and Bona, where it extends above 100 miles, especially under that of Jigeri or Gigeri, in lat. 36° 55' to Luolajah, situate among the mountains of Atlas, in lat. 44° 50'. The Algerine dominions beyond the Tell, or more advanced parts of Atlas, are very precarious and not easily defined, so that the northern skirts of the Sahara, or Desert, seem to be the proper boundaries on that side. Accordingly, Algiers may be considered, in general, as bounded on the north by the Mediterranean, on the east by the river Zaine, which divides it from Tunis, on the west by the Mullooiah, or by Twunt, and the mountains of Trara, which separate it from Morocco, and on the south by the Sahara, or Numidian desert. If we take the medium difference of latitude to be 2° 30', and the difference of longitude to be 9° 30', the superficial extent of the whole kingdom would amount to about 4218,

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or according to a more accurate astronomical calculation of M. Von Zach, 4262 geographical square miles.

This kingdom has been divided by geographers into many provinces, according to the several royalties into which it was cantoned, at different periods, before and after the time of the Turkish conquests. At present it contains, according to Shaw, three principal divisions, *vis.* the province of TLEMSAN to the west, called by others Tremecen, and MASCARA; that of TITERI or Tittic to the south; and that of CONSTANTINA to the east: to which some have added, as a distinct province, the territory of the city of Algiers. The western province comprehends the towns of ORAN, MUSTYGANNIM, TLEMSAN or Tremecen, MASCARA, SHERSHELL, TENNI, besides several other more inconsiderable places. In this province, coasting from the TRARA mountains, we meet with Twunt, Cape Hone, Tackumbrect, at the mouth of the river Tafna, the island of ACRA or Harthigoone, &c. The principal rivers are the Malva, Salt-river, Tafna, Sigg, Hebrah, Malharca, and Sheliff. The mountains are Atlas and Trara. See MASCARA. The southern province has no towns along the coast; but in the interior of the country the two chief towns are BELIDA and MEDEA; the mountains are branches of the Atlas, the Boojerah, the Anwall mountains on the river Yisser, and those of Jurjura and Felizia; and the rivers are the Haratch, Hamace, Regya, Budwowe, Corfoe, Merdafs, and the Yisser, of which the last is the most considerable. See TITERI.

The eastern province, called the Levantine government, is the largest and richest. See CONSTANTINA.

The territory of Algiers is principally distinguished by its capital, the metropolis of the kingdom. Within about half a mile to the north-east of the city commences the plain of Mettijah, called by Abulfeda Bledaeh Kiberah, *i. e.* a *vast country*, which stretches 50 English miles in length and 20 in breadth, as far as the branch of mount Atlas, at the foot of which lies the town of Belida. This plain is better cultivated than the other districts of the kingdom. It is watered by several springs and rivulets; particularly by the Massafan, which at its entrance into the sea is a very considerable river, and little inferior to the Sheliff, the Shiffa, and the Haratch. The country seats and Malharca, as they call the farms of the principal inhabitants of Algiers, are found in these plains; and it is chiefly from them that the metropolis is supplied with provisions. Flax, alienna, roots, potherbs, rice, fruit, and grain of all kinds, are produced here to such perfection, that the Mettijah may be justly reckoned the garden of the whole kingdom. For the nature of the soil, productions, inhabitants, population, government, commerce, &c. of the kingdom in general, we refer to the sequel of this article.

After the expulsion of the Greeks from Africa by the Saracens, towards the close of the seventh century, (see AFRICA), the country was divided into a number of small kingdoms and states, under chiefs of their own nation and choice. This government continued till the year 1051, when they were expelled by Abubeker ben Omar, or as the Spaniards call him, Abul Texfen, an Arab of the Zinhagian tribe, with the assistance of some powerful Marabouts; the conqueror assumed the title of Amir al Mimnin, or chief of the faithful, and his subjects were denominated Morabites, and corruptly Almoravides. Texfen, having succeeded in driving the Arab tyrants out of Numidia and Libya, and all the western parts, reduced under his dominion the whole province of Tingitania. He was succeeded by his son Joseph, who laid the foundation of the city of Morocco, which he intended for the capital of his empire; but whilst he was

travelling this city, he deputed an embassy to the Zenetti who resided at Tenez, and on a pretence of reclaiming them to the true faith; but the Zenetti assembled in hostile array at Amdou Arfa, then capital, and invaded the dominions of Joseph with an army of 50,000 men. The Zenetti, rebuffed by the ill-fated arms of Fez, which success they expected, were overpowered by Joseph, so that about a million of persons are reckoned to have lost their lives in this contest, and their country was depopulated; but afterwards repopulated by a colony from Fez, who settled there under the protection of their reigning kings. Joseph directed his next attack against the inhabitants of Fez, whom he subdued and made tributaries, and extended his conquests along the Mediterranean. He also pursued some Arabian chieftains, who had not submitted to him, into their retreats, in the deserts of Libya, and totally subdued them. The empire of the Morabites, which was thus established, and which promised permanence, was nevertheless of no long duration. This race was again expelled in the 12th century by Mohavadin, or Al Mohedi, a Marabout, who dethroned Ibrahim Ali, the last emperor of the Zinhagian dynasty. This usurper and his successor, denominated themselves Mohavadians, and they were afterwards called Mohavades, Mohedes, and ALMOHEDDES. However, they were exterminated by Abdalac, governor of Fez; and he was again stripped of his new conquests by the sheriffs of Hascen, the descendants of the Arabian princes of the 10th century. With a view of securing his new dominions, he divided Barbary into several small kingdoms or provinces, assigning to each a separate chief. On this occasion Algiers was divided between four of their native princes; one of whom had Tremecen, and the other three had Tenez, Algiers proper, and Bujeya, and thus these four cities became the capitals of four distinct kingdoms. For some centuries these monarchs continued in mutual peace and amity; but disputes arose among them; and Abul-fariz, prince of Tenez, declared war against the king of Tremecen. In a little while he became master of both Tremecen and Bujeya. At his death he divided his kingdom between his three sons; one of whom had Tenez, another Jigeri, and the third, whose name was Abdalaniz, had Bujeyah. This last attacked the king of Tremecen, and having succeeded against him, the Algerines, who had been his tributaries, transferred their subjection and tribute to the conqueror, by which means he became so powerful, that if the Spaniards had not interfered, he would have made himself master of the whole of Barbary. Their interposition, however, checked his progress, and produced a signal change in the aspect of his affairs. In 1505 cardinal Ximenes, prime minister of Ferdinand V., king of Aragon, sent thither the count of Navarre with a powerful army and fleet, principally with a view of restraining the depredations of the Moors, who had been banished from Spain about 12 years before; and such was his success that he soon became master of Oran, Bujeyah, and other considerable places. The Algerines were alarmed; and sought the succour of Selim Eutemi, a warlike Arabian prince, who possessed the fertile territory of Mettijiah. He marched to their assistance; but his co-operation was ineffectual; and the Spaniards, having landed a considerable number of forces near Algiers, reduced this capital to subjection, and compelled it to become tributary to Spain. They also erected a strong fort on the small island opposite to the city, and thus prevented the Algerine Corsairs from sailing into or out of that harbour. On the death of Ferdinand in 1516, the Algerines made an effort for recovering their liberty; and they invited Barbarossa, who was then on a

cruise with a squadron of galleys, to assist them in throwing off the Spanish yoke, promising him a gratuity corresponding to a service so important. The bold and adventurous Corsair gladly accepted the invitation; and leaving his brother Hayradin with the fleet, and having dispatched 18 galleys and 13 barks to the assistance of the Algerines, he hastened his march to them by land. At the head of 800 Turks, 3,000 Sigelites, and 2000 Moorish volunteers, he directed his course, not to Algiers, which needed his immediate protection and assistance, but to Sherfieh, where Hassan, another Corsair, had settled. Having obliged him to surrender under a perfidious promise of friendship, he caused his head to be cut off, seized on his ships, and compelled the Turks who had been his adherents, to follow him in his new expedition. Thus reinforced he approached Algiers; and was conducted into the city by prince Eutemi and the people with acclamation and triumph. Lodged in one of the noblest apartments of the prince's palace, and treated with every possible token of respect by the deluded inhabitants, Barbarossa conceived the design of assuming the sovereignty; but dreading opposition on the part of the people, who were irritated by the unrestrained licentiousness and insolence of his troops, he determined to facilitate his advancement to the throne by the murder of the prince, and then to be proclaimed king of Algiers by his own soldiers. The measure was no sooner projected than it was accomplished. As he was a guest in the palace of Eutemi, he easily found an opportunity of strangling him, and of thus removing the chief obstacle to his attainment of the sovereignty. The people suspected him, but they dared neither to punish him nor even to complain of his conduct. Many of them, apprehending measures of further violence and slaughter, abandoned the city and country; and those who remained endeavoured to secure themselves in their houses, so that the pirate and his followers were left complete masters. At their request he ascended the throne, and was proclaimed with great pomp. The Turks and Moors, who attended the procession, exclaimed as he paraded the streets on horseback; "Long live Aruch Barbarossa, the invincible king of Algiers, the chosen of God to deliver the people from the oppression of the Christians, and pour destruction on all that shall oppose or refuse to obey him as their lawful sovereign." The Algerines soon experienced the evils they had apprehended. Barbarossa exercised his sovereignty in the most despotic and cruel manner; and his Turkish soldiers conducted themselves with a degree of insolence and licentiousness, which rendered it dangerous for women and children of either sex to appear in the streets. The people were speedily drained and impoverished by the taxes that were levied upon them, and yet none could venture to remonstrate or even to complain of the wretched condition to which they were reduced. The Algerine chiefs perceiving the exasperated temper of the people, and observing that Barbarossa had alienated the affections of the warlike Arabs by his rapacious exactions, and that he had disbanded the greatest part of his Moorish troops, availed themselves of these circumstances to make a bold attempt for regaining their liberty. A plot was formed; and a day was appointed for assassinating Barbarossa and his Turks. But the suspicious and watchful tyrant discovered the whole design, and caused the heads of 20 of the principal leaders of the conspiracy to be cut off at the door of the mosque into which they had entered at the hour of prayer, and their bodies to be thrown out on the dung-hills. He also confiscated their estates, and laid a heavy fine on others of their accomplices. This dreadful execution so terrified the Algerines, that they never engaged

ged in any similar attempt against him or his successors.

The young Arabian prince, the son of Eutemi, was at this time under the protection of the Marquis de Gomarez at Oran. Eager to revenge the wrongs which his family had suffered, he proposed to the Marquis a very practicable plan for putting the city of Algiers into the possession of the Spanish monarch, and this scheme was laid before Cardinal Ximenes. The Cardinal approved it, and sent a fleet, with 10,000 forces, to drive Barbarossa and the Turks out of Algiers, and to restore young Selim Eutemi. But the fleet was dispersed by a storm; many of the Spaniards were drowned; and those who escaped to shore, were either killed by the Turks or made slaves. The Algerines, in concurrence with the Arabians and Moors, made their next application to Hamidel Abdes, king of Tenez, and requested his aid against Barbarossa and his adherents. This prince consented, on condition that the kingdom of Algiers should be settled upon him and his descendants. When he entered the Algerine dominions at the head of 10,000 Moors, he was joined by the Arabians of the whole country. Barbarossa, however, with 1000 Turkish musqueteers and 500 Granada Moors, defeated this numerous army; pursued Hamidel to the gates of his capital, took the place, and obliged the inhabitants to acknowledge him for their sovereign. Barbarossa, having taken possession of Tenez, received an embassy from the inhabitants of Tremecen; who, dissatisfied with the reigning prince, because he had dethroned his nephew, requested his assistance to dispossess the usurper, and offered him the sovereignty. The invitation was readily accepted. Barbarossa obliged the king of Tremecen, after a severe engagement, to retire to his capital, where he was instantly beheaded by his subjects, and the conqueror received a fresh invitation to take possession of the kingdom. When Barbarossa, thus invested with new power, began to tyrannize over his subjects, the Tremecenians were exasperated; and repenting of their having invited such a tyrant to their assistance, they deliberated on the best means for expelling him, and restoring their lawful prince. Their design, however, was discovered, and many of the conspirators were cruelly massacred. The prince had fortunately made his escape to Oran, and put himself under the protection of the Marquis of Gomarez, who sent immediate advice of his situation to Charles V., lately arrived in Spain with a powerful fleet and army. This politic monarch foreseeing the advantage that was likely to redound to him from placing the prince of Tremecen on the throne, ordered for him a succour of 10,000 men, under the command of Gomarez or Comares, the governor of Oran. This army, in its march, was joined by prince Selim, and a great number of Arabs and Moors from the adjacent countries. Their first enterprize was the attack of Calau, an important fortress situated between Tremecen and Algiers. This place, after a vigorous defence, was compelled to surrender, and after a severe plunder, delivered into the hands of the king of Tremecen. Barbarossa, fearing a revolt on the part of his own subjects, and disappointed in his expectations of assistance from the king of Fez, kept close in his capital. But upon the approach of the enemy he marched out of Tremecen, and determined to force his way through the hostile army which was preparing to lay siege to the city, to the field. He was advised, however, by his council to return and to fortify himself in the city; but the inhabitants refused him entrance, and he was therefore under a necessity of retiring into the citadel, and of there waiting for an opportunity to escape. Here he defended himself valiantly, and

made several successful sallies during a long siege; but apprehensive of famine from the failure of his provisions, he took the advantage of a subterraneous passage, through which he privately conveyed himself and his treasure. His flight was discovered and he was pursued; but ordering a considerable quantity of his money, jewels, and plate to be scattered in the way, he hoped by this stratagem to divert the attention of his pursuers. The artifice failed; for the Spanish general obliged the army to march on, till at length they overtook the fugitive on the banks of the river Haexda, about eight leagues from Tremecen. A bloody engagement ensued; but the Turks were overpowered by numbers; they were all massacred by the Spaniards, and Barbarossa, among the rest, in the 44th year of his age. This defeat occasioned great consternation at Algiers. The Turks to whom the defence of the city was committed were much alarmed; and they soon agreed, as the best measure for preventing a revolt, to cause Hayradin, the brother of Barbarossa, to be proclaimed king of Algiers, and high admiral of the sea. In order to secure himself from an insurrection, which his tyrannical and oppressive conduct had given him reason to apprehend, he dispatched an ambassador with magnificent presents to Selim I. then emperor of Constantinople, to notify the death of his brother, and to make him an offer of submitting the kingdom to his protection, and to pay him an annual tribute in return for his assistance. The Sultan was pleased with this proposal; received Hayradin, called also Barbarossa, under his protection, and appointed him his bashaw or viceroy over the kingdom of Algiers. Thus powerfully protected and aided with troops, he prepared for executing two grand projects which he had for some time in contemplation. The first was the destruction of the Spanish fort, which was a great nuisance to his metropolis; and the other was to render Algiers a commodious harbour by building a mole from thence to the island, in order to shelter them from the weather and the north sea, as well as from the guns of the Spanish fort, to avoid which the ships were obliged to lie about a mile west of the town, where the anchorage was unsafe. Having succeeded in taking the Spanish fort, he employed no less than 30,000 Christian slaves in the accomplishment of his second project, so that his strong mole for the accommodation and security of his ships was completed in less than three years. The execution of these two important projects added so much strength and wealth not only to the city but to the kingdom, that Hayradin became an object of terror, not only to the Moors and Arabians, but to the maritime Christian powers, and more particularly to the Spaniards. The Sultan, either grateful for the services performed by Hayradin, or jealous of his power, advanced him to the dignity of captain bashaw of the empire, and appointed Hassan, or Hassan Aga, a Sardinian renegado, to succeed him as bashaw of Algiers. The depredations of Hassan on the coasts of Italy and of Spain roused the resentment of pope Paul III. and of the emperor Charles V. The pope published a bull, with a plenary absolution of all sins, and the promise of the crown of martyrdom, to all who should fall in battle against the infidels of Barbary; and the emperor equipped a powerful fleet, which he determined to command in person, in order to subdue them. Accordingly Charles, with a fleet of 120 ships and 20 gallies, and 30,000 chosen troops, accompanied by a great number of noblemen and gentlemen, who served at their own expence as volunteers, from motives of religion and glory, set sail towards the end of Summer in 1541, and after a tedious and perilous voyage from Majorca to Africa, appeared on the coast of Algiers. The fleet anchored at

cape Metafuz; about two small leagues to the east of Algiers, and the army landed without opposition. Hassan's force, which garrisoned the city, amounted only to about 8000 Turks and five or 6000 Moors, without fire arms, poorly disciplined and unaccounted. As Charles's army drew near the city, the inhabitants were much alarmed; but when Hassan was informed to surrender, he returned, as some say, an ambassador, and according to others, a fierce and haughty answer. On the second day, however, after the emperor's landing, the clouds began to gather, and the heavens presented a very threatening aspect. In the evening the rain fell, and the storm raged with violence through the whole night, so that the soldiers who had neither tents nor shelter, were much incommoded. The ground also became so wet, and the camp was so much overflowed with water, that they could neither lie down, nor stand without sinking to the ankles in the mud. Their matches also were extinguished, and their powder so moistened, that their muskets were useless. Hassan perceived their distress, and availing himself of it, sallied out with his soldiers to attack them. In this situation the whole army, with the emperor himself in person, was obliged to advance to support the dispirited and retreating troops, who were first engaged, before the enemy could be repulsed; and they at length, after spreading general consternation, and killing a great number of men, retired in good order. The hurricane, however, which still continued, produced a more dreadful disaster. The emperor's ships, on which depended the safety and subsistence of his whole army, were driven from their anchors; some of them dashed against each other, some were beat to pieces upon the rocks, many were forced ashore, and not a few were sunk in the waves. In less than an hour, 15 ships of war and 140 transports with 8000 men perished; and such of the unhappy crews as escaped the fury of the sea, were murdered without mercy by the Arabs, as soon as they reached the land. The emperor stood in silent anguish and astonishment, beholding this fatal event, which at once blasted all his hopes of success, and buried in the deep the vast stores which he had provided, both for annoying the enemy and for subsisting his own troops. At last the storm abated, and afforded some hopes that the ships, which had escaped, might save the army from perishing by famine, and transport them back to Europe. The approach of evening, however, disappointed these expectations; the sea was covered with darkness; and it was impossible for the officers aboard the ships that had outlived the storm to send any intelligence to their companions who were ashore; thus they remained during the night in all the anguish of suspense and uncertainty. Next day, a boat dispatched by Doria, the admiral, against whose advice this expedition had been undertaken, reached land, with information, that having weathered out the storm, to which, during 50 years' knowledge of the sea, he had never seen any equal in fierceness and horror, he had found it necessary to bear away with his shattered ships to cape Metafuz. He advised the emperor, as the face of the sky was still lowering and tempestuous, to march with all speed to that place, where the troops could reembark with greater ease. Metafuz was three days' march from the emperor's camp; his provisions were consumed; and his followers, exhausted with fatigue, and dispirited with a succession of hardships, were in no condition to encounter new toils. But no alternative remained; they were ordered instantly to march; some of them could scarcely sustain the weight of their arms; others, spent with the toil of forcing their way through deep and almost impassable roads, sunk down and died; many perished by famine, as the whole army subsisted chiefly on roots and

berries, or the flesh of horses, killed by the emperor's order and distributed among the several battalions; many were drowned in brooks, swollen by the excessive rain, which, in passing them, they were obliged to wade up to the chin; and not a few were killed by the enemy, who, during the greatest part of their retreat, alarmed, harassed and annoyed them night and day. At last they arrived at Metafuz; and here they were supplied with plenty of provision, and cheered with the prospect of safety. When the forces were embarked, a new storm arose, which by its fury scattered the fleet, and obliged them, separately, to make towards such ports in Spain or Italy as they could first reach. The emperor himself, after escaping great danger, and being forced into the port of Bugia, in Africa, where he was obliged by contrary winds to remain several weeks, arrived at last in Spain in a very distressed condition.

Hassan, the bashaw of Algiers, after this signal deliverance, undertook an expedition against Muley Hammed, king of Tremecen, who had submitted to Charles V., in order to be restored to his kingdom; but this prince purchased peace for a large sum of money, and became his tributary. Soon after this expedition Hassan died in the 66th year of his age, and was succeeded by Haji, who was compelled to surrender his dignity, much respected as he was by the Algerines, to Hassan, the son of Hayradin, the brother of Barbarossa, whom Sultan Solymán had been prevailed upon to appoint bashaw of Algiers. Hassan was engaged in various enterprises against Tremecen, which was at length taken and plundered by the Algerines; and the head of Abdallah, the youngest son of the Sheriff, who had been killed in a previous engagement, was put into an iron cage, and placed on the principal gate of the city, called Bab Azoun, where it continued till the year 1573. During an interval of peace, Hassan erected some public edifices at Algiers, and performed other useful acts both at Algiers and in his alcaide of Tenez, which rendered his government popular, and his death an occasion of regret. His successor was Salha Rais, the fifth bashaw of Algiers, and the first of Arabian extract, that ever governed the Algerines. Of this bashaw, who was much respected, and who died in the 70th year of his age, it is said, that he was steady in all his resolutions and successful in all his enterprises. From Metafuz, where he died, his body was removed to Algiers and buried among the bashaws, his predecessors, in a sepulchre near the sea-side, over which his unfortunate successor, Hassan Corfo, caused a handsome dome to be erected. Corfo, who was advanced to the dignity of bashaw by the interest of the Janizaries, was displaced in four months by Tekelli, a principal Turk of the grand Signior's court. He was at first opposed by the Algerines, but at last they were under a necessity of submitting to him. One of the first acts of his government was to condemn Corfo, who welcomed him on his arrival, and peaceably surrendered his dignity, to the chin-hun, or hook; a dreadful punishment, on which he hung by the ribs three whole days, and expired in the most exquisite torture. Alifardo, governor of Bugia, who was reckoned immensely rich, also fell a sacrifice to the inexorable Tekelli, who, after inflicting the cruel tortures of bastinadoing, burning and scarifying him, in order to obtain a discovery of his wealth, ordered him to be impaled alive. This act of cruelty and the ignominious punishment of Corfo, raised a general resentment among the Janizaries. Yusuf, governor of Tremecen, determined likewise to revenge his death; and at a time when the plague raged furiously at Algiers, and Tekelli had removed to an old demolished town near the sea, about five miles westward, he secretly and speedily

speedily marched to the place of his retirement, before Tekelli had any apprehension of his design. Tekelli fled, and was closely pursued by Yusef, who at length overtook him and pierced him several times with his javelin, till he expired. This action was highly applauded by all the Janizaries; and upon Yusef's entering into Algiers, he was received with universal acclamation, as their deliverer from the tyranny of Tekelli, who fell a just sacrifice to his avarice and cruelty, in the 50th year of his age and third month of his viceroyship. Yusef was unanimously chosen bashaw of Algiers, but soon died, to the great grief of the Algerines, by whom he was buried in the same grave with the unfortunate Hassan Corso. The new viceroy appointed by the Porte was Hassan, the son of Hayradin, who had been displaced by Selha Rais, at the instigation of Raitan, and who had now the good fortune to be restored to his Algerine government. His first enterprise was directed against Tremecen, in which he was defeated with great loss. The next year proved more glorious to the Algerines, who encountered the Spaniards in their expedition against Mostagan, under the command of the brave count d'Alcandela. The cause of this defeat was the count's excess of valour, or rather his precipitance, in engaging the enemy before he received the supply of troops that were destined to this service; and the consequence was the loss of his own life, the total rout of his army, and the captivity of above 12,000 Spaniards, among whom was the son of the count, and many other noblemen and gentlemen.

Hassan, after this victory, returned to Algiers, laden with laurels and spoils. His next expedition was directed against Abdalazis, prince of the Beni Abbas, who inhabited the mountains, and who had discontinued to pay the usual tribute to the Algerine state. Having for this purpose collected a large army, he commenced the war, which was soon terminated by the death of Abdalazis, in consequence of a musket-ball, which penetrated his breast. About this time the Marilian merchants began, with the permission of Hassan, to build a fort on these coasts, at a small distance from Calle, where the French have since settled; but the fort was in a few years demolished by the Algerine forces, under pretence that the French had bought all the corn, and caused a famine in their kingdom.

Hassan, having married the king of Cuco's daughter, permitted the subjects of this prince to purchase ammunition at Algiers; and this traffic gave such offence, that the Janizaries made an insurrection, seized on the bashaw and some other officers, and sent them in irons to Constantinople, accusing Hassan to the Porte of having a design to make himself king of Algiers. Upon their arrival, they vindicated their conduct to the satisfaction of the Porte, and were set at liberty; but a new viceroy was sent to Algiers. The name of this bashaw was Ahamed, or Achmet; he was a favourite of the Sultan, and insatiably avaricious; and had bought his dignity with a view to the emoluments that were likely to accrue from it. He enjoyed it, however, only four months; and Hassan was restored. Such was the joy of the Algerines on his return, that even the women appeared on the terraces and balconies to welcome him. Having collected a very numerous and powerful army and fleet, he set out on his expedition against Marfa al Quibbir; intending, after the reduction of this place, to attempt that of Auran or Oran. This city was commanded by the count d'Alcandela, who succeeded his father; and the former by his brother Don Martin de Cordova, who had obtained his liberty at an immense sum, and now made a most gallant defence against the Turks. Hassan, after having made several

vigorous attacks both by sea and land, and sustaining several repulses, very fatal to his troops, was obliged to retire precipitately from the siege by the approach of the Genoese admiral Doria, who was advancing with a powerful fleet from Genoa, Naples and Sicily. This Christian armada having missed its aim of intercepting the Algerine galley, bore away for Penon de Velez, hoping to drive them out of that harbour, but it was shamefully repulsed by a few Turks that were then in garison and compelled to fall away with no small loss and ignominy. The loss of this place in the course of the next year was much regretted by the Algerines and their bashaw, and also by Sultan Solyman. Hassan was displaced by Mahamed bashaw, the son of Selha Rais; and departed for Constantinople, where, three years after, viz. in 1570, he died in the 50th year of his age. Mahamed, upon his first arrival, performed several public-spirited acts, which attached to him the love of all the Algerines. Whilst he was consulting how to advance the Algerine power and wealth, a Spanish adventurer, named Gascon, was meditating a design against him. This was nothing less than to surprise the whole piratical navy in the bay, and to set all the ships on fire in the dead of the night. For this purpose he obtained the permission of king Philip II. and a supply of all necessary vessels and materials. Having advanced to the Mole-gate, and dispersed his men with their fire-works, the garison, during the delay of the execution of his plot, was alarmed, and Gascon was under a necessity of securing himself by flight; but being pursued and overtaken, he was brought back to Algiers; and the bashaw ordered a gibbet of considerable height to be erected on the spot where he landed, on which he was hoisted, and hung by the feet, that he might die in the most exquisite torture; and as an insult on his master, the king's commission was fastened to his toes. Soon after he was suspended, a strong representation was made in his favour, and in a little while the bashaw ordered him to be taken down. This lenity of the bashaw occasioned great murmurs among the people; and the unhappy Gascon was ordered to be hoisted up by a pulley to the top of the execution wall and let down again upon the chihun or hook; which occasioned his instant death; and his body was hung up in terrorem. This unsuccessful project of Gascon has procured for him a place among the Spanish martyrs. Mahamed, after enjoying his government for about 14 months, was removed in order to make way for the accession of the Corsair Hali Tartaz, or Scald-head, commonly known by the name of Ochali, who was appointed his successor by the Ottoman court. Ochali arrived at Algiers in 1586, when the war against the revolted Morecoes in Granada was at its height. Being solicited to assist them against the Spaniards, he consented that some few persons should go to this service as volunteers, but he declined taking any ostensible and active part in it. In the first year of his government, he laid the foundation of the fortress called Bebal-weyd Castle. Next year he totally reduced the kingdom of Tunis, which was then under the protection of Spain, to the obedience of the Ottoman empire. Having continued a whole year at Tunis, he left the place, and assigned the office of his viceroy to a Sardinian renegade, named Ramadan Sardo, who became afterwards bashaw of Algiers. This person raised himself from the condition of a slave to this dignity, by his superior understanding and good conduct. He became master of the Arabic and Turkish language; read and wrote well; and having followed traffic for some time, he was adopted, on account of his good qualities, by Hali bashaw, who appointed him his deputy governor in the city of Fez; and in consequence of the ap-
plication

plication of the Algerines in his favour to the Sultan, he was appointed bashaw of Algiers. In 1577, after governing Algiers little more than three years, he was forced to resign his office to Hassan Venetie bashaw, a Venetian renegade. During the whole government of Ramadan, it was conducted with so much justice and equity, that a single complaint was not uttered against it. The conduct of his successor was very different; his administration was so oppressive, that complaints being preferred against him to the Porte, he was recalled, after being in office three years and a quarter; and a new bashaw, Jaffer Aga, an Hungarian renegade, appointed in his room, A. D. 1580. At the commencement of his government, Algiers was reduced to the greatest misery by a famine, so that 8000 Arabians and Moors are said to have died in the streets for want in six weeks, chiefly through the avarice of Jaffer's predecessor, who quitted his administration with immense wealth amidst the execrations of the people. Jaffer was of a generous disposition, and did every thing in his power to relieve and mitigate the distresses of the country; he also exercised strict justice against those who abused the power with which they were entrusted. A plot, however, was formed against him; but the execution of it was prevented by some of the principal officers of the Janizaries to whom it was proposed: who declared, that they would prefer being cut in pieces to the ignominy of proving traitors to the Sultan, and his worthy Jaffer Aga. By the intercession of the Ottoman court Jaffer was displaced, and the infamous Hassan restored to the dignity of bashaw. He closed his life at Constantinople by poison, administered to him by the renegade Cigala, who succeeded him in the post of captain bashaw. The new bashaw of Algiers was Memmi Arnaud, an Albanian. This officer exhibited signal proofs of his great capacity and strict justice; and gave much satisfaction, not only to the Algerines, but to those Christian merchants who traded with them. During his administration, A. D. 1585, Morat Rais ventured to sail through the Straits of Gibraltar into the Atlantic, and thence to the Canaries, and he was the first of the Barbary Corsairs who engaged in an expedition of this kind. After a government of two years, Memmi was succeeded in 1586 by the rapacious Achmed, who purchased the vicereignty of Algiers for a large sum, and exercised his government by violent extortions. His successor Hidir gained the office by the same means, and conducted it in a manner so haughty and tyrannical, that the Algerines were made very happy by his recall in 1592; but such was his interest with the Porte, that after a short interval he was nominated bashaw a second time, to the great concern and mortification of the Algerines. Mustapha succeeded in displacing this arbitrary and rapacious tyrant, and secured the affectionate attachment of the people by his courtesyness and generosity; though nothing remarkable happened, during his administration, excepting that he repaired the mole, fortifications, and other public buildings.

At the beginning of the 17th century the Algerines complained to the Porte in very strong terms of remonstrance of the oppressive conduct of the Turkish viceroys, and in consequence of this remonstrance obtained leave to chuse their own Deys. They engaged, that the usual tribute should be faithfully transmitted to the Porte; to acknowledge the grand Signior for their sovereign; to be ready on all occasions to assist him with their forces and shipping; to pay a due respect to his bashaws, and to maintain them in a manner suitable to their dignity; provided that the government of Algiers should be wholly committed to the direction of the Dey and his douwan. The great douwan proceeded to the election of a Dey from their own body, and to enact a variety of laws and regulations

for the better maintenance of this new form of government. This century, however, opened with a fresh attempt of the Spaniards on the capital of this kingdom, under the conduct of the famous John Andrew Doria, but the event of it, in consequence of adverse winds, was unsuccessful. The Algerines, in order to counteract these renewed attempts, determined to direct their attention to the improvement of their navy; and in 1616 they had so far succeeded, that it consisted of 40 sail of ships, of between 200 and 400 tons, divided into two squadrons; one of 18 sail lay before the port of Malaga, and the other, without the Straits, at the cape of Santa Maria, between Lisbon and Seville, where they attacked all Christian ships, without distinction, that came in their way, and rendered themselves formidable to all the maritime states of Christendom. The French were the first who dared to resent this contemptuous breach of treaty; and M. Beaulieu was sent with a fleet of 50 sail of men of war and galleys against the Algerines; but upon his departure, they returned to their accustomed depredations on the Spanish coasts, which, being best known by the expelled Moriscos, were exposed to all the barbarity and resentment of these exasperated infidels. In 1620, in consequence of the earnest solicitations of the Spanish court, by means of Gondemar, an English Squadron was sent into the Mediterranean, under the conduct of Admiral Sir Robert Mansel. He directed his course to the bay of Algiers, and attempted to set fire to the shipping in the harbour, but returned without doing much damage. As soon as he retired, the Algerine Corsairs put to sea, and made prize of about 40 good ships belonging to the subjects of the English sovereign. With all the European powers, except the Dutch, the Algerines were at open defiance: but to them they sent a proposal, A. D. 1625, addressed to the prince of Orange, that if they would fit out 20 sail of ships to be employed in the next year against the Spaniards, they would join them with 60 sail; but the proposal was not accepted. In the next year the Collogies, or Couloilies, *i. e.* the children of such Turks as had been permitted to marry at Algiers, formed a conspiracy, and seized on the citadel of Algiers, and had very nearly made themselves masters of that state. The plot was discovered, and the insurgents were defeated with great slaughter. About two years after this conspiracy, the Algerine state underwent a memorable change, by which they became soon after able to shake off the Ottoman yoke, and to become an independent state under their own Deys.

The occasion of this revolution was a truce for 25 years, which Amurath IV. had concluded with the emperor Ferdinand II. This truce was universally disapproved by the Barbary Corsairs; and by none more than the Algerines, who were become haughty and opulent in consequence of their gainful depredations on the Christians for the last three years. They and their neighbours unanimously resolved, to set up for three independent states, and to consider themselves as wholly unconcerned in any treaties which were made by the Porte with any Christian power. Having adopted this resolution, the Algerines began to make prizes of several ships belonging to powers at peace with the Ottoman Porte, and even pursued some of them to the port of Rhodes and carried them off. They did the same at Salamis, in the isle of Cyprus, and at Alexandretta, they not only seized a Dutch ship and a polacre, but ventured on shore, plundered the magazines and warehouses, and then set them on fire. They also drove the French away from a new fort, called the bastion of France, which Louis XIII. depending on his league with the Turks, had erected on their coasts, instead of that which had been formerly constructed by the Marsilians. The Porte considered these depredations as open instances

instances of defiance to his authority; but as he was much occupied by the Persian war and other disturbances in the East, his grand vizir and courtiers were allowed to compound with these pirates, by sharing their spoils. Having, for form sake, reprimanded and threatened them, they returned an insolent reply, declaring that they were the only bulwark against the Spaniards, who were the sworn enemies of the Moslem name, and that if they paid a punctilious regard to every circumstance that could procure peace or liberty to trade with the Ottoman empire, they must set fire to all their shipping, and become mere camel-drivers in order to obtain a subsistence. Accordingly the Algerines pursued their piratical excursions at sea for many years with impunity. Amongst other enterprises in which they engaged, they surprised the battalion of France upon their own coast, containing about 600 inhabitants, whom, with all their effects and ships, they carried off to Algiers. In the course of the following year they fitted out a fleet, with which they ranged the seas and seized all the Christian shipping that fell in their way; and they even meditated an attack upon Loretto, which would have proved a great prize. But in this object they were prevented from succeeding by contrary winds; however they made a descent on Puglia, in the kingdom of Naples, where they made captives of both sexes, and steering towards Dalmatia, they scoured the Adriatic, and loading themselves with immense plunder, left those coasts in the utmost consternation. The Venetians, alarmed at their depredations, equipped a powerful fleet of 28 sail, under the command of Admiral Capello, who had orders to burn, sink, and take all the Barbary corsairs, wherever he found them. The Algerine admiral was overtaken by this fleet; and an obstinate conflict ensued, which terminated in the defeat of the Algerines; but Capello was recalled, and the republic were under a necessity of purchasing peace with the Porte, at the expense of 500,000 ducats. The news of this defeat and loss, which were owing to the avarice of the Algerine admiral, filled Algiers with inexpressible grief and confusion, and the whole city was preparing for a general insurrection; but it was prevented by a proclamation of the bashaw and douwan, who expressly prohibited all complaints under the severest penalties. Application was made to the Porte for an order, that the Venetians, settled in the Levant, should indemnify them for the loss they had sustained. Their request was rejected, and they were under a necessity of repairing their losses at their own charge. One of their corsairs soon landed with a fresh supply of 600 slaves of both sexes, which he had brought from the coast of Iceland. In two years after this disaster, the Algerines appeared at sea with a stronger and more numerous fleet than they had ever equipped before. This fleet, consisting of 65 sail, besides other galleys and inferior vessels, performed many exploits in different parts of the Mediterranean, which our limits will not allow us to recount. It is sufficient to observe, that the Algerines became quickly more powerful and more formidable than ever to the European powers, and plundered the subjects of England, France and Holland. As for Spain, Portugal and Italy, they determined never to make any peace with them, as they were sworn enemies to the Mahometan religion. In this height of power and grandeur, which the Algerine state had attained, the English, French and Dutch were glad to secure peace with it at any rate. About the latter end of the reign of Charles II. the British nation obtained from the Algerines that lasting alliance, which, with some renewals, additions, and alterations, hath subsisted to this day. The outrages committed by them on the coasts of Provence and Languedoc, induced Louis XIV. to equip a

considerable fleet, and the command of it was assigned to the marquis Du Queine, vice-admiral of France. Sailing to their capital, he bombarded and cannonaded it with such fury, that in a little time the whole town was in flames, and the terrified inhabitants were preparing to leave the place; but the wind suddenly changing, he was obliged to return for Toulon. When the storm subsided, the douwan assembled and ordered a fleet of galleys and galliots to sail immediately for the coasts of Provence, where they committed dreadful ravages. The French apprised of this outrage, fitted out a new armament at Toulon and Marseilles; and the Algerines repaired their walls and fortified the town, in order to be ready for their expected attack. In May 1683, the French Squadron cast anchor before Algiers, as it was determined to bombard the town, and the execution of their purpose was attended with dreadful havoc. Upon this the whole government of the town sued for peace; but some delay having taken place with regard to the surrender of captives, hostilities were renewed; and the greater part of the city was reduced to ashes, and the fire burnt with such vehemence, that the sea was enlightened by it to the distance of above two leagues. The Algerine commander, in the midst of this scene, caused all the French who were in the town to be cruelly butchered, and ordered their consul to be fastened alive to the mouth of a mortar, and shot against their navy instead of a bomb. The French admiral, exasperated by this unheard of instance of inhumanity, did not leave Algiers, till he had utterly destroyed all their shipping, fortifications, buildings, and, indeed, almost all the lower part, and above two-thirds of the upper part of the city. After his departure the Algerines seriously thought of procuring a peace with France; and for this purpose they deputed an ambassador to supplicate pardon for the murder of the consul, which they attributed to the populace, and to sue for peace. The speech of their envoy on this occasion was a matterly address. The result of their submission was a ratification of the peace at Paris in the course of the following year: upon which the Dey and douwan proceeded to repair the dreadful dilapidations which the metropolis had suffered. In 1686, the Algerines concluded a treaty of peace with England, which was renewed in the second year of James II. and in the second year of King William's reign, and again in the reign of George II. when all former treaties with the Algerine Republic were ratified. The only remedy to which recourse has been had for the occasional violations of this treaty has been that of making reprisals, instances of which have frequently occurred. But it was not till after the capture of Gibraltar and Port Mahon, by Sir George Rooke, that Great Britain could have a sufficient check upon them to oblige them to the observance of treaties; and since this period they have been accustomed to pay a greater deference to the English than to any other European power. In the year 1708 the Algerines retook from the Spaniards the city of Oran, and were at great pains to strengthen it with new fortifications; but notwithstanding these precautions, it was retaken in 1737. The year 1710 was signally propitious to Algiers, upon several accounts; as, first, the assassination of their worthless Dey Ibrahim, surnamed the Madman; 2dly, the election of the brave Hali to the throne; and, 3dly, the expulsion of the Turkish bashaw, the abolishment of that dignity by the courage and address of the new Dey, and the union of that office with that of the Dey. This introduced that form of government which still subsists in Algiers. *Mod. Un. Hist.* vol. xv. p. 1—93. *Robertson's Hist. of Ch.* V. p. 98—100. p. 239—248.

The Government of the Algerines consists of the Dey, who may be compared to the former Dutch Stadtholders, and of a council, or Common Council. The Dey is chosen out of the army; and order, even the most inferior, having an equal right to it, to that dignity with the highest. Every soldier, rising soldier, however obscure his origin, may be considered as the heir apparent to the throne; nor does he wait for his accession till sickness or old age shall have removed the present ruler, provided that he can protect himself by the same symptom which he plunges into the breast of his predecessor. Accordingly the succession at Algiers has been usually very rapid; and Dr. Shaw observes, that thirty-one persons have had the good fortune to die in his bed; and those who have enjoyed their power for a longer period, have secured it, not so much by the attachment and good will of the people, as by their own sagacity in perceiving the first tendency of an insurrection; and by their ability to check it by the death of the conspirators before they have had an opportunity for accomplishing their designs. This factious and discontented humour has, however, in some degree subsided, and the power of the Dey is more permanent than it used to be, though he is still liable to be deprived of it by unforeseen rebellion, arising from trivial circumstances, and unavoidable assassination. The whole body of the militia is concerned in the election of a new Dey, and every person, however low his rank, claims a right of voting. Every election is of course generally attended with tumult, and sometimes with serious contests and bloodshed. When the choice is determined, the person elected is saluted with words which signify, "God bless, or prosper you;" and he is then invested with the kaftan, or insignia of sovereignty, whilst the Cadi, or Chief Judge, addresses him with a congratulatory speech, and an exhortation to govern with equity, and to maintain the liberty, and promote the welfare of his subjects. The *douwan*, or divan, at first consisted of about 800 military officers, without whose counsel and consent the Dey could not act; and on extraordinary occasions, all the officers that resided at Algiers, amounting to above 1500, were summoned to assist. But since the Deys have become more powerful and independent, the *douwan* is principally composed of thirty yiah-bashaws, with the musti and cadi, upon some emergencies; and upon the election of a new Dey, the whole soldiery, as we have observed, are allowed to give their votes. Of late the *douwan* is little regarded; it is, indeed, formally convened, for the purpose of sanctioning measures previously concerted betwixt the Dey and his favourites; so that, in effect, the whole power is lodged in one person. The next officer in dignity and power to the Dey is the *Aga*, a general of the Janizaries, who is one of the oldest officers of the army, and enjoys his post for two months, and is succeeded by the *chia*, or next senior officer, or eldest yiah-bashaw. During these two months, the keys of the metropolis are in his custody; all military orders are issued in his name, and the sentence of the Dey upon any soldier that has offended, is executed in the court of his palace. When he is displaced, he is considered as *marzoul*, or superannuated, and receives his pay, and is occasionally summoned to assist with his advice, but not with his vote, at the grand council. The next officer to the *aga* is the secretary of state, who registers all public acts; and next to him are 24 or 30 *chia*-bashaws, or chief colonels, from whom are commonly chosen ambassadors to foreign courts, or messengers, to inculcate the orders of the Dey through the realm. Next to these are the *bolluk*-bashaws, or eldest captains; after them the *oldah*-bashaws, or lieutenants, 400 in number; and other military officers are *vakelards*, or purveyors of the army, *peys* and *soulaks*. The officers now enumerated, compose the *dou-*

wan. The strength of this kingdom consists of its land and sea forces. Its strong cities are few, and it has fewer garrisons, which are weakly fortified and guarded. Dr. Shaw, in 1732, computed the whole force of Algiers to be 6,500 military Turks and Coloulies, 2,000 of whom were excused from duty, 1,000 employed in relieving garrisons, and the rest assigned to their cruising vessels, or forming the three flying camps which, every summer, attend the provincial viceroys. To the Turkish troops may be added about 2,000 *zwowah*, as the Moorish horse and foot are called. The deficiency of their army is supplied by recruits collected by their cruising vessels once in five or six years, in the Levant; and these are commonly shepherds, outlaws, and persons of the lowest condition. Besides these, the Dey, on occasions of emergency, enrolls the *cologlies*, or *coloulies*, who are the sons of such foldiers as have been permitted to marry at Algiers; but these are dangerous persons, and are not much encouraged, and when they are admitted into the army, they are excluded from the honour of being Dey, *aga* of the Janizaries, and other considerable offices and employments. The officers of the Algerine army are the *aga* or general, 30 *chia*-bashaws or colonels, 800 *bolluk*-bashas or captains, and about 400 *oldah*-bashaws or lieutenants; and these several posts are attained, not by money or interest, but by seniority. The pay of the army is very small, the youngest soldier receiving only 406 aspers every two months, and the oldest, or those in full pay, no more than 5,800, of which 696 make a dollar. The whole army, therefore, with regard to its demands upon the government, may be reduced to about 3,500, so that a sum, less than 200,000 dollars, or betwixt 30 and 40,000*l.* of our money, will defray its expence. Besides the pay, those *chia* and *bolluk*-bashaws, that are unmarried, have each eight loaves of bread a day, and the *oda*-bashaws and private foldiers, of the same condition, have four; each loaf being about five ounces in weight, and three aspers in value. In their battles or engagements, the *ipahies* or cavalry, are of little service; their principal dependance is on the infantry. Their fighting is always at a distance; small parties, or platoons, continually advancing in full career from the main body; and after they have discharged their fire-arms, or their javelins, they as speedily retreat, and make way for others: and hence it happens, that if a few persons are killed, the battle is called bloody.

The naval force of Algiers is more formidable than its army. It commonly consists of 20 ships; one of which belongs to the government, and is assigned to the admiral; but all the rest belong to private persons. The Corsairs, though they are not allowed any concern in the affairs of state, nor in the election of the Dey, are held in great esteem, on account of the prizes they continually bring in, which are one main source of the public revenue, and the means of procuring them respect from the Christian powers for the security of their trade. The government claims an eighth part of all the prizes, slaves, cargo and vessel; the rest being divided amongst the proprietors and ship's company. Passengers are entitled to a share in their prizes. All the officers of the ships must be either Turks or Coloulies; the Moors not being allowed to come upon the quarter-deck, or into the gun-room, unless they are sent for: but Christian slaves are permitted to act as seamen or inferior officers, and allowed a share according to their abilities and behaviour. The Dey of Algiers pays no other revenue to the Porte than a certain number of fine boys, or youths, and some other annual presents. His own income is variously computed: some estimating it at 40,000 ducats, whilst others raise it to 400,000, and others to 600,000. Dr. Shaw computes the yearly taxes of the whole kingdom at 300,000 ducats;

dollars; but he supposes that the eighth part of the prizes, the effects of persons who die without children, contributions from the districts, together with presents from foreigners, fines and oppressions, may produce as much more.

The commerce of Algiers is principally carried on by their corsairs or pirates, and with this view it is certainly the interest of the Algerines to be at war with those nations that trade in the Mediterranean; because they have always found that the balance of the captures made by them was greatly on their side, both with regard to number and value; and without such a constant supply, their state could not support itself, or prevent the most dangerous insurrections. On the other hand, all the maritime powers in Europe wish to be at peace with the Algerines. Nevertheless, free Christians, Jews, native or foreign, Arabians and Moors, are permitted to exercise a free commerce both by sea and land, together with other trades and manufactures in silk, cotton, wool, leather, and other commodities. These, however, are mostly carried on by the Spaniards, that are settled in this kingdom, and especially near the metropolis. Carpets also constitute a manufacture of this country, though inferior to those of Turkey. There are also at Algiers looms for velvet, taffaties, and other wrought silks, and a coarse kind of linen is also made in most parts of the kingdom. Few of their commodities or products are sent into foreign markets; their oil, wax, hides, pulse and corn, being barely sufficient to supply the country: although whilst grain was in possession of the Algerines, the English merchants shipped from thence seven or eight thousand ton of wheat and barley every year. Their other exports consist chiefly of ostrich feathers, wax, hides, wool, copper, rags, silk fashes, embroidered handkerchiefs, dates, and Christian slaves. Their imports consist chiefly of gold and silver stuffs, damasks, cloths, spices, tin, iron, plated brass, lead, quicksilver, cordage, sail-cloths, bullets, linen, cochineal, tartar, alum, rice, sugar, soap, cotton, raw or spun, coppers, aloes, brazil and logwood, vermilion, arsenic, gum, tar, sulphur, opium, anise and cummin seed, mastic, sarsaparilla, aspic, frankincense, galls, honey, paper, combs, cards, dried fruits, and a variety of woollen stuffs. But of these a small quantity is imported by the merchants, though there is a constant demand for them, on account of heavy duties, frequent exactions, precarious payments, and uncertain returns. They are also furnished by the English consul with powder, balls, bombs, fire-arms, cordage, and other naval stores; as the country furnishes no materials for ship-building.

The coin of Algiers is mostly foreign; their own being only of three kinds, viz. the barba of copper, bearing the arms of the country on both sides, six of which were formerly worth an asper, but now only half that value; the asper, or square piece of silver, with Arabic characters on each side, 15 of which make a Spanish rial, and 24 a duputa, worth about a crown; and gold coin of three sorts, coined only at Tremecen, viz. the rupee, worth 35 aspers, the median, 50, and the zian or dian, 100. Besides these, the Turkish sultanians of gold, worth about a ducat, the moticales of Fez, worth about 22 pence, the Spanish rials, French crowns, Hungarian ducats, and other European money, are current among them; but without any fixed standard. The established species here is the patacacha, or pataca of aspers, an ideal sum like the English pound, worth always 232 aspers, the third part of a pataca gorda, commonly of the weight of two and a-half pistoles, which weight is raised or lowered at the pleasure of the Dey, or according to the exigence of the government. The silver mint at Algiers is under the superintendence of the Jews, for which they pay a yearly sum to the Dey.

The religion of the Algerines differs from that of the Turks only in their adopting a greater variety of superstitions. They acknowledge the Koran as the rule of their faith and practice, but are remiss in the observance of it. They have three principal officers, who preside in religious matters, viz. the Musti, or High Priest; the Cadi, or Chief Judge in ecclesiastical, and some other concerns, civil and military, that are referred to him, and the grand Marabout. These three officers have their seats in the great douwan next under the Dey, and on his right hand. The cadi is obliged to attend at the court of justice once or twice a day, to hear and determine complaints. But affairs of moment are submitted to the Dey, or, in his absence, to the treasurer, master of the horse, or other principal officers of the regency, who sit in the gate of the palace, according to a custom recognized in Scripture (Deut. xxii. 15. xxv. 7. II. xxix. 21. Amos v. 10. Dan. ii. 49.) for that purpose. The cause is thus quickly decided, and sentence executed in less than an hour. In cases of debt, the debtor is usually detained in prison till the bailiff seize his effects and sell them; after sale, if there be an overplus, it is returned to the prisoner; if the amount falls short, he is released, and no further demands are made upon him. The bastinado, which is inflicted with small sticks about the size of the finger, which are brought in bundles to the place of punishment, is the punishment of small offenders, and it is applied to the belly, back, or soles of the feet, according to the nature of the crime, or the pleasure of the judge, who likewise appoints the number of strokes to be given. For clipping or debasing the public coin, the old Egyptian punishment of cutting off the hands of the transgressor is inflicted. When a Jew or Christian slave, or subject, is guilty of murder, or any other capital crime, he is carried without the gates of the city, and burnt alive; but the Moors and Arabs are either impaled for the same crime, or else they are hung up by the neck over the battlements of the city walls, or else thrown upon the *ching-bun*, or hooks, that are fixed over the walls below, where sometimes they break from one hook to another, and hang in the most exquisite torments, 30 or 40 hours. The Turks are not publicly punished, but sent to the house of the Aga, where, according to the quality of the offence, they are bastinadoed or strangled. When the women offend, they are sent to some private house of correction; and if the crime be capital, as when they are taken in adultery, &c. they are tied up in a sack, carried out to sea, and drowned. The western Moors use the barbarous punishment of sawing the body of the criminal in two. See Matth. xxiv. 51. Luke xii. 46. Heb. xi. 37. For this purpose they prepare two boards, of a proper length and breadth, and having tied the criminal between them, they proceed to the execution by beginning at the head. A person of the first rank in that country, who had been ambassador at the British Court, was put to death in this manner.

As to the population of Algiers, it is not easily ascertained; but we may observe in general, that it is much less than in other countries of the same extent, where arts, sciences and industry are not so much restrained. Tracts of country are here uninhabited and uncultivated; not to add, that despotism, want of commercial intercourse in the inland provinces, and the frequent ravages of the plague, contribute to the diminution of the inhabitants. The soil of this country is generally fertile, and more especially towards the sea-coast and in the vallies. There are few forests, but tracts of thickets and brushwood are more common. The most woody part of the country, and that which supplies the greatest quantity of timber, is the district about Bugia. Upon the whole, the face of the country is mountainous, and in the

chies of its mountains there are various minerals, particularly lead and copper. The fertility of the soil decreases in approaching the sea or the Desert, although in its borders, and even in the Desert itself, there are some districts which are capable of cultivation, and which produce corn, figs and dates. These regions are inhabited by Nomadical tribes, who, relying almost entirely on their independence, endure with fortitude and resignation, the inconveniences attending their condition, and leave regret the want of those advantages and comforts that pertain to a civilized state of society. The cultivated parts of this country enjoy a wholesome and temperate air, and the climate is distinguished by the equality of its temperature; the barometer indicating all the changes of the weather from 29.1 to 30.4, or within the space of 1.3 inch. The winds generally blow from the sea, or from the west by the north to the east: those from the east are common at Algiers from May to September, and then the westerly winds become the most frequent. The southerly winds, which blow from the Sahara, are usually hot and violent, but not frequent. When they blow for five or six days together in July and August, they are very suffocating, and the inhabitants sprinkle the floors of their rooms with water or vinegar. The quantity of rain that annually falls in Algiers is, at a medium, 27 or 28 inches; but in this climate little or no rain falls in the summer season, and in most parts of the Sahara they have no rain at all. The first rains fall in September, and sometimes a month later; after which, or about the middle of October, wheat is sown and beans are planted. Barley is sown about the end of November. If the latter rains fall, as usual, in the middle of April, the crop is deemed secure; and the harvest comes on in the end of May or beginning of June. The inhabitants cultivate, not only wheat and barley, but rice, Indian corn, and a kind of millet, called *drah*, which they prefer to barley in fattening their cattle, and which they are obliged to guard from the depredation of birds, by a screaming noise continued through the whole day. Here they tread out their corn after the primitive customs of the East, by spreading the sheaves open, and driving mules or horses round about the nedders or threshing-floors. When the grain is trodden out, they winnow it by throwing it up against the wind with a shovel; they then lodge it in the *mattamores*, or subterraneous magazines. Of the pulse kind, beans, lentils, kidney beans, and the chick pea, are the most abundant; and of the roots, herbs and fruits of the kitchen garden, they have a very considerable variety. For the zoology, ornithology, &c. of Algiers, see *BARBARY*.

The inhabitants of the Algerine state are partly Turks, partly Moors, and partly Christians and Jews. The Turks have been established since the middle of the sixteenth century; they form the highest rank in the country, and possess all the offices and employments. According to the constitution of Algiers, no native can be a Turk; he alone is regarded as a genuine Turk, and entitled to the privileges of this class, who is descended from Mahometan parents, or born of a Mahometan mother, in the dominions of the Grand Seigneur. The number of Turks at Algiers was formerly computed to be from 14 to 16,000, but they are now reduced to 9 or 10,000; and they are reckoned, with regard to their disposition and character, ignorant, proud, indolent, voluptuous, jealous and revengeful; but at the same time faithful, sincere, courageous and tolerant. With ideas of superiority, brought with them from their own country, and enlarged by the privileges which are granted to them at Algiers, the meanest Turk considers himself far superior to the Moors, Christians and Jews. Their principal enjoyment consists in ease and inactivity. Besides the qualities we have already

mentioned, the Turks are noted for their avarice. It is therefore proverbial, "Give a Turk money with one hand, and he will permit his eyes to be plucked out by the other." Nevertheless, he is faithful to his engagements, and a stranger to dissimulation. With regard to those who do not profess their religion, they are generally compassionate and tolerant; and instances have occurred, in which Turks have exhorted their Christian slaves to the observance of the external rites of Christian worship: but they despise and abhor apostates and renegadoes. As to their privileges, they pay no poll-tax, and they have an exclusive title to all the chief offices of the state: they cannot be punished except by the express order of the Dey; when condemned to die, they are strangled; they purchase the necessaries of life at a lower price than others; and from gardens and vineyards that are not enclosed by high walls, they may take as much fruit as they can eat; and their testimony, other circumstances being equal, is always held in higher estimation than that of the Moors, Jews and Christians.

The class of persons next in rank and dignity to the Turks, consists of the *Cololies* or *Coloris*, who are the children of Turks by women that are natives of Algiers. The number of these, in the vicinity of the capital, is considerable, and they compose some of the richest and most respectable families in the country. They form a middle class between the Turks and Moors, and resemble the former in courage, pride, jealousy, and voluptuousness, but are more laborious and diligent; and they partake of the perfidy and dissimulation of the Moors, and also of their propensity to superstition. In corporeal strength and form they are not inferior to the Turks; and they belong to the most intelligent and cultivated part of the inhabitants of Algiers, so that the most expert artists and artificers are of this class.

Under the general name of Moors, who constitute another division of Algerines, are comprehended the Moors, properly so called, the *Cabyles* or *Kabyles*, mixed with Berbers or *Brebers*, and several Arabian tribes. The Moors are very distinct from the Negroes, as their natural colour, unchanged by the burning rays of the sun, is as white and beautiful as that of the natives of the South of France, of Spain and Italy. With respect to their moral character, they are inferior to the Turks. They are malicious, false, cowardly, revengeful, fanatical, ignorant, superstitious, fraudulent, avaricious, and among the lower classes, thievish and rapacious. But they are more active than the Turks, and they have an inclination for commerce and the mechanic arts. Those of them who live in cities and engage in commerce, are more polished and less odious in their disposition and manners; some of them are rich, and look down with contempt on the Turks, though they soothe them and secure their patronage by dissimulation and flattery. Of these some are addicted to study, but their knowledge extends little beyond the Koran and History. The less wealthy Moors are artificers, and some of them mariners. In the lowest class of Moors, inhabiting the cities, are found the most abandoned and profligate persons, who cannot be restrained from crimes of every kind, except by a degree of severity approaching to cruelty. The *Biscaris*, however, form a small exception. Of the Moors, who inhabit the country, few are wealthy; they are ignorant and rude, and strangers to the benefits and pleasures of social life. They retain the ancient custom of distinguishing themselves by families and tribes, which is lost among those who live in towns. Some of them lead a wandering life, and others gain a subsistence by cultivating the land for the richer among themselves, or for the Turks, or for the *Cololies*. Among the Moorish tribes in the country polygamy prevails, but this practice does not prevail in towns.

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The Moors are not admitted into the infantry of the Algerine state, which is the most honourable and useful corps, but they compose the cavalry of the Dey, which is not much esteemed. The Moorish mountaineers are denominated *Cabyles*. The Arabian tribes, who inhabit the Algerine dominions, are those who, without blending with the Moors, or most ancient possessors of the country, have uniformly maintained their separation from others, partly in a state of independence, and partly as tributaries to the Dey. They are distinguished from the rest by their language, their rude manners, and a peculiar mode of living; and also by a degree of pride which leads them to look upon themselves as better and more noble than others. They are also distinguished by their love of liberty. They live either in the desert, or in inaccessible ridges of mountains, divided into families and clans, under the patriarchal government of a sheik, who may be considered as the judge, instructor and leader of his tribe. Their wealth consists in their flocks and herds. Whenever they think themselves secure, they descend from the mountains into the plain country. The number of these marauders decreases every year. The Arab tribes that are the subjects of the Algerine state, pay a small tribute, and are treated with great lenity, that they may not be provoked to unite with the Cabyles and the independent Arabs. The number of Jews in Algiers is not considerable: they are despised and oppressed, distinguished by a dress of dark colour, restrained from acquiring landed property, and forbidden to ride through the gates or in the city. If a Jew be attacked, he would incur danger by defending himself against the abuse of the Turks and Moors, and therefore they purchase the protection either of powerful Turks, or European consuls. The Algerine Jews are, in general, very superstitious and fanatical, and also cowardly, perfidious, avaricious, and addicted to cheating and fraud. In their own concerns they are amenable to their own tribunal, and have an elder amongst them, known by the appellation of "King of the Jews."

The number of negroes annually imported as slaves into Algiers, amounts to from 150 to 180; and their price varies from 50 to 150 sequins. The females are often kept as concubines by the wealthy Turks and Moors. Most of these slaves obtain their freedom, either gratuitously or by purchase; and during their slavery, they are treated with lenity, and severe usage is noticed and even punished by the government. Both negro and Christian slaves are employed at Algiers in the same offices with our domestic servants. But Jews and Christians are forbidden from keeping negro slaves who profess the Mahometan religion. An emancipated slave becomes entitled to the same privileges with the Moors.

The Christians of Algiers are transitory residents, and can hardly be reckoned in any class of inhabitants. They are seldom found in the open country. On the western coast the Spaniards occupy Oran and Mafalquivir; but the greater part of the citizens who reside there consist of fugitives from their native land, and derive a scanty subsistence from the garrison; and destitute of trade, agriculture and manufactures, pass their time in indolence and wretchedness. The Christians in other cities are, generally speaking, all slaves. Some of them are such as have been captured by the Algerine corsairs; of whom some are selected by the Dey, and the rest are sold in the market-place to the highest bidder. The other Christian slaves are such as enter of their own accord into a state of slavery; and these are for the most part deserters from the Spanish garrison at Oran and Mafalquivir; so that Oran is the nursery of this class of slaves, amounting annually to about 100. As to the treatment of these Christian slaves, those that are deserters from Oran, and those that are captured by the cruisers, are treated without discrimina-

tion: they are generally well kept, but overwhelmed with labour or cruel usage. Those who are sold upon the Dey live sumptuously, and are richly clad, but they must exclude themselves from society, and are seldom allowed to leave the palace. The youngest and most beautiful are exposed to the seduction of licentious courtiers. Others, who are the property of the state, are employed in dock-yards and magazines, and are under the command of Turkish talk-masters. They labour from sun-rise to sun-set, and their fare is coarse; and their accommodations at night, amidst the filth and vermin and corruption of the bagnios, are more intolerable than the fatigues of the day. The condition of slaves, purchased by private persons, is, upon the whole, preferable to that of those who belong to the state. In the cities, they are employed as menial servants; in the country, they cultivate the vineyards and gardens. Those who have an opportunity to acquire property, take taverns in the city, and gradually become rich. Those slaves who had been captured by the corsairs, often regain their liberty by being ransomed; but the Oranite slaves have seldom any hopes of deliverance. Sometimes the government of a country ransoms all its slaves without exception, which was the case with the French in 1784. Their number, however, is not commonly very great. In 1785, the year after the French ransom, it amounted to about 2000. In 1786 and 1787, 500 Spaniards and Neapolitans were liberated, and about 700 died of the plague; so that there remained about 800, most of whom were deserters from Oran.

As to those called *renegadoes*, there are few of them in this country. They are either Jews or Christians. The former, of whom there are commonly more women than men, renounce the faith of their ancestors, and embrace the predominant religion of the country, for the purpose of being revenged of their relations, or with a view to escape from merited and apprehended punishment, or from motives of ambition or interest. If such persons possess talents and render service to the government, they are esteemed equal to the Cololies, and have a chance of being advanced to honourable and lucrative employments. The admiral of the Algerine fleet was a renegado, and formerly a Jew. Of Christian renegadoes the number is not so great. The zeal to gain proselytes from Christianity is abated: such conversions are not now encouraged, and in many instances not permitted, as the proprietors of the slaves would be losers, and be deprived of the expected ransom. Renegadoes are despised and distrusted, and not without reason, for most of them are in judgment and affection attached neither to one religion nor to the other. Shaw's Travels. Passim. Pitts's Account of the Religion and Manners of the Mahometans. ed. iv. 1738. Passim. Mod. Un. Hist. vol. xiv. p. 435—456. 8vo.

ALGIERS, the capital of the country above described, was formerly called *Mesgana*, from an African family of that name, and derives its present name *Algiers*, or *Al-Jezzeire*, the island, from its being in the vicinity of the eastern mound of the harbour, which, before the time of the Turkish conquest, was severed from the continent. Some have supposed that this was the ancient *Icosium*; but Dr. Shaw is of opinion that the ruins of a Roman city on the banks of the river Haratch, the ancient Savus, four miles to the south-east of Algiers, bids fairer than Algiers to be the ancient *Icosium*. The city is situated on the declivity of a hill, and is built in the form of an amphitheatre. The houses rise gradually above one another, and their roofs or terraces are flat and white, so that at sea it appears, says Pitts, like the top-sail of a ship, or like a whitener's ground covered with linen. It is, says Dr. Shaw, about a mile and a half in circuit, and is computed to contain about 2000 Christian

slaves, 15,000 Jews, and 100,000 Mahometans. But since his time the number has been much reduced; and the number of inhabitants is now estimated at about 80,000, in which number are included several thousand Jewish families. It is surrounded by high walls, 12 feet thick, flanked with square towers, but so decayed as to afford very little defence. A ditch, 20 feet wide and seven deep, formerly encompassed the whole city, but is now almost filled with mud. It has five gates, which are open from sun-rise to sun-set; and without the walls seven castles or forts, of which the greatest is that on the mole, all which are supplied with cannon. Its best defence is towards the sea. The mole, the work of Hayradin, the son of Barbarossa, is built on the small island that faces the town, in form of a large semicircle, with a handsome opening into the haven, which is 120 fathoms long, and 80 broad, and where the largest vessels may ride so as to be secure from the violence of the waves. The mole is defended by a castle, which stands upon the solid rock, and which also serves as a light-house. It has three batteries of cannon. At the fourth end of the island is another fort, consisting of three batteries, to defend the entrance of the harbour. There are also other forts along the coast. In the town there is but one handsome street, which reaches from the east to the west end, and in which are the best shops, the houses of the principal merchants, and the market for corn and all provisions. All the other streets are so narrow that two persons cannot walk abreast, and the middle being much lower than the sides for the reception of water and filth, the passage of camels, horses, mules and asses, renders it still more inconvenient and disagreeable for foot passengers. It is still more dangerous to meet with a Turkish soldier, to whom the wealthiest Christian must give way, or be likely to feel the effects of his brutal resentment. The houses are supposed to be placed thus near to each other, either to shelter them from the sun, or for the convenience of mutual support, by means of props, when earthquakes occur. They are built of brick or stone, mostly square, with a paved court in the middle, somewhat like our old inns; round this court there are galleries supported by columns, and over these a second range, and upon this upper gallery are the terraces, which serve for walking or drying linen. Their chimnies rise in the form of a cupola on the four corners of the terrace, and their houses are whitewashed every year. As the houses are contiguous, a person may walk from one end of the town to the other along the terraces, and in this way they keep up an intercourse with each other. The houses of private people are within meanly fitted up and furnished, but those of the rich are incrustured with marble, supported on columns, and have their ceilings finely carved, painted and gilt. The most magnificent building is the palace of the Dey, in the midst of the city, which has two spacious halls, in one of which the douwan meets thrice a week. The barracks for the Turkish soldiery are likewise grand edifices, and each of them contains about 600; their mosques are numerous, of which the larger are seven, and the baths are many and spacious, but they are of different kinds, for the accommodation of persons of every rank and condition. Besides the public baths and those appropriated to women, there are others called basins, which are loathsome prisons, and in which their slaves sleep every night. There are some handsome edifices without the walls of the town, and a great number of tombs, some of which are adorned with chapels and oratories, to which the men and women resort every Friday. The city of Algiers, which had formerly neither wells nor fountains, is now supplied with excellent water by two aqueducts, which convey it from the adjacent mountains to a number of fountains at convenient distances from one ano-

ther. The territory about Algiers is very fertile; the hills and valleys are every where ornamented with gardens, groves, and country-seats, whither the richer sorts retire during the summer season. Their villas are little white houses, shaded with a variety of fruit-trees and ever-greens, which, besides the shade and retirement, afford a beautiful prospect towards the sea. The gardens are stocked with plenty of fruit-trees, melons, and pot-herbs, and well watered by a multitude of fountains and rivulets. Algiers, although it has many forts, and though in former times it has counteracted the assaults of some of the greatest powers of Christendom, is but weakly defended, and incapable of sustaining a regular siege. The Spaniards, however, attacked it in 1775, both by land and sea, with a force consisting of about 20,000 foot, and 2000 horse, 47 king's ships of different rates, and 346 transports, and were repulsed with great loss. In 1783 and 1784 their attacks were renewed, but without success. N. lat. $36^{\circ} 49' 30''$. E. long. $2^{\circ} 12' 45''$. The bay of Algiers lies to the east of the city, and the mole that forms the harbour is 500 paces long, and here is anchorage in 18 to 25 fathoms water. Cape Matifou lies to the north-east extremity of the bay, and Cape Caxines to the north-west of the city, and the western limit of the bay.

ALGOA BAY, or *Zwartkops*, a bay of South Africa, situate in S. lat. $35^{\circ} 56'$. E. long. $26^{\circ} 53'$, and distant from the Cape of Good Hope 500 miles. Mr. Barrow, a late traveller, suggests, that from the vicinity of this place to the salt-pans, from the ease of procuring bullocks in good condition, and from the abundance of excellent fish on the coast, great benefits would accrue to the East India company, if an establishment was formed for the preparation of salted beef and fish. The river Zwartkops flows through a valley, in which our traveller found a species of antelope, called the *riet-bok*, or red-goat, hitherto undescribed by naturalists.

ALGODONALES ISLANDS lie on the coast of Peru, in S. lat. $21^{\circ} 56'$, and W. long. $72^{\circ} 50'$, eight leagues north from the harbour of Cobijah, and afford fresh water.

ALGODRES, a district of Beira, in Portugal, containing eight parishes and 450 inhabitants.

ALGOIDES, in *Botany*, a name given by Vaillant to a genus of plants, called by Micheli and Linnæus *ZANNICHELLIA*.

ALGOL, or *Medusa's Head*, in *Astronomy*, a star of the second magnitude, in the constellation Perseus. This star has been subject to singular variations, appearing at different times of different magnitudes, from the fourth to the second, which is its usual appearance. These variations were noticed at the close of the last century by Montanari and Maraldi; also by Flamsteed, 1696 and 1711; but they have been more accurately observed by Mr. Goodricke, at York, in 1783, who has, by comparing a great variety of observations, determined the period of their return to be $2^d, 20^h, 48', 56''$. As to the cause of this variation, Mr. Goodricke conjectures, that it may be owing either to the interposition of a large body revolving round Algol, or to some motion of its own, in consequence of which, part of its body, covered with spots or such like matter, is periodically turned towards the earth. M. de la Lande, comparing his own observations with those of Mr. Goodricke, and M. Wurms, of Nürtingen, determines the period of variation to be $2^d, 20^h, 49', 2''$. Mem. Acad. Sc. Paris, 1788. See Phil. Trans. vol. lxxiii. p. 474. Vol. lxxiv. p. 287.

ALGOMEIZA, a name given to the star Procyon.

ALGONQUINS, in *Geography*, an Indian nation of North America, which formerly possessed considerable tracts of land along the north-west shores of the river St. Lawrence, in Canada. As hunters and warriors they had no rivals, and were

were long in alliance with the Iroquois; whom they agreed to protect from all invaders, whilst the Iroquois stipulated to pay them a tribute out of the produce of the earth, and to perform for them all the menial duties, such as flaying the game, curing the flesh, and dressing the skins. At length the Iroquois associated with the Algonquins in their hunting matches and military expeditions; but by degrees the Algonquins became jealous of their associates and allies, and murdered several of their number. The Iroquois for some time stifled their resentment, but determining upon revenge, they applied to the study of the art of war, as it was practised among the savage nations; and having acquired a competent knowledge, which they improved by experience, they attacked the Algonquins with such fury, that, unless they had been preserved by the interposition of the French, their whole race would have been exterminated. They are daily decreasing in number, subsist principally on fishing and hunting, and have scarcely any notion of agriculture. The Algonquins are now dispersed along the river Atawar, and occupy different parts of Upper Canada, above the lakes Huron, Ontario, and Superior. The lake of the Two Mountains, which may be deemed the commencement of the Utawar river, and which is about 20 miles long, and three wide, and surrounded by cultivated fields, is nominally in possession of the two tribes of Iroquois and Algonquins, whose village is situated in a delightful point of land under the hills, which, under the denomination of mountains, give a name to the lake. Near the extremity of the point their church is built, which divides the village into two parts, forming a regular angle along the water-side. On the east is the situation of the Algonquins, and on the west one of the Iroquois, consisting in all of about 500 warriors. Each party has its missionary, and divine worship is performed, according to the rites of the Romish church, in their respective languages, in the same church: and so assiduous, it is said, have their pastors been, that these people have been instructed in reading and writing in their own language, and are better taught than the Canadians of the country of the lower ranks: but notwithstanding these advantages, and though the establishment is nearly coeval with the colonization of the country, they do not advance towards a state of civilization, but retain their ancient habits, language and customs, and are becoming every day more depraved, indigent, and insignificant. The country round them, though capable of cultivation, presents only a few miserable patches of ground, sown by the women with maize and vegetables. During the winter season they leave their habitations and their pastors to follow the chase, according to the custom of their forefathers. A tribe of the Algonquin nation occupies the parts adjacent to the lake NEPESINGUI. Some few families inhabit the island of St. Joseph, near the lake HURON; also a village, near the fall of St. MARY, about 50 miles farther towards the north-west, who are starving for one-half of the year, and in a state of intoxication for the other half, and the coasts of lake SUPERIOR, where they live chiefly on fish. The residence of the first chief, or Sachem, of all the Algonquin tribes inhabiting different parts of the country, is at the trading establishment, situate on a high bank on the north side of the river LA PLUIE, in N. lat. $48^{\circ} 37'$. This chief is by way of distinction called Nectam, implying personal pre-eminence. In this place the elders meet in council to treat of peace or war. Of this tribe some few are found near the ASSINIBOIN river, who are in almost constant hostility with the NADOWASIS. Those of them who occupy the country near lake WINIPIC and its source, are employed in fur-hunting, so that they thus acquire the additional articles of cloth, blankets, &c. but their passion for rum puts it out of their power to supply themselves with real necessaries. The Al-

gonquins and KNISTENEAUX are supposed by a late intelligent traveller to have been originally the same people, and to have inhabited the Atlantic coast, the banks of the river St. Lawrence, and adjacent countries. Their progress has been westerly, and they are even found west and north as far as Athabasca. The language of the Algonquins is one of the three principal languages, or of those which have been called radical, or mother tongues, amongst the Indians of Canada. The other two are the IROQUOIS and the HURON. By means of an acquaintance with the Algonquin and Huron languages, a person may travel 1500 leagues in this country without an interpreter. The Algonquin language is said to excel that of the Hurons in smoothness and elegance. See KNISTENEAUX. The Baron la Hontan has given a small dictionary on the Algonquin language; Reland has also given a gloss on several words of the same. The first is entitled, *Mem. de l'Amer. Septent.* Hag. 1703: the last is in his *Diff. Misc.* p. 3. *Diff. 2.* *Mod. Un. Hist.* vol. xxxv. p. 379. Mackenzie's *Voyages*, &c. through the Continent of North America, &c. p. 25, 63, &c.

ALGOR is used by some *Medicinal Writers*, to denote a preternatural coldness or chilliness in a part. Muys speaks, in this sense, of an algor of the arm, attended with an atrophy.

ALGORAB, in *Astronomy*, a fixed star of the third magnitude, in the right wing of the constellation CORVUS.

ALGORITHM, or ALGORISM, an Arabic term, which some authors, and especially the Spaniards, make use of to signify the practical operation of several parts of *specious arithmetic* or *algebra*. Sometimes it is also used for the practice of common arithmetic, by ten numeral figures.

Algorithm is properly the art of numbering truly and readily; and comprehends the six common rules of arithmetic. It is sometimes called *logistica numeralis*. We say the algorithm of integers, the algorithm of fractions, the algorithm of surds, &c.

ALGOSAREL, in *Botany*, a name used by Avicenna, and some other authors, for the common wild carrot, or *DAUCUS sylvestris*.

ALGOW, or ALGAU, in *Geography*, a canton of Germany, in the circle of Swabia, bounded on the north by the Danube, on the east by the Leck, on the west by the Hegow and the lake of Constance, and on the south by the county of Tyrol. It includes the marquisate of Burgaw, the counties of Bregents and Montfort, the territory of the bishop of Augsburg, the abbey of Kempten, of the counts of Fugger, Waldburg, Konigseck and Mindleheim; with the cities of Augsburg, Kempten, Memmingen, Isny, Lindaw, Biberac and Wangen.

ALGOZO, a small place of Traz-oz-Montes, in Portugal, situate on the river Maças, containing 20 parishes, and about 400 inhabitants.

ALGUAZIL, in the Spanish *Policy*, a serjeant or official of a judge, or magistrate, appointed to see his decrees executed.

ALGUEL, in *Geography*, a town of Africa, in the empire of Morocco and province of Hea.

ALHABOR, among the Arabian *Astronomers*, is that star commonly called SIRIUS.

ALHAGI, in *Botany*, a species of HEDYSARUM. The inhabitants of Mesopotamia and the eastern countries gather from this shrub a kind of manna, by means of the juice which transudes from its leaves, in the form of drops of various sizes, which is indurated by the heat of the sun. Tournefort has particularly described this tree, and made a distinct genus of it, under the name of *Alhagi*. The shrub grows plentifully about Tauris; it has been also found in Tinos, and in many plains of Armenia and Georgia; and the manna is known in the Levant by the name of Terenjabin.

lin. The leaves are said to be of a hot drying nature, and the natives use the flowers as a purgative, one handful of which, boiled in water, suffices for a dose. Lemon.

ALHAMA, in *Geography*, a pleasant town of Spain, in the province of Granada, situate in a narrow valley betwixt high and very steep mountains; and having warm baths and medicinal waters that are much frequented. It was taken by the Moors, after a gallant defence, in 1481, and surrendered to the pillage of the Christian soldiers, who, besides pillaging an immense quantity of gold and jewels, made slaves of 3000 of the inhabitants. It is about 25 miles south-west of Granada, and 28 north-east of Malaga. N. lat. 36° 51'. W. long. 3° 26'.

ALHAMA, is also a town of Spain, in Cordova, near the Sierra Morena, nine leagues west of Cordova.

ALHAMA, is also a small town or village of Spain, in Aragon, celebrated for its medicinal waters.

ALHAMA, a river of Spain, which runs into the Ebro, near Alfaro.

ALHAMA la Nueva, a town of Spain, in Granada, situate on the river Almeria, ten miles north-north-west of Almeria.

ALHAMBRA, a town of Spain, in Aragon, seven miles north of Teruel.

ALHAMBRA is also a river of Spain, which joins the Guadalquivir at Teruel.

ALHAMBRA, one of the four wards of the ancient city of Granada, so called by the Moors from the red colour of its materials, Alhambra signifying a red house; and by the Spaniards la Sierra del Sol, because, by its elevation on a high mountain, it is exposed to the rising sun. The inhabitants consist of the descendants of the ancient Moors. In this district are two palaces, one built by the Moors, the other by Charles V. and Philip II. The first, which is very large, is environed with walls, towers, and bastions; and both command, by their eminence, an extensive and delightful prospect. Above the old Moorish palace is the magnificent and beautiful house of Xeneralife, which was also built by a Moorish prince; and on the top of the mountain stands a church dedicated to St. Helena. The Moorish palace, according to the description given of it by Swinburne in his Travels, appears to have been a most magnificent and astonishing edifice. The court to which you are first admitted, called the *Communa*, or *del Mesfuar*, i. e. the common baths, is an oblong square, with a deep basin of clear water in the middle, into which is a descent by two flights of marble steps, and having on each side a parterre of flowers and a row of orange trees. A peristyle, paved with marble, runs round the court, and the arches are supported by pillars, in a style differing from all the regular orders of architecture; and the cieling and walls are incrustured with stucco fret-work. In every division are Arabian sentences of different lengths, denoting "there is no conqueror but God;" and "obedience and honour to our Lord Abouabdoulah." The cieling is gilt or painted, and the colours still retain their freshness; the lower part of the walls is Mosaic, disposed in fantastic knots and festoons. The porches resemble grotto-work; and that on the right-hand opens into an octagon vault under the emperor's palace, which forms a whispering-gallery, communicating between the offices of both houses. Opposite to the door by which you enter into the *Communa*, is another leading into the *quarto de los leones*, or apartment of the lions; which is an oblong court, 100 feet long, and 50 broad, encompassed by a colonnade, seven feet broad on the sides, and ten at the end. Two porticoes or cabinets, about 15 feet square, project into the court at the two extremities. The square is paved with coloured tiles, and the colonnade with

white marble. The walls are covered to the height of five feet from the ground with blue and yellow tiles, placed checkerwise. Above and below is a border of small escutcheons, enamelled blue and gold, with an Arabian motto on a bend, signifying, "No Conqueror but God." The columns that support the roof and gallery are of white marble, very slender, fantastically adorned, and irregularly disposed. The cieling of the portico is much more highly finished than that of the *Communa*. The capitals are of various designs. Amidst the varieties of foliages, grotesques, and strange ornaments, there does not occur the slightest representation of animal life. About each arch is a large square of arabesques, surrounded with a rim of characters that are generally quotations from the Koran. Over the pillar is another square of beautiful filligree work; and higher up is a kind of wooden cornice, enriched with carving as much as the stucco below. Over this projects a roof of red tiles, which disfigure this beautiful square, and which has been lately added when the Alhambra was repaired. In Moorish times the buildings were covered with large painted and glazed tiles, some of which still remain. In the centre of the court are twelve ill-formed lions muzzled, bearing upon their backs an enormous basin, out of which rises another of smaller size. When the pipes were kept in order, a volume of water was thrown up, which, falling into the basin, passed through these lions, and was discharged out of their mouths into a larger reservoir, communicating by channels with the jets d'eau in the apartments. This fountain is of white marble, adorned with festoons and Arabic distichs, to this purpose. "Seest thou not how the water flows copiously like the Nile?" "This resembles a sea washing over its shores, threatening shipwreck to the mariner." "This water runs abundantly to give drink to the lions." "Terrible as the lion is working in the day of battle." "The Nile gives glory to the King, and the lofty mountains proclaim it." "This garden is fertile in delight; God takes care that no noxious animal shall approach it." "The fair princess that walks in this garden, covered with pearls, ornaments its beauty so much, that thou mayest doubt whether it be a fountain that flows, or the tears of her admirers." Beyond the colonnade, and on its south side, is a circular room used by the men as a place for drinking coffee, &c. And it was refreshed in summer by a fountain. The form of this hall, the elegance of its cupola, the cheerful distribution of light from above, and the exquisite manner in which the stucco is designed, painted, and finished, exceed all powers of description. In this delightful scene, it is said, Abouabdoulah assembled the Abencarrages, and caused their heads to be struck off into the fountain. At the head of a court are two rooms, which are supposed to have been tribunals, or audience chambers. Opposite to the *Salu de los Abencarrages* is the entrance into the *Torre de las dos Hermanas*, or the tower of the two sisters, so denominated from two very beautiful pieces of marble laid as flags in the pavement. This gate exceeds all the rest in profusion of ornaments, and in beauty of prospect, which it affords through a range of apartments, where a multitude of arches terminate in a large window open into the country. In a gleam of sunshine, the variety of tints and lights thrown upon this enfilade are uncommonly rich. The first hall is the concert-room where the women sat; the musicians played above in four balconies. In the middle is a jet d'eau. The marble pavement is much admired for both the size of the flags and evenness of the colour. The two sisters, which give name to the room, are slabs measuring 15 feet by 7½, without flaw or stain. The walls, to a certain height, are mosaic, and, above, are divided into neat compartments of stucco. The cieling is a fretted cove. For preserving this vaulted roof,

and some other of the principal cupolas, the outward walls of the towers are raised 10 feet above the top of the dome, and support another roof over all, so that no injury can be occasioned by wet weather, or excessive heat and cold. From this hall you pass round the little myrtle garden of Lindaraxa into an additional building constructed at the east end by Charles V. His admired motto, "plus outré," appears on every beam. This leads to a little tower, called, *El tocador*, or the dressing-room of the Sultana; in one corner of which is a large marble flag, penetrated with holes, through which the smoke of perfumes ascended from furnaces below; and here, it is supposed, the Moorish queen fannigated and sweetened her person. The emperor caused this room to be painted with representations of his wars, and a variety of grotesques, which appear to be copies or imitations of those in the loggie of the Vatican. From hence you go through a long passage to the hall of ambassadors, which is magnificently decorated with innumerable varieties of mosaics, and the mottoes of all the kings of Granada. This antichamber opens on the left hand into the Communa, and on the right into the great audience hall in the tower of Comares, which is a noble apartment, 36 feet square, 36 high to the cornice, and 18 from thence to the centre of the cupola. The lower range of windows is 13 feet high; the walls on three sides are 15 feet thick, and on the other 9. The whole wall is inlaid with mosaic of many colours, disposed in intricate knots, stars, and other figures. In every part various Arabic sentences are repeated.

The lower floor of the palace consisted of bed-chambers and summer-rooms; the most remarkable of which is the king's bed-chamber, which, by means of a gallery, communicated with the upper story. The beds were placed in two alcoves upon a raised pavement of blue and white tiles; but it has been repaired, and probably altered by Philip V. In the middle a fountain played for refreshing the apartment in hot weather. Behind the alcoves are small doors that lead to the royal baths. These consist of one small closet, with marble cisterns, for washing children, two rooms for grown-up persons, and vaults for furnaces and boilers that supplied the baths with water and the stoves with vapour. The troughs are formed of large slabs of white marble; the walls are ornamented with party-coloured earthen-ware, and light is admitted by holes in the covered ceiling. At a small distance is a whispering-gallery, and a kind of labyrinth, said to have been designed for the amusement of women and children. One of the passages is fenced off with a strong iron grate, and called the *Prison of the Sultana*; but it was more probably intended for preventing intruders from climbing into the women's quarter. Under the council-room is a long slip, called the *King's Study*; and adjoining to it are several vaults, said to be the burial-place of the royal family. In the retrospective view of this sumptuous palace, we need not wonder that the Moors thought of Granada with regret; and that they should still offer up prayers every Friday for the recovery of this city, which they regard as a terrestrial paradise.

ALHANDAL, a term in the Arabian *Pharmacy*, signifying *colocynth*. The *TROCHES* of *albandal*, *trochiji albandal*, are a kind of troches, composed of *colocynth*, *bilellium*, and *gum tragacanth*. The word is formed of the Arabic *bandal*, or *bandhal*, a name for *colocynthis*. They are esteemed good purgatives, and are used on divers occasions.

ALHANDRA, in *Geography*, a town of Portugal, in Estremadura, containing two parishes, and about 1350 inhabitants.

ALHANGA, a small town of Spain, in Estremadura, belonging to the order of St. Jago, seated on an eminence, and defended by a strong castle standing on a rock.

ALHAUR, a river of Asia, which runs into the Sakkaria, eight miles south of Aimeria.

ALHAUS, a town of Prussia, four miles south of Culm.

ALHAZEN, in *Biography*, a learned Arabian, lived in Spain about the close of the 11th, or beginning of the 12th century; though Montucla says, that it is not known what was the precise period in which he lived. He wrote a treatise on astrology; and another on optics, which was printed in Latin in the *Theaurus Opticus* of Rifner, in 1572. In this optical treatise he gives a tolerable description of the eye, and discourses largely concerning the nature of vision; maintaining that the crystalline humour is the most important organ for this purpose, without considering it as a lens, and asserting that vision is not completed till the idea of external objects are conveyed by the optic nerves to the brain. He accounts for simple vision with two eyes, by supposing, that when two corresponding parts of the retina are affected, the mind perceives but one image; and he treats very diffusely of optical deceptions, both in direct vision, and also in vision by reflected and refracted light. Alhazen pursued his enquiries into the nature of refraction much further, and with greater success, than the more ancient writers. He deduces from experimental and general reasoning several properties of atmospherical refraction, observing, that it increases the altitudes of all celestial objects; and he was the first who advanced the notion, that the stars are sometimes seen above the horizon by means of refraction, when they are really below it. He also observed, that refraction contracts the diameters and distances of the heavenly bodies, and that it is the cause of the twinkling of the stars.

Alhazen supposed, that the refraction of the atmosphere did not depend upon its vapours, but upon its different transparency, that is, as Montucla understands his meaning, the density of the gross air contiguous to the earth, and the ether or subtle air that lies beyond it. In examining the effects of refraction, he endeavours to prove that it is so far from being the cause of the heavenly bodies appearing larger near the horizon, that it would make them appear less; two stars, he says, appearing nearer together in the horizon than near the meridian. This phenomenon he ranks among optical deceptions. We judge, says he, of distance, by comparing the angle under which objects appear with their supposed distance; so that if these angles be nearly equal, and the distance of one object be conceived to be greater than that of the other, it will be imagined to be the larger: And he adds, that the sky near the horizon is always imagined to be farther from us than any other part of the concave surface. In the writings of Alhazen, we find the first distinct account of the magnifying power of glasses, and he probably suggested the hints which led to the useful invention of spectacles; for, he says, that if an object be applied close to the base of a larger segment of glass, it will appear magnified; he also treats of the appearance of an object through a globe, and says, that he was the first that found out the refraction of rays into the eye. Alhazen's optics were much illustrated by Vitellio in a treatise published in 1270. Smith's *Optics*, Remarks, § 89. p. 15. Priestley's *Hist. of Vision*, &c. 1772. p. 17—20. Montucla's *Hist. des Mathem.* tom. i. p. 367.

ALHEN, in *Botany*, a name by which Dr. Shaw and others have called a genus of plants, since named by Linnaeus *LAWSONIA*. See *ALCANA*.

ALHIDADE, or *ALIDADE*, the index or label of an astronomical or geometrical instrument, for taking of heights or distances. The word is Arabic, and it signifies the same thing. In Greek and Latin it is called *dioptra*, *dioptra*, and *linea fiduciar*, *fiducial line*. The *alidade* is a kind of ruler, moveable

in the centre of the instrument, and carrying two points, which are erected perpendicularly at the two extremities of it.

ALHERTO, in *Astronomy*, a fixed star of the third magnitude, in the constellation CAPRICORN. This is otherwise called *rastrum galanæ*. Near this star, in the year 1600, appeared a new star, which lasted twenty-one years, and then disappeared again.

ALHUTS Point, in *Geography*, is situated upon a river falling into the Baltic, in a bay which bears nearly N. N. W. a little westerly from the island of Bornholm. If a ship is a league east of this point, the course will be due north to the bottom of the bay, having the land all the way on the larboard, but the depth of the water is uncertain. It is in N. lat. $55^{\circ} 35'$. E. long. $14^{\circ} 30'$. Malham's Naval Gaz.

ALI, in *Biography*, the son of Abu Taleb, who was uncle of Mahomet, and was eminently distinguished among the Mahometans, both during the life and after the death of their prophet. Ali was an early convert to the divine mission of his cousin, and contributed, in no small degree, by his zeal and activity, to the success of his cause. Having been taken in his infancy under the protection of Abubeker, the father-in-law of Mahomet, and the ardent promoter of his interest, he was directed by his patron to summon the kindred of the prophet, to receive from him a solemn declaration of his prophetic office. Mahomet, after announcing his commission to his assembled relatives, asked them who would become his vizir or vicergerent? Whilst they were hesitating, Ali started up and exclaimed, with the enthusiasm that marked his character, "I, O prophet of God, will be thy vizir; I myself will beat out the teeth, pull out the eyes, rip open the bellies, and cut off the legs of all who shall dare to oppose thee." Upon this Mahomet embraced Ali with great affection, and enjoined all who were present to regard him as his deputy. To him he afterwards committed the promulgation of the ninth chapter of the Koran; which commission he executed at Mecca, by reading 20 or 30 verses of this chapter to those who were assembled, and then announcing to them four particulars which were strictly to be observed, viz. "that no idolater is to come near the temple of Mecca after this year;" "that no man is to presume to compass the Caaba naked for the future;" "that none but true believers shall enter paradise;" and "that public faith is to be kept." Ali was equally celebrated for his eloquence and his valour; his surname of "the Lion of God, always victorious," sufficiently evinces his military renown; and as he succeeded his father in being chief of the illustrious family of Hashem, and hereditary guardian of the city and temple of Mecca, and had married Fatimah, the daughter of Mahomet, his talents and his rank, as well as his near relation to the prophet, and the personal favour by which he had been distinguished, established claims of pre-eminence, which naturally directed his views to the honour of succeeding Mahomet in the regal office. To this honour he also aspired; but he wisely declined contending for it during the three caliphates of Abubeker, Omar, and Othman. Upon the assassination of the last of these, Ali was unanimously elected caliph. When he was urged by some of the chief Moslems to accept the office, he said to them, "If you intend to recognize my authority as the successor of Mahomet, swear to be faithful to me, or else permit me to take the oath of allegiance to one of you." As soon as he was elected, he hastened to the mosque at Medina, at the time of prayer, in a thin cotton gown, tied about him with a girdle, with a coarse turban upon his head, carrying his slippers in one hand, and in the other a bow, which he used as a walking stick, and was there publicly inaugurated, in the 35th year of the He-

gira, A. D. 655. As soon as Ayeshah, the daughter of Abubeker, and the widow of Mahomet, heard of Ali's election, she expressed her disapprobation; having conceived an invincible prejudice against him, because, as it is said, he had discovered her infidelity to the prophet; and Telha and Zobeir, two persons of great influence, who had concurred in the choice, fled to Bassorah, and there raised the standard of rebellion. Ali had also roused the resentment of a strong party, by displacing those governors of the provinces, who had been appointed by his predecessor Othman. Ayeshah appeared at the head of the malcontents at Bassorah, and there Ali met them with an inferior force with regard to number, but formed of veteran troops. Ayeshah was mounted on a great camel, in a pavilion resembling a sort of cage, from which circumstance the day of battle was called the *day of the camel*. Ali gained a complete victory. Telha was slain in the engagement; Zobeir was afterwards assassinated; and Ayeshah was taken prisoner; and, after some submission, treated courteously, and sent back to Medina. The next enterprise of Ali was directed against Moawyah, a former governor of Syria, who had been proclaimed caliph, and was supported by the house of Ommijah, and by Amru, the conqueror of Egypt. The armies met at the plain of Seffin, on the western banks of the Euphrates. After several skirmishes, and an ineffectual challenge of Moawyah to single combat, the hostile forces engaged, and the contest was continued all night, to the great disadvantage of the Syrians; and this night was denominated by the Arab historians, "the valiant night." As victory was likely soon to be decided in favour of Ali, Moawyah, in concert with Amru, contrived an artifice that might induce the caliph's men to desert. With this view they ordered some of their men to carry lances, bearing upon their points copies of the Koran, at the head of the troops, and to cry out as they advanced, "This is the book that ought to decide all differences between us; this is the book of God between us and you, which absolutely prohibits the effusion of human blood." Ali was thus compelled by some of his troops, who threw down their arms, to sound a retreat, and thus to give up the contest in the moment of victory, and after having lost, as it is said, 25,000 men, and killed 45,000 of the enemy. The dispute was submitted to arbitration, and the two persons, by whose award it was to be determined, concurred in deposing Ali. Sentence was pronounced on a tribunal erected between the two armies. Abu Musa, one of the arbitrators, first pronounced his award: "I depose from the caliphate both Ali and Moawyah, in the same manner as I take this ring off my finger." Amru, the other arbitrator, immediately ascended the tribunal, and said, "I concur with Abu Musa in deposing Ali, and confer the caliphate upon Moawyah; I therefore invest that prince with the supreme authority in the same manner as I put this ring on my finger. And this I am the more disposed to do, as he has justice on his side; having been declared by Othman his successor, and being the most worthy of the Moslems to occupy the high station to which I now advance him." Thus commenced that schism among the Mahometans, which has produced animosity and mutual excommunication, and which is visible to this day in the rooted antipathy that subsists between the Turks and Persians. Ali and his adherents were disgusted and irritated; but they were under the necessity of acquiescing and retiring to Cufa, where Ali was soon deserted by the *Kharejites*, i. e. as the name imports, rebels or revolters. These were called *Mobakkemites*, or judicarians, because the reason they gave for their revolt was, that Ali had referred a matter concerning the religion of God to the judgment of men; whereas, in such case, the judgment belonged solely to God. The Kharejites

Kharejites, not convinced by Ali's reasoning, associated in arms, and fixed upon Naharwan, about four miles to the east of the Tigris, for their place of rendezvous. Ali marched out against them, and having reclaimed most of them to their former attachment by persuasion, he destroyed the rest in battle, and gained again the possession of Arabia. But his rival Moawiyah established himself in Syria and Persia, and Amru seized upon Egypt in his name. The Syrians also made an incursion into Ali's territories, exercised great cruelty, and committed many depredations. At this time three of the Kharejites happening to meet at Mecca, concurred in lamenting the miseries of the civil war which the people were enduring, and resolved to terminate them by assassinating the principal authors of them, *viz.* Ali, Moawiyah, and Amru. One of them hastened to Damascus, and wounded Moawiyah, but the wound, though dangerous, was not mortal. Another went to Egypt, and entering a mosque, where he expected to find Amru, mistook another person for him, and dispatched him, whilst Amru survived unhurt. The third conspirator, whose name was Abdalrahman, was more successful than either of his two profligate companions. Having arrived at Cufa, he engaged two associates, who joined in assaulting Ali at the door of the mosque, when Abdalrahman gave him the fatal blow. The expiring caliph left in charge with his son Hassan, in case of his death, to execute the assassin at one stroke, thus humanely guarding against the lingering torments which usually accompanied the death of offenders. Ali, pierced as it is said, by a poisoned sword, expired on the fifth day after his wound, in the 63d, 57th, or 58th year of his age, for such are the different accounts that are given of his age, in the 40th year of the Hegira, A. D. 660. His sepulchre at Cufa was concealed till the expiration of the caliphate of the Omniades; but in the year of the Hegira 367, A. D. 977, Addad ed Dowlat erected a superb monument over it, which has been decorated by the Persian kings, called, "the dome of the distributor of lights and graces," and regarded as a great object of the devotion of his votaries. A city, called Meshed Ali, has also been built to his honour, not far from the ruins of Cufa. Some of his most zealous devotees suppose that he is still alive, and expect his advent in the clouds of heaven to fill the earth with justice. Ali, after the death of Fatima, by whom he had three sons, Hassan, Houssain, and Mohassan, the first of whom succeeded him, had eight other wives. The Moslem writers, particularly those of his sect, speak highly of his corporeal, mental, and moral endowments. They extol his valour, munificence, and benignity of temper. Among them he also ranks high as to his learning. There are still extant his "Centiloquium," or collection of a hundred maxims or sentences, which has been translated from the Arabic into the Persian and Turkish, part of which has been published in English by Mr. Ockley; and also his "Divan," or collection of verses. But his most celebrated relic is a parchment, written in mysterious characters, intermixed with figures, prophetic of all the events that are to happen in the world. This was a deposit in the hands of his family. Many of Ali's sayings and apophthegms are recorded by authors; one of the most instructive is the following: "He who would be rich without wealth, powerful without subjects, and a subject without master, has only to forsake sin and serve God."

The appellations by which Ali was honoured by the Arabs are very distinguishing and honourable. On account of his superior bravery, they called him "Al Haidar," the lion, and "the victorious Lion of God." They also denominated him "Wasi," *i. e.* legatee or heir of Mahomet, and "Mortadi," *q. d.* beloved by, and acceptable to God.

He was also called by his followers, "the distributor of lights and graces;" and "the king of men."

Ali has given denomination to a sect or party among the Mahometans, who adhere to the right of succession of Ali, the fourth caliph, or successor of Mahomet, and the reform of Mussulmanism introduced by him. The sectaries of Ali are more particularly called *SHIITES*, and stand opposed to the *SONNITES*, or sect of Omar, who adhere to the law as left by Mahomet, Abubeker and Omar. The followers of Ali have possessed various states in Asia and Africa; and at present the Persians, part of the Usbec Tartars, and some Mahometan sovereigns of India are of the sect of Ali; whilst the Turks are of the sect of Omar, and hold Ali in execration. The distinguishing badge of Ali's followers is a red turban, which is worn by the Persians, who are hence called, in derision by the Turks, "Kisilbachi," *i. e.* red heads. *Mod. Un. Hist. c. ii. vol. i. Gen. Dict. Sale's Prel. Disc. to the Koran.*

ALI BEY, an eastern adventurer, whose history and exploits have interested much attention, was probably born among the Abazans, a people inhabiting Mount Caucasus, and brought by the slave-merchants to one of the annual sales at Cairo, where he was purchased by the brothers, Isaac and Yousef, Jews, employed in the custom-house, and by them presented to Ibrahim, a kiaya, or veteran colonel of janizaries, who was then one of the most considerable men in Egypt. At this time he is supposed to have been 12 or 14 years of age. By the favour of his patron, to whom he rendered the usual services of the Mamlouks, he was taught to read and write, and to perform the customary exercises of a military kind, in which he displayed a fire and activity that obtained for him the appellation of *djendali*, or madman. At the age of 18 or 20 his beard was allowed to grow, or he was made free; and his patron gave him a wife and revenues; promoted him to the rank of kachef, or governor of a district; and at length procured him to be elected one of the 24 beys. Thus favoured and advanced, his ambition was excited; and the death of Ibrahim, in 1757, opened a free course for the execution of his projects. After an absence of a few years, during which he had been engaged in a variety of intrigues, for raising and displacing several chiefs, and two years of which he had passed in a state of exile in Said, or Upper Egypt, devising and maturing his plans of future dominion, he returned to Cairo in 1766; and in one night killed four beys, who were his enemies, banished four others, and thus became from that time the chief of the most numerous party. Not contented with the trivial title and dependent office of bey, he aspired to the title and honour of Sultan of Egypt; and with these views he determined to throw off the supremacy of the Porte; and accordingly he expelled the pacha, refused the customary tribute, and in 1768, he proceeded to coin money in his own name. The attention of the Porte was so much occupied by other concerns that he was under a necessity of temporising; and Ali, well apprised of his situation, pushed forward his enterprises with success. He began with dispossessing Hammam, an Arab sheik, of a part of the Said, which he had occupied, and where he had formed a power capable of giving disturbance; and towards the end of this year, 1769, he fitted out some vessels at Suez, which were ordered to seize on Djedda, the port of Mecca, whilst a body of cavalry marched by land to take possession of Mecca itself, which was given up to plunder. The project which he had formed, in consequence of the suggestion of a Venetian merchant, was to make Europe abandon the passage to the East Indies by the Cape of Good Hope, by substituting the ancient route of the Me-

d'terranean and the Red Sea. Flashed with success in the petty enterprises he had already accomplished, and flattered by the wide extent of his ambition suggested to him more extensive conquests. Syria was the first object of his contemplation; and the war with the Russians, which broke out in 1770, and which occupied all the Turkish forces in the north, favoured his design. Besides, sheik Daher, in armed rebellion against the Porte, would be a powerful and natural ally; and the extortions of the pacha of Damascus disposed those he had oppressed for revolt, and made way for his obtaining the title of the deliverer of nations. Ali having laid his plan, detached in 1770 a corps of Mamlouks to take possession of Gaza, and thus to secure an entrance into Palestine; and soon after he sent a larger army, to form a junction with Daher at Acre, and to proceed from thence to Damascus. Osman, pacha of Damascus, was occupied in his preparations, and collected an army equally numerous and ill regulated. On the 6th of June 1771, the two armies met, and a decisive action took place, in which Mohammed, the friend of Ali, and Daher his ally, proved victorious. They immediately took possession of Damascus; but the castle resisted. At the moment when the signal of surrender was expected, Mohammed suddenly commanded a retreat, and all his cavalry turned towards Egypt. This singular revolution was at first attributed to a pretended report of the death of Ali Bey; but it was really owing to a conference which had passed the preceding night between a crafty agent of Osman and Mohammed Bey, Ali's commander. Ali, though disappointed and chagrined, did not renounce his projects: he prepared, in conjunction with Daher, a second army for the campaign of 1772; but the event was unpropitious. The escape of Mohammed roused his jealousy and his fears; he beheld in him a dangerous rival, and resolved on his ruin. Having ordered the gates of Cairo to be shut, and no Mamlouk to be allowed to pass, he sentenced Mohammed into immediate exile in the Said. Mohammed, however, contrived to make his escape; and from this moment all was lost. The Mamlouks, wearied with the insolence of Ali Bey, repaired in crowds to his rival, and in about six weeks he left the Said, with a strong force, and marched towards Cairo. Ali prepared to meet him; and in the month of April 1772, the two armies had a rencontre in the plains of El-Mafateb, at the gates of Cairo; the issue of which was, that Mohammed and his party entered the city, sabre in hand; and Ali Bey had barely time to escape with 800 of his Mamlouks. With this inconsiderable force he repaired to Gaza, and attempted to join his ally, Daher, at Acre, who, after some danger from which he was rescued, conducted him to Acre. Both Ali and Daher marched to the succour of Said, (Sidon) which was then besieged by the troops of Osman, in conjunction with the Druzes. At their approach the Turks raised the siege, and retired to a place about a league north of the city, on the river Aoula. There, in July 1772, an engagement took place; and the Turkish army, three times more numerous than that of the two allies, was entirely defeated. The seven pachas, who commanded it, fled; and Said remained in the possession of Daher. Ali Bey and Daher, on their return to Acre, proceeded to chastise the inhabitants of Yafa or Jaffa, who had revolted; and after a siege of eight months the town capitulated in February 1773. Ali now determined to return to Cairo; and he was encouraged in his purpose by the promised succours of Daher, and of the Russians. This assistance was delayed, and Ali became impatient. In April 1773, quickened in the execution of his purpose, by fabricated letters, which he received from Cairo, he began his march at the

head of his Mamlouks, and some troops furnished by Daher; but when he advanced into the Desert, which separates Gaza from Egypt, he fell into an ambush of 1000 Mamlouks, who were waiting his arrival. This corps was commanded by Mourad, a young bey, who, being enamoured of the wife of Ali Bey, had obtained a promise of her from Mohammed, in case he should bring him the head of Ali. The attack was impetuous; Mourad met with Ali in the crowd, wounded him in the forehead, made him prisoner, and conducted him to Mohammed. By his former master, Ali was received with perfidious respect; but on the third day, this parade of civility and politeness terminated by the death of Ali Bey, who, according to some, died of his wounds; or, as others report, by poison.

Ali Bey was certainly a character of original vigour and capacity; and was superior in his views to what could have been expected from one who was bred in a school of barbarism and ignorance. He governed Egypt with a steady hand, and was particularly favourable to the Franks; but he undertook more than he had power or talents to perform, and exhausted his revenues in fruitless enterprises. He is also blamed for too soon resigning active labours to his lieutenants, and for placing unlimited confidence in his favourites, and winking at the exactions of his officers. His morals were those of his class and country, where perfidy and murder are allowable means in pursuing the objects of ambition; yet he was not devoid of generosity and a sense of justice. During his administration, several nests of robbers in Egypt were annihilated, villages which had been inhabited by the pirates of the Nile were razed; the communication between different parts of the country was free; the roads were no longer infested with robbers, nor was navigation interrupted by that spirit of pillage, which, since his death, has resumed its fatal activity. It was his wish, "that every man might be able to carry his purse in his hand, and leave his door open, even during the night, without running any risk."

Volney has pointed out the errors of Savary's account of this singular person and the source whence they were derived. Volney's Travels in Egypt and Syria, vol. i. c. 8. p. 114—142. Sonnini's Travels in Egypt, p. 391, 4to. Gen. Biog.

ALI, in *Geography*, a town of Asia, in the country of Georgia, 50 miles west of Teflis.

ALI, a town of Asia, in the country of Georgia, in the province of Satabago; 22 miles south-west of Akalzika.

ALIA, *Alia*, in *Grecian Antiquity*, solemn games celebrated at Rhodes on the 24th day of the month Gorpiaæ, corresponding to the Athenian Bædromion, in honour of the sun, *Ἡλιος*, or *Ἀλιος*, who is said to have been born there; the inhabitants of which were hence called *Ἡλιαδæς*, *Heliadæ*. The victors were crowned with poplar. Strabo, tom. ii. p. 966.

ALIABAD, in *Geography*, a town of Persia, in the province of Tabristan, 10 leagues south south-east of Ferabad.

ALIACMON, or HALIACMON, in *Ancient Geography*, a river of Macedon, separating it from Thessaly, rises in the Penestæ mountains, and running south-east, enters the bay of Thessalonica, between the cities of Pydna, and Dion.

ALJAKI, in *Geography*, a town of Poland in the palatinate of Kiov, 20 miles south-east of Czerkasy.

ALJAMEIA is a name which the Morescoes in Spain give to the language of the Spaniards.

Among other articles agreed on by the junto, which was appointed

appointed by the emperor Charles V. in 1526, in favour of the Morecoes, this was one, that the Morecoes should no longer speak *Algavareia*, i. e. Moorish, or Arabic, but should all speak *Aljameia*, i. e. Spanish, as it was called by the Moors, and all their writings and contracts should be in that language. Geddes's *Misc. Tracts*, tom. i. p. 23.

ALIANA, in *Geography*, a bishoprick of Phrygia, subject to the metropolis of Laodicea.

ALIANNELO, a town of Italy in the kingdom of Naples, and province of Basilicata, 27 miles east of Potenza.

ALIANO, a town of Naples, in the province of Basilicata, 23 miles south-east of Potenza.

ALIANO is also a town of Naples, in the country of Lavora, two miles west of Gaeta.

ALIANSKOI, a fort of Russian Siberia, in the government of Kolivan, 120 miles south-west of Kolivan. N. lat. 52° 50'. E. long. 79° 34'.

ALIARBUCHA, in *Natural History*, the Arabian name for a large kind of rat, the Jerboa of other writers, common in that country, and good to eat, according to Bochart, who thinks it the same as the *saphan*, mentioned in Leviticus, and there declared unclean. Levit. xi. 5.

Dr. Shaw thinks the *saphan* to be the *DAMAN* of Israel, or a species of rabbit.

ALIARDII, in *Ancient Geography*, a people of Africa, according to Ptolemy.

ALIARIA, a town of Comagena, placed by Antonin, in the route from Nicopolis to Edessa.

ALIARTUS. See HALIARTUS.

ALIAS, in *Law*, a second or farther writ issued from the courts of Westminster, after *cohas*, &c. sued out without effect.

ALIBACA, in *Ancient Geography*, a town placed by Ptolemy, in the Pentapolis.

ALIBANI, or ALIBINALI, in *Geography*, a town of Arabia, 140 miles south-east of Amanzirifdin.

ALIBAG *Revi*, a town of European Turkey in Bulgaria, eight leagues east of Silistria.

ALIBI, in *Law*, denotes the absence of the accused from the place where he is charged with having committed a crime: or his being *elsewhere*, as the word imports, at the time specified.

ALICA, in the *Ancient Physic* and *Diet*, a kind of food; but the various accounts given of it by authors, make it uncertain what it was; some representing it as a sort of grain, and others as an aliment made of grain.

The Greek word for *alica* was *χορδος*, which term, and *κορδισσων*, seem to have been general names for all spelt or hulled grain, beaten or ground into a pulp.

Ray, in his history, says the *alica* differs from the *χορδος*, as the *genus* from the *species*.

ALICA, in *Geography*, a town of Italy in the duchy of Tuscany, 29 miles west south-west of Florence.

ALICANDRA, or ALIDRACA, in *Ancient Geography*, a town placed by Ptolemy in Media.

ALICANE, in *Geography*, a river towards the south-west part of the island of Ceylon, nearly east from Barberine island, and south from Calitree.

ALICANT, a small, but well-built, rich, populous, and fortified sea-port town of Spain, in the kingdom of Valencia. It is situated on the Mediterranean, between a mountain, on which the castle stands, and the sea; and it is well defended by strong bastions. This mountain is white, and being visible at a great distance, seems as a guide to pilots. The bay in which it stands is sheltered on the east by Cape

de la Huerta, and to the west by Cape St. Paul, and the island of Tabarca. Vessels anchor about a mile from the mole, which is large and commodious, in water from six to 10 fathoms, and may enter and go out with any wind. This bay is said to have been the ancient gulf of Ithaca, called from a Roman colony, now Ulcin; but the declining state of that port, and the improvements of Alicant, gave it the name which it now bears: it begins at Cape St. Martin, and terminates at Cape Pinar. The coast is guarded by watch-towers against the incursions of the Corsairs. Alicant was taken from the Moors in 1264. The castle was taken by the English in 1706, and retaken in 1708, by the Spaniards. The adjacent territory is fertile, and produces white and red wines that are much valued. The export trade, which is considerable, consists of barilla, antimony, alum, aniseed, cummin-seed, dried fruit, wool, and wine. As the duties of entry are lower than those at Valencia and Carthage, this circumstance has contributed to the increase of its commerce and riches. Linen, from France, Switzerland, and Silesia, and camblets and woollens from France, are the chief imports. The English, French, Dutch, and some Italian States have usually had a consul at Alicant. N. lat. 38° 34'. W. long. 0° 7'.

ALICARIE, in *Ancient History*, a term synonymous with prostitutes.

ALICANUM, or HALICANUM, in *Ancient Geography*, a town of Pannonia.

ALICASTRUM, in *Botany*. See BROSIMUM.

ALICATA, in *Geography*, a small town of Sicily in the valley of Noto, built partly upon a slope, and partly on the beach, at the end of a long chain of hills; 19 miles east south-east of Girgenti, and 60 south-west of Catania. This is a place of little strength, the castle of St. Angelo on the brow of the hill being ruinous, the town walls much decayed, and the fortrefs on the peninsula wanting repairs. It forms two small bays for the barges that carry out the corn to ships that lie in the offing. It has great connections with Malta in the corn trade. The town contains 10,000 inhabitants. The populace pay great respect to the sacerdotal character; the women and children falling on their knees in the streets before a clergyman, touching his garments with a finger and then kissing their hands with great veneration. Alicata is said to possess some ancient Greek manuscripts relating to the ancient city of Gela: the most remarkable is a psephisma, or decree of the senate, for crowning Heraclides director of the public academy. This town was plundered by the Turks in 1543. N. lat. 37° 11'. E. long. 13° 51'. Swinburne's *Travels into Sicily*, vol. iv. p. 39.

ALICATA is also a mountain of Sicily not far from this town, in which, as it is thought, was situated Dædalion, where Phalaris kept his brazen bull.

ALICHORDA, or ALICODRA, a town, placed by Ptolemy in Bactriana.

ALICE, a river of Sicily, was the ancient boundary of the Locrian state. Immense quantities of anchovies frequent the mouth of this stream and the adjacent coast: it is therefore probable that either the fish derived its Latin name Halic from the river, or the river was called after the fish.

ALICONDA, in *Botany*, an African tree, growing naturally in the kingdom of Congo, of such bulk that 10 men cannot fathom it round. The natives called it bondo, and as the wood easily rots, they do not build their huts near it, lest its fall should crush them to death, or its fruit, which is of the size of a large gourd, and easily broken from

the tree, should knock them down. The bark of this tree, well beaten and macerated, yields a coarse thread, of which they make their ropes, and which macerated and dried, and beaten with bars of iron or wood, becomes like a large piece of cloth, with which the natives cover their middle from the girdle to the knees. The shell or rind of the fruit, which is hard like that of a gourd or calabash, being freed from its pulp, which in time of scarcity may be made into a nourishing pottage, serves for vessels of various kinds, and gives to water, preserved in it, a pleasant aromatic taste. The small leaves are eaten in time of scarcity, and the large ones serve to cover houses, or being burned, to make good soap. *Mod. Un. Hist.* vol. viii. p. 23. 8vo.

ALICONEA, in *Entomology*, the name given by Cramer to the *PHYLLO JULIA*.

ALICUDA, or **ALICUR**, one of the Lipari islands, near the coast of Sicily. N. lat. $38^{\circ} 31'$. E. long. $14^{\circ} 32'$. This island is about six miles in circuit; its population is not so great as that of **FELICUDA**, which contains about 650 inhabitants, and the houses are built at the south and south-east end of the island, on the declivities of the mountains about halfway up their ascent, in order to be guarded against the nightly surprize and attack of the Tuntian Corsairs. Besides Indian figs, and some olive-trees, these two islands contain many vines, from the grape of which a good wine is made, though it be not malmsey, nor the grape the passola or passolina. The corn grown here is barley and wheat, which, together with the grapes, amount in value of produce to about 3000 Neapolitan crowns. The industry and patience of the people of Alicuda are incredible; they do not lose an inch of the ground they cultivate. Their soil is almost wholly interrupted by points of rocks, masses of lava, clefts and crags; and yet they render tracts of this kind productive, by turning and breaking them with pointed spades: so that the Liparese humorously say of them, that the people of Alicuda till their lands with the point of a knife. In all the Æolian isles there is not better bread than that of Alicuda. Three or four fishing boats belong to this island, which are mostly the property of the parish priest, and are employed for the augmentation of their ecclesiastical revenues, amounting to little more than 12 sequins. There is not a single spring of fresh water either in Alicuda or Felicuda; and therefore when it does not rain for several months, the distress of the inhabitants is extreme. They have no serpents in these islands, as they furnish no food necessary for their subsistence. The people are exempted, on account of their poverty, from every kind of taxation, the tythes which they pay to the bishop excepted. These islanders, notwithstanding their extreme poverty, and inhabiting huts, formed of pieces of lava, scarcely admitting a ray of light, and appearing like the nests of birds hung to the cliffs, are singularly contented and happy. Their fare consists of black barley bread, and wild fruits, and sometimes, by way of dainty, salt fish, and their drink of pure water; and yet such is the temperature of the climate, and the salubrious quality of the air, that they enjoy, with little interruption, health of body and cheerfulness of mind. The vestiges of fire are discernible in every part of this island, but the actual existence of volcanic eruptions and conflagration precedes the records of history. The volcanic materials, now found in it, and particularly examined by the accurate and industrious Spallanzani in his visit to this island, are pumices, tufas, and glasses, and great quantities of lava, in detached globules and continued currents, which have petrosilex for their base. Dolomieu was of opinion, that Felicuda and Alicuda had once formed a single

conical mountain, which had been opened and separated on one side; but Spallanzani alledges several circumstances that evince the improbability of this opinion. Although these two islands exhibit numerous and indubitable characters of fire, no signs of it in a state of activity are now to be seen. The ancient name of Alicuda was *Ericusa*; and the author of the epitome of Stephanus says, that it was so named from the *erica* or heath which grows there plentifully. Strabo likewise (lib. vi.) informs us, that these two islands derived their names from plants. But in the time of Aristotle and Strabo, and other ancient writers, the conflagrations in these two islands, as they are unnoticed by them, must have been entirely extinguished. Spallanzani's Travels in the two Sicilies, vol. iii. c. 18—vol. iv. c. 24.

ALICULA, in *Antiquity*, a kind of puerile habit worn by the Roman children. This was a sort of *chlamys*; some explained it by *tunica maricata*.

ALICYRNA, in *Ancient Geography*, a place of Greece, situate, according to Steph. Byz. in Acarnania, and according to the periplus of Scylax in Ætolia. It is probably the *lycirna* of other authors, to the south of Calydon on the borders of the sea.

ALIDES, in the *Mahometan History*, the descendants of Ali, otherwise called *Fatimites*. See **ALI**.

ALIEIS, in *Ancient Geography*, a sea-port town of Peloponnesus, in Laconia, inhabited by fishermen, whence its Greek name.

ALIE-KRUYK, in *Natural History*, a Dutch name given to a kind of sea-snail, the history of which is given by Swammerdam. *Bib. Nat.* tom. i. p. 180.

ALJEMBUT, or, as some write it, *gembut*, in *Botany*, a name given by the Arabians, Avicenna, and others, to a species of **ACACIA**, which they also call the Nabathæan pod, and ceration, or filiqua, and which some have supposed to be the same with the common carob; but they expressly distinguish it, by saying that it is an astringent, whereas the other is gently purgative; and that the fruit of it was given in hæmorrhages. Nay, Isidore goes so far as to say, that the acacia juice of the shops was made of its fruit, while unripe.

ALIEN, in *Law*, a stranger or person born out of the king's allegiance; or under the jurisdiction of some other sovereign; and not naturalized, or made a denizen.

Of these there are two kinds; viz. *alien friends*, who are of those countries which are at peace and league with us; and *alien enemies*, who are of countries at war with us; to which some add a third, viz. *alien infidels*.

A man born out of the land, but within the limits of the king's obedience beyond the seas; or of English parents out of the king's obedience, provided the parents at the time of the birth be of such obedience, is no alien, but a subject of the king, stat. 2. 25 Edw. III. commonly called the statute *De natis ultra mare*.

By several more modern statutes, (7 Ann. c. 5. 10 Ann. c. 5. 4 Geo. II. c. 21, and 13 Geo. III. c. 21.) these restrictions are further taken off; so that all children born out of the king's liegeance whose fathers, or grandfathers by the father's side, were natural born subjects, though their mothers were aliens, are now deemed to be natural born subjects themselves to all intents and purposes, unless their said ancestor were attainted, or banished beyond sea for high treason; or were at the birth of such children in the service of a prince at enmity with Great Britain. But the grandchildren of such ancestors shall not be privileged in respect of the aliens duty, except they be protestants, and actually reside within

within the realm; nor shall be enabled to claim any estate or interest, unless the claim be made within five years after the same shall accrue. The children of aliens born in England are, generally speaking, natural born subjects, and entitled to all the privileges of such. 1 Comm. 373.

By the stat. 11 and 12 W. III. cap. 6. all persons being the king's natural born subjects, may inherit as heirs to their ancestors, though their ancestors were aliens. Children of an ambassador in a foreign country by a wife who is an English woman, are natural born subjects by the common law. 7 Rep. 11. And if an English merchant living beyond sea, marries a wife there, and hath a child by her and dies, this child is born a denizen, and shall be heir to him, notwithstanding the wife be an alien. Cro. Car. 605. Persons born in English plantations are natural born subjects.

An alien can hold no land by descent or purchase, or be tenant by courtesy, or in dower; and if he purchase, the king shall have it; but he may purchase a house for years for habitation, during his residence, as necessary for trade. If an alien merchant leaves the kingdom, the king shall have the lease; if he be no merchant, the king shall have his lease for years, though it were for his habitation; and by the stat. 32 Hen. VIII. there is a penalty for letting houses to aliens. 5 Rep. 502.—7 Rep. 18.—1 Inst. 2. 129.—2. Inst. 741.

By 13 Geo. III. c. 14. aliens are enabled to lend money on the security of mortgages of estates in the West India colonies, and may have every remedy to recover the money lent, except foreclosing the mortgage and obtaining possession of the land.

A devise of lands to an alien is void; and if a man be bound to an alien enemy in a bond, it is void to him, but the king shall have it.

Aliens, however, may obtain goods and personal estate by trade, &c. and may bring actions for the same; and make a will and dispose of their personal estate; but an alien enemy cannot maintain any action whatever, nor obtain any thing lawfully within the realm. 1 Bult. 124. Terms de Ley. 36.

Aliens are not to be returned on any jury; but where an alien is party in a cause, the jury are to be half denizens and half aliens, except in cases of high treason. 2 Inst. 17. By stat. 27 Ed. III. c. 8. if both parties are aliens, the inquest shall be all aliens. By the stat. 12 W. III. cap. 2. aliens are incapable of being members of parliament, or of enjoying offices; neither have they any vote for the election of members. Hob. 271. Aliens likewise are by several acts of parliament put under several other restrictions, with regard to exercising trades, taking apprentices, and are likewise disabled from being factors in the plantations, &c. See DENIZEN and NATURALIZATION.

A very great influx of Frenchmen into England having been occasioned in the years 1792 and 1793, by the troubles in France, and there being cause to suspect that some of them were sent here for dangerous and unjustifiable purposes, an act was passed, stat. 33 Geo. III. c. 4. commonly called the *Alien-bill*, compelling the masters of ships arriving from foreign parts, under certain penalties, to give an account at every port of the number and names of every foreigner on board to the custom-house officers; appointing justices and others to grant passports to such aliens; and giving the king power to restrain and to send them out of the kingdom on pain of transportation, and on their return, of death. The same act also directs an account to be delivered of the arms of aliens, which, if required, are to be delivered up, and aliens were not to go from one place to

another in the kingdom without passports. This act was continued by several subsequent acts; by 38 Geo. III. c. 50. to Aug. 1, 1800, and from thence to the end of the then next session of parliament, and by 41 Geo. III. c. 24. till six months after the conclusion of a general peace.

Aliens duty, an impost laid on all goods imported into England, by aliens, or denizens, and even on certain goods imported by natural subjects, if they be brought on foreign bottoms, over and above what is paid for the same goods imported by British, and in British shipping. 12 Stat. Car. II.

Aliens duty is otherwise called *petty customs*, and *navigation duty*. This was first granted in 31 Ed. I.

Fish, dried or salted, and cod-fish, or herring, not caught in British vessels, and cured by British, pay a double *aliens duty*.

Aliens duty outwards, is taken off by the following acts. 12 Car. II. cap. 4.—25 Car. II. cap. 6.—5 Ann, cap. 27.—6 Ann, cap. 10.—7 Ann, cap. 7.—9 Ann, cap. 6.—8 Geo. I. cap. 15.—11 Geo. I. cap. 59.

Seavage, parkage, and balliage, payable to the city of London, are properly alien duties. On what footing aliens are permitted to import foreign commodities into Great-Britain. See DUTY.

ALIEN is sometimes used, in *Middle Age Writers*, for *exempt*. Du-Cange.

ALIEN-amy, or *alien friend*. See ALIEN.

ALIEN *priories*, a subordinate kind of monasteries in England, belonging to, and independent on, other monasteries in foreign countries. In the reign of Henry V. the alien priories, or abbeys for foreign monks were suppressed, and their lands given to the crown. Vide Dugd. Monast. Abr. p. 44.

ALIENATION, ALIENATIO, in *Law*, the act of making a thing another man's; or the altering or transferring the property, and possession of lands, tenements, or other things from one man to another.

To *alienate*, or alien in *MORTMAIN*, is to make over lands or tenements to a religious community, or other body politic.

To *alienate* in *FEE*, is to sell the fee-simple of any land, or other incorporeal right.

All persons who have a right to lands may generally alien them to others; but some alienations are prohibited: such as alienations by tenant for life, &c. whereby they incur a forfeiture of their estate. 1 Inst. 118.

By the statute of Edward I. a bar was put to alienations by what we call *entails*, which is an expedient for procuring *perpetuities* in families; but counter-expedients were devised to defeat this intent, and a practice was introduced of cutting off entails by *finer*, and of barring remainders and reversions by *recoveries*.

Estate in tail, for life or years, where the whole interest is not parted with, may be made with condition not to alien to others, for the preservation of the lands granted in the hands of the first granter.

The statute for alienations in Henry the Seventh's time, had a great effect on the constitution of this kingdom: as among other regulations of that reign, it tended to throw the balance of power more into the hands of the people. By the stat. 12 Car. II. cap. 24. fines for alienations are taken away; except fines due by particular customs of manors.

Crown lands are only alienable under a faculty of perpetual redemption.

The council of Lateran, held in 1123, forbids any clerk to alienate his benefice, prebend, or the like.

By the laws of the ancient Jews, lands could only be alienated

alienated for the space of fifty years. At each return of the jubilee, all returned again to the primitive owners, or their descendants, to whom the lands were originally allotted, at the first distribution of Canaan.

ALIENATIO a Ymali. See *ABDICTION*.

ALIENATION *procuratoria*, is an office to which all writs of covenant, and entry, upon which fines are levied, and recoveries entered, are carried, to have fines for alienation set and paid thereon.

ALILU, or *ALILU*, in *Ancient Geography*, islands placed by Ptolemy in the Adule gulf, near Ethiopia.

ALILI, in *Geography*, a town of Italy, in the kingdom of Naples, and country of *Lavora*; five miles north of *Capua*. This town, placed by M. d'Anville to the south-west of *Bovianum* and north-west of *Beneventum*, was formerly a Roman colony, and possessed by the *Sanniti*.

ALIFORMES musculi, in *Anatomy*, are thus called from *ala*, a wing, *musculus*, resembling wings. See *Pterygoideus*, *musculus*, *internus*.

ALIFORMES processus, are processes of the *sphenoid* bone, under which article they will be described.

ALII multi, *Alii de regno*, are phrases which often occur in our ancient records and historians. Their meaning has occasioned much dispute. Dr. Brady will have them to signify only tenants *in capite*; which Mr. Tyrrel endeavours to refute, and shews that they denote the whole commons of the kingdom. Hist. of Eng. tom. i. Appen.

ALILÆI, in *Ancient Geography*, a people who inhabited the western part of Arabia Felix; among whom gold, it is said, was so abundant, that it was held in lower estimation than copper and iron, which were probably very scarce.

ALIMA, among *Mineralists*, a kind of sand found in gold mines, out of which lead is extracted.

ALIMALA, in *Ancient Geography*, a country of Asia Minor in *Lycia*. Steph. Byz.

ALIMEA, or *HALIMUSIA*, a district of Attica, belonging to the Leontid tribe, situate near the Phalereum, and in the vicinity of Athens. In this district was a temple consecrated to *Ceres Thesmophoria*, or the legislatrix, and to *Proserpine*, according to *Pausanias*, in *Attic*. lib. i. c. 31. p. 76.

ALIMENA, in *Entomology*, a species of *PAPILIO Nymphalis*, with dentated black wings, an interrupted carulean fascia, and seven white marginal points, found in South America and India.

ALIMENT, *ALIMENTUM*, formed of *alere*, to nourish, in a physical sense, is whatever may be dissolved and turned into chyle, so as to be afterwards converted into blood, for augmenting the body, or repairing its continual waste. The subject of aliments has been very diffusely and comprehensively discussed by Dr. Cullen, in his *Mat. Med.* vol. i. p. 217—498. See *CHYLIFICATION*, *DIGESTION*, *DRINK*, *FOOD*, and *NUTRITION*.

ALIMENT of plants. See *PLANTS*.

ALIMENTARY, *ALIMENTAL*, something that relates to aliment, or food.

ALIMENTARY duct, or *canal*, is a denomination that has been given to the whole of those passages which the food permeates from the mouth to the anus. It is divided into the gula, which is subdivided into the pharynx and œsophagus, the stomach, and the intestines. For an account of its structure and functions, the reader is referred to these divisions.

This duct is said to be the true characteristic of an animal, or *proprium quarto modo*; there being no animal without it, and whatever has it, being properly enough ranged under

the class of animals. Plants receive their nourishment by the numerous fibres of their roots, but have no common receptacle for digesting the food received, or for carrying off the excrements. But in all, even the lowest degree of animal life, we may observe a stomach and intestines, even where we cannot perceive the least formation of any organs of the senses, unless that common one of feeling, as in oysters. Phil. Transf. N. 269. p. 776, seq.

Dr. Wallis deduces an argument from the structure of the alimentary tube in man, to prove that he is not naturally carnivorous. To the cogency of which, Dr. Tyson makes some objections. Phil. Transf. N. 269. p. 777.

ALIMENTARY duct, is sometimes also understood of the thoracic duct.

ALIMENTARY loco, *lex alimentaria*, was an old law among the Romans, whereby children were obliged to find sustenance for their parents.

ALIMENTARY boys, *Alimentarii pueri*, &c. were certain children maintained and educated by the munificence of the emperors, in a sort of public places, not unlike our hospitals.

Trajan was the first that brought up any of these alimentary boys. He was imitated by Adrian. Antoninus Pius did the same for a number of maids, at the solicitation of Faustina; and hence, in some medals of that empress, we read *PUELLÆ FAUSTINIANÆ*.—Alexander Severus did the like, at the request of *Mammæa*: and the maids thus educated are called *Mammæanæ*.

ALIMENTATION is used by some naturalists, for what we more ordinarily call *NUTRITION*.

ALIMENTUS, *CINCIUS*, in *Biography*, a Roman historian, was a prætor in the consulship of *Claudius Marcellus* and *Marcus Valerius*, in the year 152, B. C. Livy represents him as a diligent collector of historical facts; and as an eminent writer, giving him the appellation of “*maximus auctor*.” Livy, lib. vii. lib. xxx. He wrote the history of *Hannibal*, in whose hands he was a prisoner; and the history of *Gorgias* of *Leontium*, probably from materials which he collected during his prætorship in Sicily. He was also the author of a treatise on the military art, mentioned by *Aulus Gellius*, (lib. xxvi. c. 4.) and *Arnobius*, (lib. iii.) mentions him in his account of the foreign divinities, called *Novenæ*.

ALIMNE, in *Ancient Geography*, a town of Asia, in Phrygia, supposed to be the same with that called also *Alinum*.

ALIMONY, *ALIMONIA*, properly signifies nourishment, or maintenance: but in a modern sense, in *law*, it denotes that portion, or allowance, which a married woman sues for, upon any occasional separation from her husband, wherein she is not charged with elopement or adultery.

This was anciently called *rationabile estoverium*, *reasonable maintenance*, and was recoverable only in the spiritual court; but now it is recoverable also in chancery.

Where a woman is divorced *a mensa & thoro*, she may sue her husband in her own name for alimony, or maintenance, out of her husband's estate, during the separation, either in the chancery, or in the spiritual court; and it will be allowed, except in the cases of elopement and adultery, as aforesaid. 1 Inst. 235.

ALIMOS, in *Botany*, the name given by some of the Greek writers to the common liquorice. It has been thus called, from its quality of palling the appetite, and making it insensible either of hunger or thirst.

ALINA, in *Ancient Geography*, one of the three small islands

islands Cryæon, situate on the north-west part of the gulf of Clæucus, towards lat. $36^{\circ} 35'$.

ALINA, or ATINA, a district of Italy, in that part of Magna Græcia, called Lucania, north of Cæsariana, and west of Abellinum Mariscum.

ALINDA, a town placed by Ptolemy in Caria, between Stratonice and Badessus. This is erroneously called *Alina* by Steph. Byz.

ALINDESIS, in the *Ancient Gymnastic Medicine*, a kind of exercise, wherein persons being besmeared with oil, rolled themselves naked in the dust.

The word is sometimes also written *αλινδορ*.

ALINDOCA, in *Ancient Geography*, a town placed by Steph. Byz. in Macedonia.

ALINGO, *Alingonis portus*, *Lingon*, is assigned by M. d'Anville to the Vassati, and placed between Sirio to the north-west and Uffubium to the south-east. Sidonius Apollinaris speaks of it as being situated on the Garumna.

ALINGSAHS, in *Geography*, a town of Sweden, in West Gothland, situate on the river Sewelanga. It was built by the inhabitants of Ny-Lodese, after the destruction of their town by the enemy. A silk and woollen manufacture is established in this town; tobacco is also spun, and tobacco pipes are made here. This is the 81st voting town in the Diet.

ALINZA, a town placed by Ptolemy in Media, and called also *Orofa*. Another town of the same name was situated more to the north. *Alinza* was also a town of Sufiana.

ALIONE, or ALONE, a name given in the Notitia to LANCASTER.

ALIOS baton, in *Ichthyology*, a name given by Aristotle to the strange fish called by Artedi, *LOPHIUS*, and by others *RANA piscatrix*.

ALIPENOS, in the *Ancient Physic*, an appellation given to dry topical medicines, or such as have no fat mixed with them.

The word is sometimes also written *alipantos*. It is purely Greek, *αλιπαντος*, compounded of the primitive *α*, and *λιπανω*, *pinguescere*, to fatten. In which sense *alipena* stands opposed to *lipara*, or plasters, which have fat in their composition; called also by Celsus, *lenia*.

Galen gives the name *αλιπη* to the remedies applied to fresh wounds, to check the inflammation, and hasten their healing.

ALIPHERA, in *Ancient Geography*, a town of Arcadia, seated in the western part of it, and south of Heræa, by which the river Alpheus passed, on the top of a high and steep hill, which was defended by a strong fortress. Some say that it took its name from Alipherus, the son of Lycaon. It was abandoned by the greatest number of its inhabitants, when Megalopolis was founded; and at the time of the Achæan league it was joined to Triphylia. This city was reduced by Philip of Macedon, when he brought the whole country of the Triphalians under subjection. We learn from Polybius, (lib. ii. p. 343.) that there was to be seen in this fortress a brazen statue of Minerva, famous for its size and workmanship. But he adds, that the inhabitants could give no satisfactory account why it was placed there, and at whose charge. It was the work of Hecabodorus and Sostratus, and generally esteemed the most beautiful and finished piece which they ever executed. Minerva and Hercules had both temples in this place; and the tradition of the country reports, that Minerva was born and educated here.

ALIPILARIUS, or ALIPILUS, in *Antiquity*, an officer belonging to the baths, who, by means of wax, and waxen plasters, took off the hairs from the *alcæ*, or arm pits. The

women who performed this office were called *piscatrices*, and *pisciltrie*.

The *alipilus* answered to what the Greeks called *δραπανιστος*.

The ancient Romans made it a point of cleanliness to keep the arm-pits clear and smooth. In after-times, they went farther, and took off the hair from their arms, legs, and other parts, with pitch and rosin, and by the *vossella*, an instrument for that purpose.

ALIPOW MONIS CETI, in the *Materia Medica*, a kind of white turbit, which is a strong purgative. It is to be found in several places of Languedoc, particularly near Cete, whence the modern botanists have given it its name. It is sometimes used instead of *senæ*; which, however, may be dangerous, since it is a much stronger purgative.

ALIPTA, from *αλειπτω*, *I anoint*, in the *Ancient Gymnastics*, an officer appointed to anoint the *athlete*.

In which sense the *alipse* amount to the same with what are otherwise called *anctores*, and *jural pte*.

ALIPTA is sometimes also used, in a less proper sense, for the director, or superintendant of the exercises of the *athlete*.

In which sense *alipta* is synonymous with *gymnastes*, and *pisciltrie*.

ALIPTERIUM, *αλιπτηριον*, in *Antiquity*, a place in the ancient *palestra*, where the *athlete* were anointed before their exercises.

The *alipterium*, or *alipterion*, was otherwise called *ΕΛΕΟΘΗΣΙΟΝ*, and *unctuarium*; sometimes also *corona*.

ALIPTES, the name of a fountain near Ephesus.

ALIQUNT part, in *Arithmetic*, is that which will not measure or divide any number exactly. Or an aliquant part is that which being taken any number of times, is always greater or less than the whole.

Thus five is an aliquant part of 12; for being taken twice, it falls short; and when taken three times, it exceeds 12.

The aliquant parts of a pound, or *zos*, are,

3s. an aliquant part composed of a tenth and 20th.

6s. of a 5th and a 10th.

7s. of a 4th and a tenth.

8s. of two 5ths.

9s. of a 4th and a 5th.

11s. of a half and a 20th.

12s. of a half and a 10th.

13s. of a half, a 10th, and a 20th.

14s. of a half and a 5th.

15s. of a half and a 4th.

16s. of a half, a fifth, and a 10th.

17s. of a half, a 4th, and a 10th.

18s. of a half and two 5ths.

19s. of a half, a 4th, and 5th. See MULTIPLICATION.

ALIQUT part, is such part of any number or quantity, as will exactly measure it, without any remainder.—Or, it is a part, which being taken a certain number of times, becomes equal to the whole, or integer.

The word is formed of *aliquoties*, any number of times. Thus 3 is an aliquot part of 12; because, being taken four times, it will just measure it.

All the aliquot parts of any number may be thus found. Divide the given number by its least divisor, and divide the quotient also by its least divisor, and so on always dividing the least quotient by its last divisor, till the quotient 1 is obtained; and all the divisors, thus taken, are the prime aliquot parts of the given number. Then multiply continually together these prime divisors, *viz.* every two, every three, every four of them, &c.; and the products will be the other or compound aliquot parts of the given number. E.G. Let the aliquot parts of 60 be required; first divide it by 2, and

and the quotient is 30; then 30 divided by 2 gives the quotient 15; and 15 divided by 3 gives 5, and 5 divided by 5 gives 1; and therefore, all the prime divisors or aliquot parts are 1, 2, 3, 5. Then the compound ones obtained by multiplying every two, three, four, five, six, and by multiplying every three, four, five, six, and all the aliquot parts of course 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30.

The aliquot parts of 200 are,

1. half of 200.	25. 6d. an eighth.
5. a fourth.	10. 8d. a twelfth.
40. a fifth.	16. 4d. a fifteenth.
20. a tenth.	18. 3d. a sixteenth.
10. a twentieth.	100. a twenty-fourth.
60. 8d. a third.	5d. a forty-eighth.
30. 4d. a sixth.	

To multiply by the help of aliquot parts, see MULTIPLICATION.

We must not confound an aliquot part with that of a *commensurable*; for every aliquot part is a *commensurable*, but not vice versa. Thus four is *commensurable* with six, but is not an aliquot part of it. Phil. Trans. N^o 41.

ALISÆI, in *Ancient Geography*, a name given by Josephus to the inhabitants of Eolis.

ALISANDERS, in *Botany*. See SMYRNIUM.

ALISANUS. See RHIZA.

ALISARNA, or HALISARNA, in *Ancient Geography*, a city of the Troas, in Asia Minor.

ALISCA, a town of Lower Pannonia. In the Notitia Imp. it is called *Alisca*, and placed in Valeria, near the Danube.

ALISDACA, a town of Media, according to Ptolemy.

ALISE, or ALISIA STE. REINE, in *Geography*, a town of France, in the department of the Cote d'Or, eight miles north-east of Semur-en-Auxois. This town was the ancient ALESIA. The celebrity of this place in the time of the Romans is discernible in the vestiges of the Roman ways, which lead to and from it. After the fall of the Western empire, Alise was the chief place of an extended country, called *Pagus-Alesiensis* or *Alsensis*, whence was formed the Fr. *Aulfois* and *Auxois*. The ravages of the Normans occasioned the removal of the relics of Ste. Reine, the martyress, to Flavigni in the year 864. After the ancient Alise was ruined, the name continued to be appropriated to some dwellings that remained on the declivity of the adjoining mountain. The site of the ancient city is now cultivated ground; "Nunc seges ubi Troja fuit." The commerce of this place consisted of chaplets, shrines, flowers, &c. for the accommodation of the pilgrims, who resorted hither from all parts of France, to celebrate the feast of Ste. Reine, which was kept twice a year. The fountain of Ste. Reine is a reservoir of clear and fresh water, about two feet square; and its water was formerly held in high estimation. But the place has long since lost its reputation.

ALISINCUM, ANIZI, a town of Gaul, belonging to the Edui, between Angustodunum to the east, and Decetia to the south-west.

ALISIO, in *Geography*, a town of Corfica, in the district of Capo Corfo.

ALISIUM, a town of Elis, situate on a high mountain, between Elis and Olympia; the *Alesion* of Steph. Byz. It had a river of the same name, according to Strabo.

ALISIUM or ALESIIUS, a mountain of Arcadia, separating it from the Argolide.

ALISMA, from *αλυσμα*, anxiety, or rather from *αλς*, the sea, *Water Plantain*, in *Botany*, a genus of the

hexandria polygynia class and order, of the natural order of *tripetaloides* and *junci* of Jussieu: its characters are, that the *perianthium* is three-leaved, leaflets ovate, concave and permanent; the *corolla* three-petalled, petals roundish, large, flat and very spreading; the *stamina* have awl-shaped filaments, shorter than the corolla, anthers roundish; the *psyllium* has germs more than five, styles simple, stigmas obtuse, the capules of the *pericarpium* are compressed, (many and aggregate, Smith,) and the seeds solitary and small.

There are nine species, viz. 1. *A. plantago*, great or broad water plantain, or greater thymwort, with leaves ovate, acute, capules obtusely triangular. This species is easily known by its smooth entire leaves on very long petioles; and by its purplish flowers growing in a kind of umbel, at the end of a long scape. The flowers are fully expanded about four in the afternoon. It grows in watery places, on the banks of pools, lakes and rivers, is perennial, and flowers in July. This plant possesses the poisonous quality of the ranunculi, to which order it is naturally allied. Dr. Smith mentions two varieties, viz. *A. lanceolata* of Withering, or narrow water plantain, and *plantago aquatica leptocarpophyllos* of Dill. in Ray Synop., or greater water plantain. 2. *A. flavum*, damafonium flavum of Miller, with leaves ovate, acute, peduncles umbellate, capules globose. This grows in Jamaica, Barbadoes, and several other places in the warm parts of America, in stagnant waters and swampy places; but being of no great beauty, and not easily preferred in England, it is not worth cultivating. 3. *A. damafonium*, damafonium A. of Miller, star-headed water plantain, with leaves cordate-oblong, flowers six-pointal, capules awl-shaped, the flowers are white; styles six, and capules six, divaricated, with a stellated appearance, of a hard texture, and so closely united at the base, as to appear like a single fruit. Stokes. This is a native of France, Siberia and England; is found, more rarely than the former, in ditches and stagnant waters, about London in several places, on Hounslow Heath, Winkfield plain, near Windsor, &c.; is perennial, and flowers in June and July. 4. *A. cordifolium*, with leaves heart-shaped, obtuse, flowers twelve-flamed, capules hook-pointed. This species connects the genus *alisma* with that of *sagittaria*; and is found in North and South America. 5. *A. natans*, creeping or floating water plantain, with leaves ovate or elliptic, obtuse, peduncles solitary, and capules striated. The leaves which swim on the surface are ovate, and those under water linear. It is found in ditches, in France, Sweden, Germany, and Siberia; in the lakes of Bala and Lanberris, in North Wales; is perennial, and flowers in July and August. 6. *A. ranunculoides*, small water plantain, with leaves linear-lanceolate, capules pentagonous, incurved, globose-aggregate. The corolla is bluish-white, and opens about noon. It is a native of Sweden, Holland, France, Germany, Italy, and England, in marshes and moors; is perennial, and flowers in August. 7. *A. subulatum*, with leaves awl-shaped; a Virginian plant, the dwarf *sagitta* of Clayton, with a very tender white corolla, and subulate leaves. 8. *A. parnassifolium*, with leaves heart-shaped, acute, petioles jointed; a native of Italy, in the marshes under the Apennines. 9. *A. repens*, with stems creeping, leaves lanceolate, petioled, acute, a native of Spain, on the sandy banks of the river Manzanares; flowering in August; and seeming to be the same, though much smaller, with the *alisma*, which Abbè Poiret found on the Northern coast of Africa, described by Lamarck. Willdenow adds a 10th species, *A. sagittifolia*, with leaves sagittated, and capsule obovate, obtuse; found in Guinea. Martyn. Miller. Smith's Flor. Brit. vol. i. p. 400.

- ALISMA. See ARNICA, PRIMULA and SENECIO.

ALISO, ALMT, in *Ancient Geography*, a small river of Germany, mentioned by Ptolemy. This was also the name of a castle built by Drusus in Germany for the confinement of the Sicambri.

ALISONTIA, ALSETZ, a river of Germany, which passing by Luxembourg, discharges itself into the Moselle.

ALISTA, a town placed by Ptolemy, in the southern part of the island of Corsica.

ALISTRES, a fort of Epirus, rebuilt by Justinian.

ALISUS, a town placed by Ptolemy in the northern part of Germany.

ALITAMBI, a people of Africa, placed by Ptolemy between Libya and mount Thala.

ALITES, formed from *ala*, a wing, in *Antiquity*, a name given to those birds which afforded auguries by their wings and flight. In this sense alites stand opposed to *OSCINES*, or birds, which gave auguries by their mouths, by singing, or croaking, &c. To the class of alites belong the buzzard, osprey, &c. To that of *OSCINES*, the crane, raven, owl, &c.

ALITROPES, in *Ancient Geography*, a town placed by Scylax in a part of Greece, assigned by him to the Achæans, which was the district of Phthiotis, usually comprised in Thessaly.

ALJUBARROTA, in *Geography*. See **ALGIBARROTA**.

ALJUCEN, a small river of Spain, which runs into the Guadiana, not far from Montachet in Leon.

ALJUSTREL, a town of Portugal, in Alentejo, 16 miles W. S. W. of Beja, containing one parish, and about 1500 inhabitants.

ALIXEN, a town of France, in the department of the Ardeche, two leagues E. N. E. of Valence.

ALKADARII, formed from the Arabic, *alkadar*, which signifies *decree*, a sect among the Mahometans, who deny any eternal, fixed, divine decrees; and are assertors of *free will*. The *Alkadarii* are a branch of *MOATAZALITES*. They stand opposite to the *ALGIABARII*.

ALKÆNDA, in *Botany*, see **MYRTUS**.

ALKAHEST, or **ALCAHEST**, in *Chemistry*. This word, so famous in the last ages of alchemy, occurs, for the first time in the treatise of Paracelsus, *De Viribus Membrorum*, where it is mentioned as a sovereign remedy against dropsy and all diseases of the liver. Notwithstanding that its particular use is here expressly stated, without any hint of its other qualities, or the method of preparation; notwithstanding also that the term is not to be met with in any other of his writings, yet Van Helmont, giving his master credit for the knowledge of more mysteries than ever he himself has pretended to; has raised the alkahest from a mere medicine in the disorders of a particular organ to the lofty character of an universal solvent, and the most active of all the alchemical menstrua.

The origin of the word is variously derived from *saltz-geist*, spirit of salt; *al-geist*, all spirit, *i. e.* a perfectly pure spirit; or *alk-ess*, *i. e.* alkali ess, according to a custom common with Paracelsus and other alchemists, of concealing the name of a substance by abbreviation or transposition, of which a similar example occurs in the same author of the word *aroph*, for *aroma-philosophorum*.

The properties of the alkahest, according to Van Helmont, are the following. It is a fluid of perfect simplicity and purity, is never found native, but always prepared by art; is capable of dissolving all substances into a liquor, which rises wholly in distillation, leaving no feces behind; at the same time that the alkahest itself spontaneously separates from the body on which it has produced such a remarkable change. The substances thus acted upon retain, however,

their essential properties, but by further digestion with the alkali, are all resolved to the same indolent, scentless, insipid elementary water. A menstruum of such surprising powers was immediately supposed to be of the utmost consequence in the higher alchemical processes; and the solemn asseveration of Helmont, that he was really in possession of such an agent, gained easy credit even among many from whom a sober scepticism of such mysterious and unheard of qualities might have been expected. As Helmont never divulged the secret method of preparing the alkahest, most of the succeeding alchemists of any eminence had each their particular theory on the subject; Becker imagined it to be contained in sea salt; and Glauber, in his very ingenious tract, "*De Mercurio Philosophorum*," endeavours to prove it to be nitre; and indeed by taking the liberty, as this author does, of applying the nitre in solution or fusion, or separated into its acid and alkaline elements, there are few substances that are not capable of being thus brought into a fluid state.

In modern chemistry nothing is acknowledged as true till it has stood the test of repeated and accurate experiment; and we now hear no more of the alkali than of the elixir of metals, and the universal medicine. Boerhaave's *Chemistry*. Glauber's *Opera*, vol. i.

ALKAHEST is also used in a more extensive sense, so as to comprehend all fixed salts volatilized, and reduced into a quintessence.

ALKAHESTIC is used by some to denote the quality of bodies which are powerfully solvent.

In which sense, alkahestic amounts to much the same with the menstuous; except that the former imports a greater degree of the solutive power than the latter. See **MENSTRUUM**.

ALKAISAR, in *Geography*, a fortress of Asia, in the Arabian Irak, 106 miles west of Bagdad.

ALKALESCENT, denotes a substance slightly *alkaline*, or in which an alkali is beginning to be formed and to predominate. As the volatile alkali, or ammonia, is the only one which is usually observed to be produced by spontaneous change, the term *alkalescent* generally refers to the generation of this alkali, in certain vegetable and animal substances by the process of *putrefaction* or any similar decomposition. Some species of vegetables, especially the tetradynamious plants, have received the name of *alkalescent*, because, when placed in circumstances favourable to fermentation, they have a peculiar tendency to form ammonia, which may be separated in a very sensible quantity, by the process of distillation.

ALKALI is the generic term for an order of salts of the highest importance, and the most familiar use in chemistry.

Alkali is a word of Arabian origin, and it was employed by the Arabian chemists and physicians, to express the salt which was procured from the ashes left after the combustion of several vegetables, particularly the salt *kali* of the desert, and several plants growing on the sea shore. The same salt is also found native in immense quantities, mixed with sea salt, in the waters and on the shores of several lakes of Lower Egypt, and has been known, from time immemorial, by the name of *natron*, or the *nitre* of the ancients. The Greeks and Romans were equally familiar with the alkaline salt contained in vegetable ashes, which was termed *lixiviarum* ashes (*lixivius cinis*, Plin.), whence the name of *alkaline ley*, *lixivium*, or *lixiviarum salt*, which is still retained. The use of the word alkali was at first confined to the salt which was yielded by the fixed or incombustible ashes of vegetables; but the *volatile salt*, which rises in distillation of vegetable, and especially of animal matter, having been found to possess similar chemical properties with the fixed lixiviarum salt, in the most es-

festial particulars, the respective applications of *fixed* and *volatile alkalis* have long been adopted by chemists. For the account of the process of procuring these salts as an article of commerce, for their natural history, and other particulars, we shall refer the reader to the words POTASH, SODA, and AMMONIA.

The properties common to all alkalis are the following: they have a highly acid taste, which acts with so much energy upon the tongue as to produce the sensation of burning, and unless they are much diluted, they very soon corrode the thin skin which covers it, and produce a small eschar or dead part, which, for a time, leaves a slight sore on that sensible organ. They have an unctuous feel to the finger, not from any oily nature in the alkalis, but because they directly dissolve the surface of the skin, and produce a kind of soap. They effect a remarkable change on several vegetable colours. The red of roses, and the blue of violets, are turned by them to a dull green; the red of archill or litmus, to a blue; the yellow of turmeric, the light brown of jalap root, liquorice root, and of many other roots and woods, are all rendered much deeper in colour, approaching to a brick-red. They unite with sulphur, forming compounds which have the property of absorbing the oxygen from atmospheric air, and, when moistened, of giving out a peculiar fetid gas. These compounds have been denominated *alkaline hepars*, or *livers*, and in the modern nomenclature, *sulphurets*. They have a very powerful action on almost all vegetable and animal matters, producing speedy disorganization, and dissolving them into a thick pulp. With oils they form the well-known compound, *soap*. They are largely soluble in water, giving out heat on union with this liquid. They unite with every acid, and produce *neutral salts* of various degrees of solubility; in which, when the contents are mutually saturated, the distinguishing properties of both acid and alkali are neutralized, and no longer to be perceived. Owing to the very strong affinity which they bear for acids, they decompose the acid solutions of all metals and most earths. These are the most characteristic properties common to *all* alkalis; but there are others which are confined to one or other of the two species. These we shall enumerate, referring the reader for more particular information, to the individual articles.

The VOLATILE ALKALI (*Ammonia*) is distinguished, (as its name implies) by its volatility. The purest form in which it is known to us is that of a gas, which is permanent at any degree of cold that has ever been applied to it, and unites readily with water in large quantity, from which, however, it may be again expelled by a heat much below boiling. It has never been procured in a solid form, unless combined with some other substance; nor as a liquid, except by its union with water. It differs remarkably from the fixed alkalis in having a very pungent smell, which highly stimulates the nostrils, and excites coughing and tears. Owing to the ease with which it assumes a gaseous form, it is incapable of uniting with many substances which the fixed alkalis will dissolve, when assisted by fusion in a strong heat. The volatile alkali is weaker in all its affinities than the fixed. It is also the only one which is decidedly proved to be a compound substance; the nature of its constituent parts (which are hydrogen and azote) having been ascertained by numerous experiments both of synthesis and analysis. See AMMONIA.

The FIXED ALKALIES, (*Alkali fuerbestandiges*, *Laugensalze*, Germ.—*Alkali fisso* Ital.) are the proper *lixiviatary* alkalis, or those that are procured by lixiviation of the ashes of burnt vegetables. They may be obtained in a very pure solid form, either crystallized, or as a simple concrete. Besides the properties which have been mentioned as common to all

alkalis, these possess considerable fixity in fire, and at a red heat they run into thin fusion. A higher heat, however, volatilizes them, and they fly off in sensible vapour. The fixed alkalis, when in fusion, will readily dissolve siliceous earth into the perfectly homogeneous transparent compound, GLASS. They also will dissolve by heat all the metallic oxyds, and thereby receive various tints. They assist in the fusion of all earthy and metallic admixtures, and their degree of fixity in the fire enables them to combine more intimately than the volatile alkali, with sulphur, phosphorus and charcoal. When pure and solid, they are remarkably deliquescent, absorbing water from every surrounding medium; and hence they have been used by chemists to render the air of any vessel in which they are confined, perfectly dry. The fixed alkalis are two in number, POTASH and SODA, the former being procured from the ashes of all vegetables except marine plants, and a few that grow near the sea shore, which yield the latter alkali. The former is also termed the *vegetable* alkali, and the latter, (owing to its being sometimes found native in the earth), is called the *mineral* alkali. The general properties of these two alkalis were long known, and they were long employed in various arts, before the circumstances by which they are distinguished were well ascertained, and their separate existence established. The close resemblance which they bear to each other when pure, and the similarity in all their most remarkable chemical properties, prevented a proper distinction between them; and it was chiefly by the researches of Pott, Duhamel and Margraaff, that the nature of the two alkalis was fully explained. The two neutral salts with which the older chemists were the most familiar, nitre and sea-salt, have for their bases, the former the vegetable, and the latter the mineral alkali; and it was principally by enquiries into the properties and decomposition of these neutral salts that the distinct nature of their alkaline bases was decided.

Potash and soda differ from each other in the strength of their affinity with acids, which is greater in the former; in some slight variation in their action on oils and animal fats; but chiefly in the neutral salts which they form with the acids, which in all cases differ in form of crystallization, in solubility, often in taste, and in several other particulars.

The intimate nature of the fixed alkalis is still unknown to us. From the very strong analogy with the volatile alkali, the component parts of which are fully established, it must be considered as highly probable that the fixed alkalis are compounds, though their decomposition has not yet been effected by any experiments which can be allowed to be unexceptionable. Fixed alkalis have been supposed to be generated by the process of combustion of vegetables; since no plants, even those whose ashes yield the most of this salt, contain before combustion any sensible quantity of uncombined alkali. The accurate analyses of several of the modern chemists have however detected, in the native juices of plants, several neutral salts, whose alkaline bases are united to an acid which is easily destructible by fire. But for this, and other speculations on the nature of the fixed alkalis, we shall refer the reader to the article POTASH.

ALKALI (*Cautic* or *Pure*). The alkaline salt procured from vegetable ashes, besides being mixed with other salts, and with earth, is always saturated more or less completely with fixed air, or *carbonic acid*; so that the fixed alkali which was the subject of the experiments of all the chemists, till within a few years, was a salt compounded of carbonic acid and the alkaline basis. The beautiful experiments of Dr. Black fully illustrated this point, and shewed, that the reason of the greatly increased causticity of alkalis, when mixed with quick-lime, was the loss of the carbonic acid, which had passed from the alkali to the earth. *Cautic* alkalis, therefore,

fore, are alkalies deprived of carbonic acid by quick-lime or any other method; and this is the only state in which, properly speaking, alkalies can be considered as *pure*; though even when they contain much of this volatile acid, the peculiar qualities of the alkaline part predominate so considerably as to enable them to exhibit (though in a weaker degree) all the chemical properties by which alkalies are characterized.

ALKALI (*Effervescent or Mild*), is opposed to the state of causticity, and expresses that degree of saturation with carbonic acid, which, as has just been mentioned, diminishes, but does not suppress, the characteristic properties of the alkali. Owing to the alkali obtained from vegetable ashes being always left after combustion in union with carbonic acid, *efferescence with acids* was considered by the older chemists as an essential character of alkalies in general, who thus ascribed to a property inherent in this genus of salts, an appearance which is now known to depend upon the expulsion of the gaseous acid. The terms *caustic* or *pure*, and *effervescent* or *mild*, are applied to the volatile as well as to the fixed alkalies.

ALKALI (*Extemporaneous*), is a mild vegetable alkali, prepared by dephlegmating nitre with tartar. See CARBONAT OF POTASH.

ALKALI (*Fluor*), is a solution of pure AMMONIA in water.

ALKALI (*Phlogistic*), is prepared by calcining carbonated potash with bullocks' blood or other animal matter, in which process it unites with the PRUSSIC acid, formed during the calcination.

ALKALI (*of Tartar*), or *Salt of Tartar*, is properly a mild vegetable fixed alkali, prepared by the combustion of tartar, which yields it in great purity. The name is used more extensively for any pure carbonated potash, and it is the term by which this salt is more generally known in common language and in medicine.

ALKALINE EARTHS. It is by no means easy to draw the line accurately between alkalies and earths. The original idea of an EARTH, entertained by the ancient chemists, was that of a substance of considerable density, insoluble in water, without taste, smell, or any perceptible action on the organs of sense, entirely unfusible, and fixed in the most intense fire; and, in short, with properties as opposite as possible to those of a SALT. This opinion principally attached to earth, considered as one of the four elements of which the material world was supposed to be constituted. The progress of chemical investigation having, however, discovered several species of earths, which could not by any means be proved to be compounds, in which the simple or universal earth was so disguised as to lose some of its essential characters, it became necessary to alter and modify the original definition of an earth, and to allow to it more of a saline nature.

Some of the modern chemists, therefore, have adopted the term *salifiable*, and others *alkaline* earths, in order to allow of more accuracy in systematical arrangement. By *alkaline* earth has been meant an earth which agrees with alkali in the property of solubility in water to a certain extent, and thereby rendering it sapid, of changing to green certain blue and red vegetable colours; of absorbing carbonic acid with eagerness, and of possessing, when pure, those *caustic* or *acid* qualities that so much distinguish the alkalies. *Magnesia*, *lime*, *barytes* and *strontian*, are the earths which may be termed alkaline, but the former is very imperfectly so, being scarcely more soluble in water than flint; and though its habitudes with carbonic acid are partly similar to those of the alkalies, it does not acquire any taste, or any degree of causticity, by the loss of this gaseous acid. Barytes and strontian, on the other hand, approach nearer to an alkaline

nature than lime, in being very largely soluble in water, and readily crystallizable from its solution in a determinate form. They have therefore been actually enumerated as alkalies by Fourcroy, who reckons the following; *potash*, *soda*, *ammonia*, *barytes*, and *strontian*. The two latter even stand before the three ancient alkalies in their order of affinity with most acids, but, till the intimate nature of the fixed alkalies be fully cleared up, it will perhaps be proper to restrict the term *alkali* to the three above-mentioned, and to retain in the class of *alkaline earths* magnesia, lime, barytes, and strontian, all of which, however they may be alkalies in many respects, differ from them in being unfusible *per se* in very intense fire, and being entirely incapable of being volatilized by the utmost heat that has ever been applied to them.

ALKALI, in *Botany*. See SALICORNIA.

ALKALINE, in a general sense, something that has the properties of an ALKALI.

In this sense we say, alkaline salts, alkaline spirits, alkaline substances, &c.

Alkaline salts, considered in their reference to the *Materia Medica*, are known to possess antiseptic powers. Experiments upon them, out of the body, sufficiently indicate and attest these powers; but Dr. Cullen observes, that it is at the same time equally well known, that they are constantly imbued with such an acrimony, that they cannot by themselves be introduced into the body without acting more by their stimulant than by their antiseptic powers. The volatile alkali may sometimes be an useful remedy in putrid fevers; but it cannot, as some have imagined, be given more freely on account of its antiseptic powers, as it can never be given copiously enough to have any effect by these qualities. The volatile alkaline salts shew their stimulant power in every dose, wherever the energy of the brain is weakened, and consequently the action of the heart is languid, or requires to be accelerated. In such cases this stimulus is among the safest, as it is always transitory; and when their acrimony can be covered, so as to pass the mouth and fauces without irritation there, they may be given in large doses from 10 to 20 grains. These are prepared in two different ways; one of which is from sal ammoniac, which gives the ammonia of the London Dispensatory, or the sal ammoniacus volatilis, and spiritus salis ammoniaci of the Edinburgh. These are the purest forms of the volatile alkali, the most free from any adhering animal substances; but whilst the process of preparing a volatile alkali from the bones or other solid parts of animals continues, there will come into the shops a salt and spirit that can hardly ever be so pure, from some empyreumatic animal substance adhering to it; and such an adherence may probably give some peculiar quality to the salt and spirit, and render it more antispasmodic. It cannot be very considerable in any doses of the salt or spirits given to adults, but it may produce more sensible effect in the spasmodic affections of infants. The liquid volatile alkali is commonly employed in its mild state; but by a distillation of the sal ammoniac with quick-lime, the alkali may be obtained in its caustic state. In this state it may be readily joined with spirit of wine, and gives the spiritus salis ammoniaci of the Edinburgh Dispensatory, or the spiritus salis ammoniaci vinosus of that of London. The combination affords an excellent menstruum for dissolving the several fetid substances employed as antispasmodics, and renders them more suddenly diffusible, and perhaps gives them a greater effect in all spasmodic affections. The caustic volatile alkali is seldom administered alone; but if its acrimony be covered while it passes the mouth and fauces, it may be very safely employed. Its chief use is external, and when smelled at the nose, it gives a more powerful stimulus than the mild alkali can do. Its acrimony is so considerable, that when applied to the skin, it

readily irritates, and even inflames it, and may be so managed, as to prove an useful stimulant and rubefacient in many cases. But this requires its being blended with a mild, expressed oil, so as to prevent its inflaming too much. See *Fœdus OIL*. The fixed alkaline salts have been commonly administered as draughts. Dr. Cullen has chiefly employed the vegetable fixed alkali, and has sometimes obtained its effects in a remarkable degree; but he has been often disappointed, which he ascribes to the neutralization of the alkali in the stomach, and in that state they could have no other effect than other neutrals, which is commonly inconsiderable, either as laxatives or diuretics. Alkalines do, however, occasionally maintain their drastic power; and upon the supposition of their neutral state in the stomach, their considerable operation as diuretics cannot be easily accounted for. Of this fact Dr. Cullen offers two explanations. One is, that the quantity of alkali thrown into the stomach may be more than the acid can there neutralize, and therefore some portion of it may reach the kidneys in its alkaline state, and prove a more powerful stimulant than any neutral salt would be; and on this ground a large quantity of alkali is always necessary to produce diuretic effects. Another explanation of the fact is as follows. As the acid of the stomach may be presumed to be of the nature of the fermented acid of vegetables, so an alkali joined with it must form a regenerated tartar, a sal diureticus, or kali acetatum; and if this be less purgative, and more diuretic than other neutrals, while it is also conveyed to the blood-vessels in larger quantity, we can understand why, from these circumstances, the fixed alkali may often appear diuretic. With respect to its operation as a diuretic, another conjecture may be offered. When it is given with bitters, after the manner of Sir John Pringle, it commonly proves diuretic; and Dr. Cullen imagined, that as the bitters are absorbents of acid, they might absorb so much of that present in the stomach, as to prevent its being so fully applied to the alkali. As alkalines may be often prevented, by purging, from reaching the kidneys, so their diuretic effect may be often more certainly secured by giving an opiate at the same time; and for the utility of this practice, see Dr. Mead on the subject of Dropsy. Besides the laxative and diuretic powers of the fixed alkali, another is ascribed to it, which is that of dissolving the fluids, or the concretions which may happen to be formed in them, expressed by French writers under the denomination of *fondant*. Dr. Cullen does not allow it to possess this power to any great degree, or to produce the effects in this way that have been ascribed to it. Cullen's Mat. Med. vol. i. p. 568. Vol. ii. p. 382. 512.

ALKALINE acrimony, in *Medicine*, signifies a morbid quality in the blood, which is indicated by a desire of and thirst after four things, loss of appetite, and aversion to alkalescent food, nidorous eructations, putrid ulcers on the lips, tongue, and other parts in the mouth, sickness in the stomach, a frequent *dysenteria*, a sense of heat, lassitude, and general uneasiness, a dissolution of the texture of the blood, the urine high-coloured and red. It produces a putrescency in the blood, &c. and is to be remedied by the same means as the scurvy and other putrid disorders.

ALKALIZATION, **ALKALIZATIO**, in *Chemistry*, the act of impregnating a liquor with an *alkaline* salt.

This is done either to make it a better dissolvent, for some particular purposes; or to load the phlegm, so as it may not rise in distillation, whereby the spirituous parts may go over more pure.

ALKALIZATION, is a name applied to operations, by which alkaline properties are communicated to bodies; or to those by which alkali is extracted from bodies which contain it, or in which it may be formed; e. g. *spirit of wine* is

said to be *alkalized*, when it has been digested upon alkali; a part of which it dissolves, and thence acquires alkaline properties. On the other hand, when a neutral salt is decomposed, in order to obtain its *alkaline* basis, this salt is to be *alkalized*. Vegetable substances when reduced to ashes, may also be said to be *alkalized*, because the ashes contain fixed alkali.

ALKAMARE, in *Geography*, a town of Persia, in the province of Irak-Agemi, 28 leagues east of Bagdad.

ALKANET, in *Botany*. See **ANCHUSA**.

ALKANSAS, or **ARKANSAS**, an Indian nation of Louisiana, on the west side of the Mississippi river, near the river of the same name, in N. lat. 34°. See **ARKANSAS** *river*.

ALKENNA. See **ALCANNA** and **LAWSONIA**.

ALKEKENG, in *Botany*. See **ATROPA** and **PHYSALIS**.

ALKEKENG, a medicinal fruit or berry, produced by the *Physalis Alkekengi*, popularly also called *cowberry*; formerly used and much commended as an abitergent, dissolvent, and diuretic.

Their berries were well known to the ancients, and are characteristically described by Dioscorides, under the denomination *ερυχρον αλινκακιστον*. They have an acidulous and not unpleasant taste, followed by a slight bitterness, which they are said to derive in a considerable degree from the investing calyx, if not gathered with great care. Although these berries are esteemed to be detergent and aperient, they have been chiefly recommended as a diuretic, operating without heat or irritation, in suppressions of urine, and for removing obstructions occasioned by gravel or mucus. With this intention the number of 6 to 12 cherries in substance, or an ounce of the expressed juice has been the usual dose; but there seems to be no danger from a much larger quantity; for, we are told, that in some parts of Germany the country people eat them by handfuls with much benefit; and in Spain and Switzerland they often supply the place of other eatable fruits. Ray informs us, that a gouty person prevented the returns of the disorder by taking eight of these cherries at each change of the moon; and instances are recorded of their good effects in dropical and calculous complaints, but at present they are wholly disregarded.

The cherries may be dried so as to be pulverable, or the depurated juice inspissated with a gentle heat to the consistence of a rob or extract, which Dioscorides commends, and in this state preserved for use. They have been sometimes mixed with opium. Dr. Cullen (*Mat. Med.* vol. ii. p. 553.) observes, that as it is allowed the berries take a taint from the leaves, it will always require some caution in employing any part of a plant which is taken from an order of a very poisonous kind. Lewis, *Mat. Med.* Woodville, *Med. Bot.* vol. iv. p. 34. Murray's *Mat. Med.* vol. i. p. 679.

ALKENDI, or **ALKINDI**, JACOB BEN ISAAC, in *Biography*, a celebrated Arabian philosopher and writer, was the son of the prefect of Cufa, under Muhamed Modi and Rashid, and flourished in the caliphate of Al-Mamon, or at the beginning of the ninth century. He acquired such eminence in literature and philosophy in the school of Bassora, that he was called, by way of distinction, "The Philosopher." Although he yielded implicit obedience, in common with his contemporaries, to the authority of Aristotle, and principally devoted himself to the office of interpreting and illustrating his writings, he directed his attention to other more important and useful studies. His name is mentioned among the mathematicians and astronomers of his age; and his medical writings, that are still extant, prove that he sustained a very honourable rank among the Arabian physicians. Herbelot represents Alkendi as a Jew, who was persecuted on account of his religion; but the account of his

his genealogy in the manuscript History of Philosophers, referred to by Dr. Russell, contradicts this statement; for his father's great grandfather is said to have been one of the companions of the prophet. This manuscript contains a catalogue of his writings; but the medical tract usually ascribed to him, and translated into Latin, under the title of "De Medicinatum Compositarum gradibus investigandis," is not included. Abulcasagius mentions an anecdote concerning him, which furnishes a very amiable trait of the moderation and liberality of his temper towards a malicious adversary. Whilst he was visiting the schools of Bagdad, to which the learned and studious usually resorted in his days, he gave great offence, by promoting the study of philosophy, and endeavouring to reconcile the doctrines of Islamism with the principles of reason, to one Albumasar, one of the interpreters of the Koran, who was alarmed lest increasing knowledge should undermine vulgar superstitions. Accordingly this zealot accused him of heresy and impiety. Alkendi, instead of resenting this conduct, and counteracting, by his interest with the caliph, the design which Albumasar had formed against his life, endeavoured to subdue his adversary by lessons and admonitions of philosophy. Fully apprized of the influence of wisdom as a means of meliorating the disposition, he engaged a preceptor to instruct his adversary in mathematics and philosophy. Albumasar was thus led to perceive the folly and baseness of his past conduct, and to offer himself as a pupil to the philosopher whom he had persecuted. Alkendi received him with condescension and kindness, and Albumasar became an ornament to his school. Brucker's Hist. Phil. by Enfield, vol. ii. p. 237. Russell's Aleppo, vol. ii. Appendix, p. 9.

ALKERMES, in *Medicine*, &c. a term borrowed from the Arabs, denoting a celebrated remedy, of the form and consistence of a confection, whereof the *kermes* are the basis.

The other ingredients are rose-water, sugar, ambergrise, musk, cinnamon, aloes wood, pearls, and leaf gold, &c. but the sweets are usually omitted.

The *confectio alkermes* was chiefly made at Montpellier, which place supplies most of Europe with it. It is said to be better made there than it can be elsewhere; the reason of which doubtless is, that the drug, which gives it the denomination, is no where found so plentifully as there. The manner of preparing the grain for making the confection is described in the Phil. Trans. N° 20.

It has been much used as a cordial; especially, says Dr. Quincy, among female prescribers, and in complaisance to them; but that author decries its value in that intention, and thinks it ought only to be regarded as a sweetener.

Count Marfigli, in an inquiry into the composition of this medicine, shews, that many of the ingredients with which the ancients so plentifully loaded it, and which are still retained in it by the moderns, are not only useless, but hurtful; more particularly the *lapis lazuli*, by many mistakenly held cordial, on account of the appearance of veins of gold in it; whereas, in reality, it is only a marcasite of sulphur and vitriol, and contains a great quantity of acid, directly repugnant to the alkaline nature of the KERMES, and highly prejudicial in diseases where the blood tends to coagulation.

ALKES, in *Astronomy*, a star in the constellation CRATER.

ALKETH, in *Geography*, one of the Pelew islands, in the North Pacific Ocean.

ALKMAAR. See ALCAAR.

ALKMAAR, HENRY OF, in *Biography*, a native of Alkmaar in Holland, and the reputed author of the celebrated fable of "Reynard the Fox;" a poem written in Low

Dutch in the 15th century, which, under the allegory of a Society of Animals, satirizes the different vices of mankind. This poem has been very popular, and translated into all the languages of Europe. A German edition of it, by Gottfried, is adorned with figures, and enriched with learned dissertations. It now appears that this poem was actually written by Nicholas Baumann, an East-Frislander, and that he assumed the name of Henry Von Alkmaar, in order to secure himself from the inquiries of the ducal court of Juliers. Baumann was a member of the council of duke Magnus of Juliers, who died in 1503; but being driven from court by means of a cabal, he composed this allegorical poem, for the purpose of satirizing his enemies, and painting the intrigues carried on there. Nouv. Dict. Hist.

ALKMAR, in *Geography*, a small island near that of Java, within sight of Batavia.

ALKOHOL. See ALCOHOL.

ALKORAN. See ALCORAN.

ALKUSSA, in *Ichthyology*, a name given by the Swedes to a fish, which they also called *lake*. It is a species of the *SILURUS*, and is distinguished by Ardeii by the name of the *silurus*, with only one *cirrus*, or beard, under the chin. The common *silurus*, which is the *glanus* of the ancients, has four *cirri*.

ALKY of lead, among *Alchemists*, denotes a sweet substance procured from lead.

ALL in the Wind, a sea-phrase, which expresses the state of a ship's sails when they are parallel to the direction of the wind, so as to shake or shiver.

ALL Hands hoay! the call by which the ship's company are summoned upon deck.

ALL Saints, in the *Calendar*, denotes a festival celebrated on the first of November, in commemoration of all the saints in general, which is otherwise called *All-hallows*.

The number of saints being so excessively multiplied, it was found too burthenfome to dedicate a feast-day to each. In reality there were not days enough, scarce hours enough, in the year for this purpose. Hence an expedient was had recourse to, by commemorating such in combination who had no peculiar days of their own. Boniface IV. in the ninth century, introduced the feast of *All Saints* into Italy, which was soon after adopted into the other churches.

ALL Saints, in *Geography*, islands near Guadaloupe island, in the West Indies.

ALL Saints, a parish in the district of George-town, South Carolina, containing 225 inhabitants, of whom 429 are whites, and 1795 slaves. It sends a member to each house of the state-legislature.

ALL Saints Bay, a spacious harbour near St. Salvador in Brazil, in South America, on the Atlantic Ocean. S. lat. 13° 5'. W. long. 38° 45'. This bay is 2½ leagues wide, is interspersed with a number of small but pleasant islands, and is of great benefit to the whole country. This is also the name of a Captainship in the middle division of Brazil, so called from the bay; bounded north by the Ria real, on the south by that of Los Ilheos, on the east by the ocean, and on the west by three unconquered nations of Indians. It is reckoned one of the richest and most fertile Captainships in Brazil, producing great quantities of cotton and sugar. It has several cities and towns, particularly St. Salvador, which is its capital.

ALL Sfugita, in *Italian Music*, is said of discords, which we call passing notes, that appear in the melody, but are unnoticed in the harmony. These discords, *Alla Sfugita*, require no preparation or resolution like notes in ligature.

ALL Souls, in the *Calendar*, denotes a feast-day held on the

the second of November, in commemoration of all the faithful departed.

The feast of *All Souls* was first introduced in the 11th century, by Odilon, abbot of Cluny, who enjoined it on his own order; but it was not long before it became adopted by the neighbouring churches. Others say that it was established A.D. 998. See Joxtin's *Reu.* on Eccl. Hist. vol. v. p. 11. p. 34.

ALLA, in *Geography*, a small town of Italy, in the valley of Trent, upon a small river which falls into the Adige. N. lat. $45^{\circ} 45'$. E. long. $13^{\circ} 42'$.

ALLS, or ALLS, a river of Poland, in Ducal Prussia, which runs into the Pregel, about five leagues above Königsberg.

ALLA, Ital. joined to, or rather following, a substantive, has the force of the word *like* in English; as *alla Française*, like the French, or in the French style or manner; *alla Veneziana*, in the Venetian manner. Thus, in music, *alla breve* implies a quick time, though the notes look slow, as when breves are played or sung like or as quick as semibreves, semibreves like minims, and minims like crotchets. This measure is seldom found in secular music composed by authors subsequent to Corelli, Geminiani, and Handel. A bar in *alla breve* time contains two semibreves, performed as quick as minims; and as few black notes appear in such movements, which are generally *fugato*, or in fugue; musicians, in sport, term them *white fugues*. *Alla Scozzese*, in the Scots style; *alla Polacca*, Polish; *alla zoppa*, limping, as in movements full of binding or driving notes or ligatures; *all' ottava*, in the octave; *all' ottava più alto*, an octave higher; *più basso*, lower. In passages for the additional keys to piano-fortes, *all' 8va.* implies that all the notes from this indication, included under the line drawn over them, till the words *in loco* (the usual pitch) occur, are to be played an octave higher. This precludes the trouble and fatigue to the eye of leger lines, as ascending to C in altissimo would require five additional lines and spaces to be piled on the usual staff of five lines. Choral music is said to be *alla Palestrina*, when the style of composition resembles that of this venerable father of ecclesiastical harmony.

ALLABA, or ALLAVA, in *Ancient Geography*, a town of Sicily, on the southern side of it, near the mouth of a river of the same name, and not far from Heraclea Minoa.

ALLAH, or ALLA, an Arabic word, and the name which all who profess Mahometanism give to God, and make frequent repetitions of in their prayers.

ALLAHABAD, in *Geography*, a soubah or province of Hindostan, about 160 miles in length and 120 in breadth, bounded on the east by the province of Bahar, on the north by Oude, on the south by Berar, and on the west by Malwa and Agra. It contains, according to the distribution of Akbar, recorded in the Ayeen-Akbery, 10 circars or counties, divided into 177 pergunnahs, or hundreds. Its revenue, according to the statement of Maurice, in his *Indian Antiquities*, is 3,310,695 sicca rupees. It furnishes 11,375 cavalry, 237,870 infantry, and 323 elephants. The greater part of it is in the possession of Azuph Dowlah, a tributary ally of the British power. The principal cities are Allahabad, Benares, and Iconpour.

ALLAHABAD, a city of Hindostan, situate at the confluence of the two great rivers Jumna and Ganges. It is composed of two towns—the old, which is near the Ganges, and the new, about a mile long and half a mile wide, near the Jumna. It was called Allahabad by the emperor Akbar, who erected a strong fortress of stone in it, which occupies a large space of ground, and of which we have an elegant delineation by Mr. Hodges, in No. IV. of his *Select Views in India*. The tomb of sultan Khufu is also an

excellent specimen of Mahometan architecture; and a pillar 40 feet high, of one stone, covered with illegible inscriptions, is ascribed by tradition to Bima, one of the heroes of the Mahabarat. Allahabad is a seat of devotion so noted that it is denominated “the king of worshipped places.” We also learn from the Ayeen-Akbery, that the territory round it, to the extent of 40 miles, is deemed holy ground. The Hindoos believe, that when a man dies in this place, whatever he wishes for he will obtain in his next regeneration. Although they teach that suicide in general will be punished with torments hereafter, yet they consider it as meritorious for a man to kill himself at Allahabad. There are various objects of veneration in and about this city, which are still visited with great devotion by an immense number of pilgrims. Dr. Robertson is of opinion, that the ancient Palibothra is the modern city of Allahabad; but major Rennell has placed PALIBOTHTHA on the same site with PATNA. Robertson's *India*, p. 39. p. 356. N. lat. $25^{\circ} 27'$. E. long. $82^{\circ} 5'$.

ALLAKNANDARA, a river of Thibet, which runs into the Ganges, about 20 miles south of Sirinagur.

ALLAM, ANDREW, in *Biography*, a writer of the 17th century, was born of mean parentage at Garlington near Oxford, in 1655; and after previous education at a private grammar school, was entered at St. Edmund's Hall Oxford, in 1671; where he became tutor, moderator, lecturer in the chapel, and at length vice-principal. In 1680, he took orders, and in 1683 was made one of the masters of the schools. He died of the small-pox in 1685. He wrote epistles prefixed to the publications of other writers and additions to a book, entitled, “*Angliæ notitia*,” and to “*Helvicus's Historical and Chronological Theatre*,” and he also translated the “*Life of Iphicrates*,” laid the foundation of a “*Notitia Ecclesiæ Anglicanæ*,” which was left unfinished, and assisted Mr. Anthony Wood in compiling the “*Athenæ Oxonienses*,” by whom he is mentioned with great commendation and respect. Biog. Brit.

ALLAMANDA, so called from Mr. F. Allamand, a Dutch surgeon, who visited Guiana about 1769, and Russia about 1776, and sent descriptions, figures, and specimens of plants to Linnæus, in *Botany*, a genus of the *pentandria monogynia* class and order, of the natural order of *contorta*, and *apocineæ* of Jussieu; the characters of which are, that the *calyx* is a perianthium one-leaved, five-parted, parts ovate and acute; the *corolla* one-petalled, funnel-shaped, tube cylindric, border semiquinquefid, swelling, divisions spreading, obtuse; the *filamina*, with scarcely any filaments, anthers five, sagittate, converging, in the throat of the tube; the *pyllium* has a germ oval, surrounded with a ring, style filiform, of the length of the tube, stigma headed, contracted in the middle; *pericarpium*, an orbicular, lens-shaped, echinate, one-celled, two-valved capsule; the *seeds* very many, imbricate, orbiculate, flat, edged with a membranous wing. There is one species, *viz.* *A. cathartica*, galarips of Allamand, orelia grandiflora of Aublet, a milky shrub, with stem twining and climbing on trees, which grows wild at Cayenne, in Guiana, &c. by the sea-side. The leaves are cathartic, and an infusion of them is used at Surinam, in the colic: introduced in 1785 by Baron Hake. Martyn.

ALLAMP, in *Geography*, a town of France, in the department of the Meurte, and district of Toul, three leagues south of Toul.

ALLAN, a river of Scotland, which runs into the Frith of Forth near Stirling. Allan Water is also a river of the same country, which runs into the Tweed, about a mile north-west of Melrose.

ALLANCHE, a town of France, in the department of Cantal,

Cantal, and district of Murat, situate in a valley, and having a considerable commerce of cattle; four leagues and a half north north-west of St. Flour. N. lat. 45° 12'. E. long. 2° 54'.

ALLANTA, in *Ancient Geography*, a town of Arcadia. Steph. Byz.

ALLANTA, or ALLANTIUM, a town of Macedonia, supposed to be inhabited by the Allantides of Pliny.

ALLANTOIS, ALLANTOIDES, called also *Farcimialis*, in *Comparative Anatomy*, is a thin transparent sac or bag, found amongst the membranes, investing the *fetus* of quadrupeds; it is connected with the urinary bladder of the young animal, by means of the urachus, and is supposed to serve the purpose of a reservoir for the urine.

Malpighi, Haller, and others have attributed this membrane to the chick during the period of incubation.

The word is derived from *αλλανξ*, *farcimen*, a gut; and *αλς*, *forma*, *shape*; because, in many brutes, it has somewhat the appearance of an inflated intestine.—For a further account, see MAMMALIA, in *Comparative Anatomy*.

ALLARD, GUY, in *Biography*, was born at Dauphiné, about the middle of the 17th century, and acquired reputation by several works relating to the history of that province. His “*Nobiliaire du Dauphiné avec les Armoiries*,” 12mo. Grenoble, 1714, and “*Histoire des Maisons Dauphinoises*,” are his principal and most esteemed works.

ALLAT, in *Mythology*, derived from Alla, *God*, is the name of an idol among the Arabians and idolatrous Jews.

ALLATA, in *Ancient Geography*, a town of Arabia Deserta, according to Ptolemy.

ALLATA, a town of Dalmatia, in the itinerary of Antonin.

ALLATIUS, or ALLACCI, LEO, in *Biography*, a voluminous writer of the 17th century, was born in the island of Chios, and at the age of nine years, after having been educated in the Greek church, removed to Calabria, where he enjoyed the patronage of the noble family of Spinelli, and embraced the Catholic religion. At Rome he was admitted into the Greek college, where he acquired reputation by the study of polite learning, philosophy, and divinity. From Rome he went to Naples, and was made great vicar to the bishop of Anglona; and having settled for some time in his native country, he returned again to Rome, studied physic, and took his degree of doctor in that science. But the belles lettres best suited his taste and engaged his principal attention; and, instead of pursuing the practice of physic, he taught the Greek language in the college of his own nation. About the year 1622 he was employed by Gregory XV. in removing to Rome the library of Heidelberg, which the elector of Bavaria had presented to this pontiff; he was afterwards librarian to Cardinal Barberini; and at length pope Alexander VII. appointed him librarian of the Vatican. His publications, which consisted of editions of old MSS, translations from Greek authors, and original compositions, are very numerous. Some of the principal of the latter class are the following: “*De Ecclesiæ Occidentalis et Orientalis perpetua confessione*,” 4to. Cologne 1648; “*On purgatory*,” 8vo. Rome, 1655; “*De patria Homeri*,” 8vo. Lyons, 1640; “*De Septem orbis Spectaculis*,” 8vo. Rome, 1640; “*Confutatio Fabulæ de Joanna papissa*,” “*De Pfellis*,” “*De Georgiis*,” “*De Simeonibus*.” His retentive memory and application qualified him for compiling catalogues; accordingly he published a work of this kind under the title, “*Apes Urbane*,” in allusion to the bees borne in the arms of pope Urban VIII. which contained a history of the learned

men of Rome for the years 1630, 1631, and 1632, with a catalogue of their works: and another tract of a similar kind, entitled, “*Dramaturgia*,” giving an account of dramatic authors and their works, printed at Rome in 1636, and reprinted at Venice in 1755. Allatius also wrote several Greek poems, one upon the birth of Lewis XIV. in which he introduced Greece speaking. Allatius was a diligent and rapid writer; and he is said to have written Greek 40 years with the same pen, the loss of which he lamented with tears. His erudition and industry are more commended than his judgment; and he is generally reproached for want of liberality and candour. His criticisms were harsh and ill-natured; his reflections on those who differed from him were coarse and vulgar, as well as severe; and his animosity and intolerance, in his conduct towards those who were not comprehended within the pale of the Romish church, to which he was a profelyte, and for which he was an ardent advocate, were such as led him to denounce against them the most cruel penalties. The Roman pontiff, as he maintained, was independent; judged the world without being accountable to any; his unjust commands were to be obeyed; and he had an absolute authority as legislator and judge, and was incapable of illusion and error. As for heretics and schismatics Allatius was of opinion, that they ought to be proscribed and exterminated, and if they persisted in their heresy, put to death and consumed in the flames. In his zeal for uniting the Greek church to the Latin, and with this view for insinuating himself into the favour and confidence of pope Urban VIII., he is charged by F. Simon with insincerity and misrepresentation. The gentlemen of Port Royal have attempted a vindication of Allatius, particularly against the attacks of Mr. Claude.

Allatius was neither married nor took orders; and in accounting for this part of his indecisive conduct, when he was asked by pope Alexander VII. “*why do you not enter into orders*?” he replied, “*Because I would be free to marry*.” “*Why then*,” said the pope, “*do you not marry*?” “*Because*,” replied Allatius again, “*I would be at liberty to take orders*.” He died at Rome in the year 1669, at the age of 83 years.

ALLAY. See ALLOY.

ALLAZONIUM, in *Ancient Geography*, a town of Asia in Mysia, north east of Scepsis.

ALLBURG, in *Geography*, a township of America, in Franklin county, Vermont, situate on Missisque Bay, and containing 446 inhabitants.

ALLCHURCH, a village of Warwickshire, said to have been formerly seven miles in circumference, and having the Roman Icknild street passing through it. It was once a borough, with a market and several streets. The bishop of Worcester had a palace in it, and the church, parts of which are of Saxon architecture, contains many ancient monuments. It is situated five miles from Bromsgrove, in the road to Leicester.

ALLECTUS, in *Ancient Biography and History*, the confidential friend and prime minister of Carausius, emperor of Britain, apprehending punishment for several crimes with which he was chargeable, murdered his master, A.D. 294, and usurped the imperial dignity, which he maintained for three years. During this period Constantius was preparing for the recovery of Britain; and at length the principal squadron, destined for this enterprise, and assembled in the mouth of the Seine, was intrusted to the command of the præfect Asclepiodotus. The weather proved favourable, and under the cover of a thick fog, the invaders escaped the

the fleet of Allectus, which had been stationed off the Isle of Wight to receive them, landed in safety on the western coast; and convinced the Britons, says Gibbon, "that a superiority of naval strength will not always protect their country from a foreign invasion." As soon as the troops were landed, the intrepid commander set fire to the ships, and marched forward to meet the enemy. The usurper had posted himself near London in expectation of an attack from Constantius, who commanded the fleet of Boulogne; but upon hearing of the descent of Asclepiodotus, he made forced marches to oppose his progress. With a small body of harassed and disheartened followers, Allectus encountered the Imperial troops, and the engagement soon terminated in his total defeat and death: so that a single battle decided the fate of this great island. When Constantius landed on the shores of Kent, he was welcomed by the loud and unanimous acclamations of obedient subjects; and Britain, after a separation of 10 years, was thus restored, A. D. 297, to the body of the Roman empire. Crevier's Rom. Emp. vol. ix. p. 311. Gibbon's Hist. vol. ii. p. 127.

ALLEGHANY, or ALLEGHANY County, in Geography, a district of Pennsylvania in America, extends from the junction of the river of that name with the Ohio, where its chief town Pittsburg is situated, to the New York line. It contains 10,309 inhabitants, including 159 slaves. Morfe.

ALLEGHANY is also the most western county in Maryland, and has Pennsylvania on the north. The windings of the Patowmac river separate it from Virginia on the south, and Sideling-hill Creek divides it from Washington county on the east. It contains 4809 inhabitants, including 258 slaves. Its chief town is Cumberland. Morfe.

ALLEGHANY Mountains of America, situate between the Atlantic Ocean, the Mississippi river, and the lakes, are a long and broad range of mountains, formed of a great number of ridges, extending to the north-east and south-west, and nearly parallel to the sea-coast, about 900 miles in length, and 60 to 150 and 200 miles in breadth. The different ridges, which compose this immense range of mountains, bear appropriate names in the several states; viz. the Blue Ridge, the North Mountain or North Ridge, or Devil's Back-bone, Laurel Ridge, Jackson's Mountains, and Kittatinny Mountains. All these ridges, except the Alleghany, are broken through by rivers, which appear to have forced their way through solid rocks; and between the several ridges numerous tracts of fine arable and grazing land intervene. In those districts, however, which lie in the back parts of Pennsylvania, Mr. Evans, who travelled over them, observes, that scarcely one acre in 10 is capable of culture. The principal ridge is more appropriately called Alleghany, and distinguished by the appellation of the Back-bone of the United States. From the several ridges proceed innumerable branches or spurs. The general name of the whole range, taken collectively, seems not yet to have been determined. Mr. Evans calls them "the endless mountains;" others have called them "the Apalachian mountains," from a tribe of Indians, who live on a river which proceeds from this mountain, called the Apalachicola; but the most common name is the "Alleghany mountains" so called, probably from the principal ridge of the range. These mountains are not confusedly scattered, rising here and there into high peaks, overtopping each other; but they run along in uniform ridges, scarcely half a mile high. They spread towards the south, and some of them terminate in high perpendicular bluffs; others gradually subside into a level country, giving rise to the rivers which run to the southward into the Gulf of Mexico. Morfe.

ALLEGHANY River, an American river of Pennsylvania, rises on the western side of the Alleghany mountains, and after running about 200 miles in a south-west direction, unites with Monongahela at Pittsburg; and both together form the Ohio. The lands on each side of this river, for 150 miles above Pittsburg, consist of white oak and chestnut ridges, and in many places of poor pitch pines, interspersed with tracts of good land and low meadows. This river, and the Ohio likewise, from its head waters until it enters Mississippi, are known and called by the name of Alleghany river, by the Seneca and other tribes of the six nations, who once inhabited it. Morfe.

ALLEGATA, in Antiquity, a word anciently subscribed at the bottom of rescripts and constitutions of the emperors, as *signata*, or *testata*, was under other instruments. In this sense *allegata* imports as much as verified, *verificata*. Allegata was a kind of subscription, somewhat less usual than *data*, *propositum*, *accepta*, *subdita*, *supposita*, or *subscripta*.

ALLEGATION, is used for the producing of acts, or instruments, to authorize a thing. In the ecclesiastical courts, articles are drawn out in a formal allegation, or by libel, to set forth the complainant's ground of complaint against the injuring party, brought before the court by citation. To this succeeds the defendant's answer upon oath, when, if he denies or extenuates the charge, they proceed to proofs by witnesses examined, and their depositions taken down in writing, by an officer of the court. If the defendant has any circumstances to offer in his defence, he must also propound them in what is called his defensive allegation, to which he is entitled, in his turn, to the plaintiff's answer upon oath, and may from thence proceed to proofs as well as his antagonist.

Allegation, in a literary sense, denotes the act of citing or quoting an author, or passage of some book.

ALLEGES, or ALLEGIAS, in Commerce, a stuff manufactured in the East Indies. There are two sorts of them; some are of cotton, and others of several kinds of herbs, which are spun like flax and hemp. Their length and breadth are of eight ells, by five, six, or seven-eighths; and of twelve ells by three fourths, or five-eighths.

ALLEGIANCE, in Law, the legal faith and obedience, which every subject owes to his prince: or, it is the tie or ligamen, which binds the subject to the king; in return for that protection which the king affords the subject.

This was anciently called *ligeantia*, or *ligeance*; from the Latin *ligare*, and *alligare*, to bind; q. d. *ligamen fidei*.

The thing itself, in the substance of it, is founded in reason and the nature of government; the name and the form are derived to us from our Gothic ancestors. Under the feudal system, every owner of lands held them in subjection to some superior or lord, from whom or from whose ancestors the tenant or vassal had received them; and there was a mutual trust or confidence subsisting between the lord and vassal, that the lord should protect the vassal in the enjoyment of the territory he had granted him; and, on the other hand, that the vassal should be faithful to the lord, and defend him against all his enemies. This obligation on the part of the vassal was called his *fidelitas*, or fealty; and an oath of fealty was required, by the feudal law, to be taken by all tenants to their lord; which is couched in almost the same terms with our ancient oath of allegiance; except that in the usual oath of fealty there was frequently a saving or exception of the faith due to a superior lord by name, under whom the landlord himself was perhaps only a tenant

tenant or vassal. But when the acknowledgment was made to the superior lord himself, who was vassal to no man, it was no longer called the oath of fealty, but the oath of allegiance; and therein the tenant swore to bear faith to his sovereign lord, in opposition to all men, without any saving or exception; "*contra omnes homines fidelitatem fecit.*" Land held by this exalted species of fealty was called "*Fendum ligium,*" a liege fee, the vassals "*homines ligei,*" or liege men; and the sovereign their "*dominus ligius,*" or liege lord. And when sovereign princes did homage to each other for lands held under their respective sovereignties, a distinction was always made between *simple* homage, which was only an acknowledgment of tenure, and *liege* homage, which included the fealty before mentioned, and the services consequent upon it. Thus, when our Edward III. in 1329, did homage to Philip VI. of France, for his ducal dominions on that continent, it was warmly disputed of what species the homage was to be, whether *liege* or *simple* homage. But with us in England, it becoming a settled principle of tenure, that all lands in the kingdom are holden of the king as their sovereign or lord paramount, no oath but that of fealty could be taken to inferior lords, and the oath of allegiance was necessarily confined to the person of the king alone. By an easy analogy the term of allegiance was soon brought to signify all other engagements, which are due from subjects to their prince, as well as those duties which were simply and merely territorial. And the oath of allegiance, as administered for upwards of 600 years, contained a promise "to be true and faithful to the king and his heirs, and truth and faith to bear of life and limb, and terrene honour, and not to know or hear of any ill or damage intended him, without defending him therefrom." At the revolution, the terms of this oath being thought to favour too much the notion of non-refusal, the present form was introduced by the convention parliament, which is more general and indeterminate than the former; the subject only promising "that he will be faithful and bear true allegiance to the king," without mentioning "his heirs," or specifying in the least wherein that allegiance consists. Accordingly, the convention of estates having offered the crown to the prince and princess of Orange, who accepted it, the old oaths of allegiance imposed by the stat. 1 Eliz. and 3 James I. were abrogated; and a new oath was drawn up to be taken by all the subjects of England, on penalty of being deprived of all employments, civil, military, and ecclesiastical. The form of the oath of allegiance by 1 Geo. stat. ii. c. 13. is "I, A. B. do sincerely promise and swear, that I will be faithful, and bear true allegiance to his majesty king George. So help me God." This oath may be tendered to all persons above the age of 12 years, whether natives, denizens, or aliens, either in the court-leet of the manor, or in the sheriff's tourn, which is the court-leet of the county. See *PRÆMUNIRE*. The quakers are exempted from taking the oath of allegiance; and, in lieu thereof, are only enjoined a declaration of fidelity, 8 Geo. c. vi. The oath of allegiance, taken by the people to the king, is only the counterpart to the coronation oath, taken by the king to the people; and, as such, partakes of the nature of a covenant: that is, is conditional, and ceases on a violation of the contract by the prince: at least this is the doctrine of some of the chief advocates for the revolution. The anti-revolutioners, on the contrary, held the oath of allegiance to be absolute and unconditional. Archdeacon Paley, in his illustration of this oath, observes, that it excludes all intention to support the claims or pretensions of any other person or persons to the crown and government, than the reigning sovereign;

and also all design, at the time, of attempting to depose the reigning prince, for any reason whatever; and that it forbids the taking up of arms against the reigning prince, with views of private advancement, or from motives of personal resentment or dislike. On the other hand, this oath permits resistance to the king, when his ill-behaviour or imbecility is such, as to make resistance beneficial to the community; nor does it require obedience to such commands of the king as are unauthorized by the law, or that we should continue our allegiance to the king, after he is actually and absolutely deposed, driven into exile, carried away captive, or otherwise rendered incapable of exercising the regal office, whether by his fault or without it.

Besides this express engagement, the law also holds, that there is an implied, original and virtual allegiance, owing from every subject to his sovereign, antecedently to any express promise; and although the subject never swore any faith or allegiance in form. For as the king, by the very descent of the crown, is fully invested with all the rights, and bound to all the duties of sovereignty, before his coronation; so the subject is bound to his prince by an intrinsic allegiance, before the superinduction of those outward bonds of oath, homage and fealty, which were only instituted to remind the subject of his previous duty, and for the better securing its performance. The formal profession, therefore, or oath of subjection, is nothing more than a declaration in words of what was before implied in law.

Allegiance, both express and implied, is however distinguished by the law into natural and local; the former being also perpetual, and the latter temporary. Natural allegiance is such as is due from all men born within the king's dominions immediately upon their birth; for immediately upon their birth, they are under the king's protection; at a time too, when (during their infancy) they are incapable of protecting themselves. Natural allegiance, therefore, is a debt of gratitude, which cannot be forfeited, cancelled or altered, by any change of time, place or circumstance, nor by any thing but the united concurrence of the legislature. An Englishman who removes to France, or to China, owes the same allegiance to the king of England there as at home, and 20 years hence as well as now. For it is a principle of universal law, that the natural born subject of one prince cannot by any act of his own, nor by swearing allegiance to another, put off or discharge his natural allegiance to the former: for this natural allegiance was intrinsic and primitive, and antecedent to the other, and cannot be divested without the concurrent act of that prince to whom it was first due.

Local allegiance is such as is due from an alien, or stranger born, for so long time as he continues within the king's dominion and protection; and it ceases the instant such stranger transfers himself from this kingdom to another. Natural allegiance is, therefore, perpetual, and local, temporary only; and that for this reason, evidently founded upon the nature of government, that allegiance is a debt due from the subject, upon an implied contract with the prince, that so long as the one affords protection, so long the other will demean himself faithfully. As therefore the prince is always under a constant tie to protect his natural born subjects at all times, and in all countries, for this reason their allegiance due to him is equally universal and permanent. But, on the other hand, as the prince affords his protection to an alien, only during his residence in this realm, the allegiance of an alien is confined, in point of time, to the duration of such his residence; and, in point of locality, to the dominions of the British empire. Blackstone's Com. book i. ch. 10. vol. i. p. 366—371. 8vo. Paley's Principles of Moral and Political Philosophy, book iii. ch. 18. vol. i. p. 203—207. 8vo.

ALLEGINI, GIUSEPPE, in *Biography*, an Italian engraver who fl. in 1746, and published the following plates, viz. a Virgin Mary, the Circumcision, the Stoning of St. Stephen, a small print of Rinaldo and Armida, and a large architectural Opera scene. Strutt.

ALLEGORICAL, something containing an *allegory*.

The divines find divers senses in scripture; as a *literal*, a *mystical*, and an *allegorical* sense. See PROPHECY, and TYPE.

ALLEGORY, ALLEGORIA, a figure in *Rhetoric*, whereby we make use of terms which, in their proper signification, mean something else than what they are brought to denote; or it is a figure whereby we say one thing, expecting it shall be understood of another, to which it alludes; or which, under the literal sense of the words, conceals a foreign or distant meaning.

An allegory is, properly, a continued metaphor, or a series of several metaphors in one or more sentences. Such is that beautiful allegory, in Horace, lib. i. Od. 14.

"O navis, referunt in mare te novi
Fluctus, &c."

Where the ship is usually held to stand for the republic; waves, for civil war; port, for peace and concord; oars, for soldiers; and mariners for magistrates. Thus also, in Prior's *Henry and Emma*, Emma describes her constancy to Henry in the following allegorical manner:

"Did I but purpose to embark with thee
On the smooth surface of a summer's sea,
While gentle zephyrs play with prosperous gales,
And fortune's favour fills the swelling sails;
But would forsake the ship, and make the shore,
When the winds whistle, and the tempests roar?"

Cicero likewise speaking of himself (in *Pison*. c. 9. tom. vi. p. 187.) uses this allegorical language: "Nor was I so timorous, that after I had steered the ship of the state through the greatest storms and waves, and brought her safe into port, I should fear the cloud of your forehead, or your colleague's pestilent breath. I saw other winds, I perceived other storms, I did not withdraw from other impending tempests; but I exposed myself singly to them for the common safety." Here the state is compared to a ship, and all the things that are said of it under that image, are expressed in metaphors made use of to denote the dangers with which it had been threatened. We have also a very fine example of an allegory in the 80th Psalm; in which the people of Israel are represented under the image of a vine, and the figure is supported throughout with great correctness and beauty. Whereas, if instead of describing the vine as wasted by the boar from the wood, and devoured by the wild beasts of the field, the Psalmist had said, it was afflicted by heathens or overcome by enemies, which is the real meaning, the figurative and the literal meaning would have been blended, and the allegory ruined. The learned Bishop Lowth (*De Sacra Poesi Hebræorum*, Præl. 10. 11. p. 120—140.) has specified three forms of allegory that occur in sacred poetry. The 1st is that which rhetoricians call a continued metaphor. When several metaphors succeed each other, says Cicero (*Orator*. c. 27. tom. i. p. 520.) they alter the form of the composition; and this succession has very properly, in reference to the etymology of the word, been denominated by the Greeks *ἀλλήγορια*, an allegory; although Aristotle, instead of considering it as a new species of figure, has referred it to the class of metaphors. The principle of allegory in this sense of the term, and of the simple metaphor, is the same; nor is it an easy matter to restrict each to its proper limit, and to mark the precise termination of the one, and the commencement of the other. For examples of this kind,

we refer to METAPHOR. This eminently judicious critic observes, that when the Hebrew poets use the congenial figures of metaphor, allegory, and comparison, particularly in the prophetic poetry, they adopt a peculiar mode of doing it, and seldom regulate the imagery which they introduce by any fixed principle or standard. Not satisfied with a simple metaphor, they often run it into an allegory, or blend with it a direct comparison. The allegory sometimes follows, and sometimes precedes the simile: to this is added a frequent change of imagery, as well as of persons and senses; and thus are displayed an energy and boldness, both of expression and meaning, which are unconfined by any stated rules, and which mark the discriminating genius of the Hebrew poetry. Thus, in Gen. xlix. 9. "Judah is a lion's whelp;" this metaphor is immediately drawn out into an allegory, with a change of person: "From the prey, my son, thou art gone up," that is, to the mountains, which is understood; and in the succeeding sentences the person is again changed, the image is gradually advanced, and the metaphor is joined with a comparison that is repeated.

"He stoopeth down, he coucheth as a lion:
And as a lioness; who shall rouse him?"

A similar instance occurs in the prophecy, recorded in Psalm cx. 3, which explicitly foretells the abundant increase of the gospel on its first promulgation. This kind of allegory, however, sometimes assumes a more regular and perfect form, and then occupies the whole subject and compass of the discourse. An example of this kind occurs in Solomon's well-known allegory, Eccles. xii. 2—6. in which old age is so admirably depicted. There is also in Isaiah, xxviii. 24—29, an allegory, which, with no less elegance of imagery, is more simple and regular, as well as more just and complete, both in the form and the method of treating it. Another kind of allegory is that, which in the proper and more restricted sense, may be called a parable; and consists of a continued narration of some fictitious event, accommodated by way of similitude to the illustration of some important truth. The Greeks call these allegories *αἰνῶις* or apologues, and the Latins *fabule*, or fables. See PARABLE. The third species of allegory, which often occurs in the prophetic poetry, is that in which a double meaning is couched under the same words, or when the same discourse, differently interpreted, designates different events, dissimilar in their nature and remote as to time. These different relations are denominated the literal and mystical senses. This kind of allegory, which the learned prelate calls mystical, seems to derive its origin from the principles of the Jewish religion; and it differs from the two former species in a variety of respects. In these allegories the writer may adopt any imagery that is most suitable to his fancy or inclination; but the only proper materials for this allegory must be supplied from the sacred rites of the Hebrews themselves, and it can only be introduced in relation to such things as are immediately connected with the Jewish religion, or their immediate opposites.

The former kinds partake of the common privileges of poetry; but the mystical allegory has its foundation in the nature of the Jewish economy, and is adapted solely to the poetry of the Hebrews. Besides, in the other forms of allegory, the exterior or ostensible imagery is mere fiction, and the truth lies altogether in the interior or remote sense; but in this allegory each idea is equally agreeable to truth. The exterior or ostensible image is itself a reality; and although it sustains another character, it does not wholly lay aside its own. There is also a great variety in the use and conduct of the mystical allegory; in the modes in which the corresponding images are arranged, and in which they are ob-

veiled or eclipsed by one another. Sometimes the obvious or literal sense is so prominent and conspicuous, both in the words and sentiments, that the remote or figurative sense is scarcely permitted to glimmer through it. On the other hand, the figurative sense is more frequently found to beam forth with so much perspicuity and lustre, that the literal sense is quite cast into a shade, or becomes indiscernible. Sometimes the principal or figurative idea is exhibited to the attentive eye with a constant and equal light; and sometimes it unexpectedly glares upon us, and breaks forth with sudden and astonishing coruscations, like a flash of lightning bursting from the clouds. But the mode or form of this figure, which possesses the chief beauty and elegance, is, when the two images, equally conspicuous, run, as it were, parallel through the whole poem, mutually illustrating and correspondent to each other. The learned author has illustrated these observations by instances selected from the 2d and 72d Psalms. He adds, that the mystical allegory is, on account of the obscurity resulting from the nature of the figure, and the style of the composition, so agreeable to the nature of the prophecy, that it is the form which it generally, and indeed lawfully assumes, as best adapted to the prediction of future events. It describes events in a manner exactly conformable to the intention of prophecy; that is, in a dark, disguised and intricate manner, sketching out in a general way their form and outline; and seldom descending to a minuteness of description and exactness of detail. On this subject in its immediate connection with the double sense of prophecy, which some eminent critics and commentators have not only disputed, but absolutely rejected as groundless and fanciful, and leading to great uncertainty of interpretation; see PROPHECY.

Allegories were a favourite method of delivering instructions in ancient times; for what we call fables or parables, are no other than allegories; where, by words and actions attributed to beasts or inanimate objects, the dispositions of men are figured; and what we call the moral, is the unfigured sense or meaning of the allegory. An *enigma* or riddle is also a species of allegory; one thing represented or imaged by another; but purposely wrapt up under so many circumstances as to be rendered obscure. Where a riddle is not intended, it is always a fault in allegory to be too dark. The meaning should be easily seen through the figure employed to shadow it. However, the proper mixture of light or shade, in such compositions, the exact adjustment of all the figurative circumstances with the literal sense, so as neither to lay the meaning too bare and open, nor to cover and wrap it up too much, has ever been found an affair of great nicety; and there are few species of composition in which it is more difficult to write, so as to please and command attention than in allegories. In some of the visions of the Spectator, we have examples of allegories very happily executed. In the right management of allegories, care should be taken that the same kind of trope be carried through the whole, so as to compose one uniform and consistent set of ideas; otherwise they dress up a chimera, a thing that has no existence, and of which the mind can form no conception. Quintilian very justly observes (*Inst. Orat. l. viii. c. 6.*) that "to begin with a tempest and end with a fire, would be very ridiculous and unnatural." It is likewise very necessary that the allusions be all plain and evident, especially where the name of the thing alluded to is not expressed. These are called *pure allegories*. But where the reference is not evident, it becomes a riddle, which is nothing else but an *obscure allegory*. To avoid this the best writers use what are generally called *mixed allegories*, or such as express the proper

name of the thing which the whole similitude respects. Of this kind is that in the speech of Philip, king of Macedon, given by Justin (*l. xxix. c. 3.*), where he says, "I perceive that cloud of a dreadful and bloody war arising in Italy, and a thunder-storm from the west, which will fill all places with a large shower of blood, whence the tempest of victory shall carry it." The proper words "war," "blood," and "victory," being joined to the tropes, "cloud," "shower," and "tempest," in this sentence, render the several parts of the similitude plain and evident. Quintilian thinks these allegories most beautiful, where the whole similitude is expressed, and those words, which in their proper sense relate to one of the two things, between which the comparison is made, are allegorically applied to the other: as when Cornelius Nepos says of Atticus (*cap. x.*), "If that pilot gains the greatest reputation, who preserves his ship in a boisterous and rocky sea; ought not he to be thought a man of singular prudence, who arrived in safety through so many and so great civil tempests?" These are the allegories with which orators are chiefly concerned. See Ward's Oratory, vol. ii. p. 27—31. Blair's Lectures, vol. i. p. 396—399.

The Old Testament is supposed, by many, to be a perpetual allegory, or typical representation of the mysteries of the New. Mr. Collins, in his "Grounds and Reasons of the Christian Religion," pretends, that the Old Testament, literally understood, no where serves the purposes of Christianity; but if it be of any use, it must be understood allegorically. He first recommends allegory, as the only mode of reasoning proper for bringing men to the faith of Christ; and then ridicules this allegorical interpretation as absurd. p. 87, 90, 94, 160. In effect, allegories have entered into most religions.—The Jews, we know, abound with them. Philo Judæus has three books, of the allegories in the history of the six days. Nor are the heathens without allegories in their religion: it may be even said, that the use of them is of a much earlier standing in the Gentile than in the Jewish world.—Some of their philosophers, undertaking to give a *rationale* of their faith, and to shew the reason and scope of their fables, and the ancient histories of their gods, found it necessary to put another construction on them; and maintain, that they signified something very different from what they seemed to express. And hence came the word allegory, or a discourse that, in its natural sense, *αλλο αφορμεν*, signifies something other than what seems intended by it. This shift they had recourse to, in order to prevent people from being shocked with those absurdities which the poets had introduced into their religion; and to convince the world, that the gods of Greece had not been those vile persons which their histories represented them to be. By this means the history, as well as religion, of Greece, was at once converted into allegory; and the world left to seek for them both in a heap of fables, few of which have been satisfactorily solved, either by ancient or modern writers. The Jews, finding the advantages of this way of explaining religion, made use of it to interpret the sacred writings, so as to render them more palatable to the Pagans. The same method was adopted by the primitive writers of Christianity. The practice of allegorical interpretation, which the Jews had learned from the Egyptians, and which, before the time of Christ, was common among them, the early converts to Christianity brought out of the Jewish into the Christian church. Some traces of this method we find in the New Testament, particularly in St. Paul's argument against the Jewish advocates for the perpetual and universal obligation of the Mosaic ritual, drawn from the history of Abraham, in the epistle to the Galatians, ch. iii. 22; and in the typical

application of the ceremonial appointment of Moses to the Christian institution, is applicable to the Hebrews. But a less sober and judicious use was made of this kind of language by the Christian fathers. This was more especially the case with those Gentile converts, who, being educated in the Alexandrian school, where, by the help of allegory, the old fables of mythology were mixed and confounded; and with those Jewish Christians, who, by the same means, had been initiated in the Gnostic doctrines, which, before this time, had sprung up in Egypt, and passed thence into Judea. Several of these sects of Christians, who were called heretics, particularly the Valentinian Gnostics, made use of allegorical language to disguise the unnatural alliance which they had introduced between the fanciful dogmas of the oriental philosophy and the simple doctrine of Christ. The orthodox fathers of the church, too, defended themselves with the same armour, both against heretics and idolaters, applying, with more ingenuity than judgment, the fabled method of interpretation to the sacred scriptures. In the same manner in which Hille and other Alexandrian Jews had corrupted the Jewish church, Clemens Alexandrinus, Origen, and other disciples of the Alexandrian school, in the second century, introduced error and corruption into the church of Christ. Whitby on the interpretation of Scripture, Lond. 1744. Brucker's Hist. Philos. by Enfield, vol. ii. p. 272.

Allegories are distinguished into divers kinds: as *verbal, real, simple, allusive, physical, moral, political, theological*, &c.

ALLEGORY, *simple*, according to some writers, is that which is taken from any kind of natural things.

ALLEGORY, *allusive*, is that which relates to other words, or things.

ALLEGORY, *verbal*, is a thread, or series of metaphors; or a continuation of the same trope, chiefly metaphor, through many words. Such is that in Virgil:

“Claudite jam rivos pueri, fat prata biberunt.”

Where the metaphor of watering the ground is carried on to the shutting of the sluices, &c.

ALLEGORY, *perpetual*, or *continued*, is that where the allegorical thread is pursued through all the parts of a considerable discourse. Such are the books of Jonah, of Canticles, of Job, not to say the whole Old Testament, according to the hypothesis of some divines.

ALLEGORIES, *physical*, those wherein some point of natural philosophy is represented: such in Homer, are Juno, who represents the air; Jupiter, the æther, &c.

ALLEGORIES, *medical*, those wherein some secret of physic is revealed: such is Solomon's description of old age, Ecclesi. xii. 1, &c. wherein, according to certain authors, the circulation of the blood is indicated: such also, according to a modern writer, is the story of the labours of Hercules. For an illustration of Solomon's allegorical description of old age, see Mead's *Medica Sacra*, chap. vi.

ALLEGORIES, *chemical*, those relating to chemistry: such, according to Suidas, and many moderns, is the story of the Argonautic expedition, wherein the process of making gold is exactly described: such also, according to Tollius, is the name and title of Basil, Valentine, Benedictine, Monk: under which are concealed the secrets of the philosophical mercury.

ALLEGORIES, *moral*, those whereby some useful moral instruction is held forth: such, in Homer, is the victory of Diomedes over Venus, or fleshly lust: such also are the Pythagorean metempsychosis, and the story of the judgment of Hercules, related by Prodicus. To which may be added, the fables of avarice and luxury; of the grotto of grief, and

and others in the Spectators and Tatlers. Spectat. N° 55. Tatlers N° 97.

ALLEGORIES, *political*, those wherein some maxim of good government is artfully wrapped up; such is that celebrated one of Menenius Agrippa, whereby he prevailed on the Roman people, who had withdrawn in discontent at the magistrates, to return into the city; to which purpose he related to them the parable of a war raised by the several parts of the human body against the stomach.

ALLEGORIES, *theological*, these wherein some truth relating to the nature and attributes of God is couched.

ALLEGORY is also used for the drawing of some words, plainly and literally intended at first, from their natural and proper meaning, to a foreign sense; for the better instructing of our minds in some point of faith or manners. This coincides with what is otherwise called ACCOMMODATION.

ALLEGORY, in *Painting*, is used as in poetry, and sometimes too licentiously, by painters, who, while they enrich their pictures by allegories, offend the spectator, especially in representations of modern history. Rubens, whose works are full of great and noble ideas, cannot be justified in the licentious treatment of allegory in his famous pictures representing the history of Mary of Medicis, and in several others of that great master's works which could be mentioned. In the Luxembourg gallery Rubens has so united the Christian ceremonies with heathen mythology as greatly to offend the eye of the intelligent spectator, notwithstanding the grandeur of the composition and richness of the colouring, which are produced by this very means. A great general has been represented crossing a river with his troops by an armed warrior striding over a stream of water flowing from an urn held by a river god; which would, it is apprehended, have been expressed with greater propriety by the general holding his truncheon, while the troops, at a distance, were represented as fording a river. Allegory seems better employed in poetical subjects than in historical representations. See more upon this subject under the article PAINTING.

ALLEGRI, GREGORIO, in *Biography*, an eminent musical composer of the 17th century, was a native of Rome, and by profession an ecclesiastic. He was a disciple of Nanini, who was contemporary with Palestrina, and his intimate friend. His abilities as a singer were inconsiderable, and yet he was accounted an admirable master of harmony; and so much was he esteemed by all the musical professors of his time, that the pope, in order to appropriate him to his service, appointed him to be one of the singers of his chapel in 1629. To his extraordinary merit as a composer of church music he joined a devout and benevolent disposition, and an excellent moral character; for he not only assisted the poor, by whom his door was usually crowded, to the utmost of his power, but daily visited the prisons of Rome, in order to bestow his alms on the most deserving and distressed objects he could find in them. He set many parts of the church service with such divine simplicity and purity of harmony, that the loss of him was much felt and sincerely lamented by the whole college of singers in the papal service. He died Feb. 18th, 1652; and was buried in the Chiesa Nuova, before the chapel of S. Filippo Neri, near the altar of annunciation, where is a vault for the reception of deceased singers belonging to the pope's chapel.

Among his works preserved, that are still in use, is the famous *Miserere*, which, for upwards of 170 years, has been annually performed at the pope's chapel in Rome on Wednesday and Good Friday in Passion week, and which in appearance is so simple as to make those who have only seen it

on paper wonder whence its beauty and effect could arise, and which owes its reputation more to the manner in which it is performed than to the composition: the same music is many times repeated to different words, and the fingers have, by tradition, certain customs, expressions, and graces of convention (*certe espressioni e Gruppi*), which produce great effects, such as swelling and diminishing the sounds altogether, accelerating or retarding the measure at some particular words, and singing some entire verses quicker than others. This information was furnished to the author by signor Santarelli, the pope's maestro di capella. And Andrea Adami asserts, in his *Osservazioni per ben reg. il coro della Cap. Pont.* 1711, p. 36, "that after several vain attempts by preceding composers, for more than a hundred years, to set the same words to the satisfaction of the heads of the church, Gregorio Allegri succeeded so well as to merit eternal praise; for with few notes, well modulated and well understood, he composed such a *Miserere* as will continue to be sung on the same days, every year, for ages yet to come; and one that is conceived in such just proportions as will astonish future times, and ravish, as at present, the soul of every hearer."

However, some of the great effects produced by this piece may, perhaps, be justly attributed to the time, place, and solemnity of the ceremonials used during the performance: the pope and conclave are all prostrated on the ground; the candles of the chapel and the torches of the balustrade are extinguished one by one; and the last verse of this psalm is terminated by two choirs; the maestro di capella beating time slower and slower, and the fingers diminishing or rather extinguishing the harmony, by little and little, to a perfect point.

It is likewise performed by select voices, who have frequent rehearsals, particularly on the Monday in Passion week, which is wholly spent in repeating and polishing the performance.

This composition used to be held so sacred, that it was imagined excommunication would be the consequence of an attempt to transcribe it.

Padri Martini said that there were never more than three copies of it made by authority, "one of which was for the emperor Leopold, one for the late king of Portugal, and the other for himself." Of this last he favoured the author with a transcript at Bologna, and signor Santarelli indulged him with another from the archives of the pope's chapel. Upon collating these two copies, they were found to differ very little from each other.—Present state of Music in France and Italy.

Before we quit a subject so interesting to the lovers of church music, we shall add the following anecdote, with which we were likewise favoured by signor Santarelli.

"The emperor Leopold the first, not only a lover and patron of music, but a good composer himself, ordered his ambassador at Rome to entreat the pope to permit him to have a copy of the celebrated *Miserere* of Allegri, for the use of the Imperial chapel at Vienna; which being granted, a copy was made by the signor maestro of the pope's chapel, and sent to the emperor, who had then in his service some of the first singers of the age; but, notwithstanding the abilities of the performers, this composition was so far from answering the expectations of the emperor and his court in the execution, that he concluded the pope's maestro di capella, in order to keep it a mystery, had put a trick upon him, and sent him another composition. Upon which, in great wrath, he sent an express to his holiness, with a complaint against the maestro di capella, which occasioned his immediate disgrace, and dismissal from the service of the papal chapel; and in so great a degree was the pope offended, at the supposed imposition of his com-

poser, that, for a long time, he would neither see him nor hear his defence. However, at last, the poor man got one of the cardinals to shew his case, and to acquit his holiness that the style of singing in his chapel, particularly in performing the *Miserere*, was such as could not be expressed by a text, nor taught nor transmitted to any other place, but by example, for which reason the piece in question, though initially transcribed, must be sung as it is when performed elsewhere. His holiness did not understand music, and could hardly comprehend how the same notes should sound so differently in different places; however, he ordered his maestro di capella to write down his defence, in order to be sent to Vienna, which was done; and the emperor, seeing no other way of gratifying his wishes with respect to this composition, begged of the pope that some of the musicians in the service of his holiness might be sent to Vienna, to instruct those in the service of his chapel how to perform the *Miserere* of Allegri, in the same expressive manner as in the Sistine chapel at Rome, which was granted. But, before they arrived, a war broke out with the Turks, which called the emperor from Vienna; and the *Miserere* has never yet, perhaps, been truly performed but in the pope's chapel.

With respect to the intrinsic worth of this renowned *Miserere*, as a musical phenomenon, we know that more valuable compositions have been produced, since Allegri's time, by musicians of superior genius; but the words were thought by the heads of the Romish church to be set with so much more propriety, reverence, and effect, than by any former ecclesiastical composer whose productions had been allowed admission into the service of the papal chapel during the holy week, that, besides the manner in which it was performed, its merit was perhaps somewhat exaggerated in imagination by the mystery with which it was sedulously preserved from profane examination.

ALLEGRI, ANTONIO. See CORREGGIO.

ALLEGRINI, FRANCESCO, an engraver, who lived at Florence, and flourished in 1760. By him we have many portraits, from different masters. The image of St. Francis d'Assise is held in high estimation at Sienna, in the church named l'Alberino. Strutt.

ALLEGRO, *Ital. Music*, denotes gay, cheerful, quick. The force of this term is augmented by the words *più, affai*, and the superlative degree of comparison, as *più allegro*, more quick; *allegro affai*, and *allegroissimo*, very quick. It has likewise its diminutives, as *poco allegro*, and *allegretto*, a little gay, cheerful, or quick. *Allegro* is the degree of time between ANDANTE and PRESTO, which see.

ALLEIN, RICHARD, in *Biography*, a non-conformist divine, was born at Ditchet, in Somersetshire, in 1611, educated by his father, who was rector of the parish, and entered a commoner at St. Alban's Hall, Oxford, in 1627. Having taken the degrees of bachelor and master of arts in the University, he became first, assistant preacher to his father, and afterwards, viz. in 1641, rector of Batcomb, in Somersetshire, where he faithfully discharged his duty. Having received from his father a bias towards the sentiments of the Puritans, he attached himself to that party, and zealously supported the solemn league and covenant, though he disapproved the enthusiastic spirit of some of its adherents; as appears by a paper printed in 1648, and entitled, "The testimony of the ministry of Somersetshire to the truth of Jesus Christ, and to the solemn league and covenant." In 1654 he was employed as assitant to the commissioners appointed by parliament for ejecting scandalous ministers: at the restoration he manifested an inclination to yield submission to the government; but unable conscientiously

with the terms of conformity, he preferred the alternative, rejected by the act of uniformity, of quitting his living and having retained it for 20 years, and of ranking with about 200 other dissenters, who were distinguished by the denomination of ejected ministers. Under the restraints and penalties of this act, he exercised his ministry in the house of Mr. More, who had been formerly a member of parliament, and who lived in his neighbourhood; and though he was reprimanded by the magistrates and imprisoned, his reputation for piety, learning, and exemplary conduct, procured a mitigation of the rigorous treatment with which he was punished. In consequence of "The Five-mile Act," he was under a necessity of removing from Batcomb to Frome-Selwood, where he continued in the discharge of his professional duties, notwithstanding the dangers to which he was exposed. In this situation he remained, till death terminated his trials and labours in 1681. He was distinguished by his plain, practical and pathetic manner of preaching, and by his assiduity in the duties of his pastoral office, such as catechising, visiting the sick and instructing the ignorant. Although he was an avowed non-conformist, and strictly attached to his principles, the moderation of his temper, as well as his general character, recommended him to the clergy and laity of sentiments different from his own, and he lived amongst them on terms of friendship and intercourse. Mr. Jenkins, vicar of Frome-Selwood, preached his funeral sermon, and bore testimony to his piety, meekness, and moderation. His works, which were all of the devotional kind, were much esteemed, and frequently reprinted. The principal of these was his "*Vindiciæ Pietatis*," or, "*A Vindication of Godliness, in the greatest strictness and spirituality of it, from the imputations of folly and fancy*," which was published in 1665, without a printer's name, because it was not licensed; but the copies of it were seized and sent to the king's kitchen for waste-paper. They were afterwards bought by the king's bookseller, who had caused them to be seized, at a cheap rate, and sold; for which artifice he was brought on his knees to the council table, and the books were again sent to the king's kitchen and bisk'd, *i. e.* struck over with ink, so as to be illegible. The other works of Allein were "*Heaven opened, or a brief and plain discovery of the riches of God's covenant of grace*," printed in 1665; "*The World Conquered*," 1668, 8vo.; "*Godly Fear*," 1674, 8vo.; "*A Rebuke to Backsliders, and a Spur for Loiterers*," 1677, and 1684, 8vo.; "*A Companion for Prayer*," 1680, 12mo.; "*Instructions about Heart-work, &c.*" 1681, 8vo. Calamy's *Life of Baxter*, vol. ii. Wood's *Athen. Oxon.* vol. ii. Biog. Brit.

ALLEIN, JOSEPH, a nonconformist divine, was born at Devizes, in Wiltshire, in 1633. Having manifested at a very early age an eminently pious disposition and an inclination for the ministry, he was educated with this view and sent to Oxford at the age of 16 years. At college he was distinguished by diligence in his studies and gravity in his deportment. In 1653 he became a tutor in the college of Corpus Christi, to which he belonged, and where, for the exercise of his gifts in prayer, he had performed the office of chaplain, which he preferred to a fellowship; and in this situation he was so assiduous and so successful, that many of his pupils occupied respectable stations both in the established church and among the nonconformists. In 1655 he left college, and was assistant minister at Taunton Magdalen, in Somersetshire, until the year 1662, when he was deprived for nonconformity. During this connection he was indefatigable in his ministerial services, and his conduct was so

amiable and exemplary, as to secure the affectionate esteem and attachment of his parishioners. After his exclusion from the church, he persevered in his labours, and preached commonly six or seven, and sometimes 14 or 15 times a week; till in 1663 he was committed to Ivelchester jail, where seven ministers and 50 quakers were closely confined and enduring similar hardships. At the assizes Allein was convicted of having preached in the preceding May, and sentenced to pay 100 marks, and to remain in prison till the fine was paid. "I am glad," said he on receiving his sentence, "that it has appeared before my country, that whatever I am charged with, I have been guilty of nothing but doing my duty; and that all which appeared from the evidence was, that I sung a psalm, and instructed my family, others being there, and both in my own house." By an imprisonment of 12 months, Allein's constitution was impaired and the duration of his life shortened. After his release he renewed his labours, and his sufferings were also renewed; his health gradually declined; and in 1668 he finished his course, at the age of 35 years. His biographers, Anthony Wood excepted, bear testimony to his learning and charity. Zealous in his own mode of worshipping God, he was not, as ministers of the established church have testified, in the least bitter towards any Christians who worshipped in another manner. He preserved a great respect for the church, notwithstanding all his sufferings, and was eminently loyal to his prince, notwithstanding the severities of the times. His writings breathe a true spirit of piety, for which they have been always and deservedly esteemed. His works are, "*An Explanation of the Assembly's Shorter Catechism*," 1656, 8vo.; "*A Call to Archippus*," exhorting the ejected ministers to continue in their ministry, 1664, 4to.; "*An Alarm to the Unconverted*," 1672, 8vo. and 12mo., of which 20,000 were sold, and after it was printed in 1675 under the title of "*A Sure Guide to Heaven*," 50,000; "*Christian Letters, full of Spiritual Instruction*," 1672, 8vo.; "*Cases of Conscience*," 1672, 8vo.; "*Remains, &c.*" 1672, 8vo. and several other small practical pieces; besides an imperfect body of natural theology in Latin, which has not been printed. An account of his life and death is often annexed to his writings. Calamy's *Baxter*, vol. ii. p. 577, &c. Neal's *Hist. of the Puritans*, vol. ii. p. 670, 4to. Biog. Brit.

ALLELENGYON, in *Antiquity*, a kind of tax, or tribute, which the rich paid to the poor, when absent in the armies.

ALLELOPHAGI, from *ἀλλήλους*, *one another*, and *φαγῶ*, *I eat*, in *Natural History*, a term used by Mouffet, and other writers on insects, to express a peculiar genus of flies, which feed on one another. They are thus called in distinction from another class, called the *heterophagi*, from their feeding on different substances, not on one another.

ALLELUJAH. See HALLELUJAH.

ALLEMAENGEL, in *Geography*, a small Moravian settlement on Swetara river, in Pennsylvania.

ALLEMAND, a river of America, which falls into the Mississippi from the south-east, about 43 miles south of the Natches.

ALLEMANDA, in *Music*, an ancient movement in common time, moderately quick; supposed, from its title, to be of German invention. In almost every lesson, or sonata for the harpsichord in Handel's time, there was a prelude, an allemand, a faraband, a courant, and a jig, which see. Rousseau says, the allemand is a dance very common in Switzerland and Germany, as it became in England a few years ago. But the allemand for dancing is very different from those in the works of Corelli, Handel, and Mattheson.

ALLEMANNIC,

ALLEMANNIC, in a general sense, something relating to the ancient Germans. The word is also written *Alamannic*, *Allemannic*, and *Allemanic*. It is formed from *Allemanni*, *Allemanni*, or *Alamanni*; the name whereby the German nation was anciently known. See ALLEMANNI.

In this sense we meet with Allemannic history, Allemannic language, Allemannic laws, &c. Goldastus, and others, have published collections of writers on Allemannic affairs: *Allemanicarum rerum scriptores*.

Allemannic language was spoken throughout the southern parts of Germany. It is divided into several dialects; the principal of which are the Suevic, and Helvetic. The Allemannic differed from the Francic, which was the language in use through the northern parts of Germany; the chief dialects of this are the Palatine, Franconian, and Saxon.

ALLEMANNIC law, *jus Allemannicum*, is the same with what is otherwise called the Suevic law, being that which obtained in the more southern parts of the country, as the Saxon law did throughout the northern.

Schilter has published the provincial Allemannic law, and also the code of the feudal Allemannic law.

ALLEN, JOHN, in *Biography*, archbishop of Dublin, in the reign of Henry VIII., was educated at Oxford, and took his degree of bachelor of laws at Cambridge. Having been sent to the pope by Warham, archbishop of Canterbury, on some ecclesiastical affairs, he continued at Rome nine years; and after his return, was chaplain to cardinal Wolsey, and commissary or judge of his court as legate à latere; in the execution of which office he was suspected of dishonesty and even of perjury. In return for his services, the cardinal procured for him the living of Dalby, in Leicestershire. In 1525 he was incorporated at Oxford, doctor of laws, which degree he had taken either at Rome or some Italian university; and in 1528 he was consecrated archbishop of Dublin, and made chancellor of Ireland. He was cruelly murdered by command of the eldest son of the earl of Kildare, in a time of rebellion, A.D. 1534, in the 58th year of his age. His works are, "Epistola de Pallii significatione activa et passiva," and "De consuetudinibus ac statutis in iudiciis causis observandis;" and several other pieces relating to the church. Biog. Brit.

ALLEN, or ALLEYN, THOMAS, an eminent mathematician, was born at Uttoxeter, in Staffordshire, in 1542, and admitted scholar of Trinity college, in Oxford, in 1561, fellow in 1565, and in 1567, master of arts. Averse from taking orders, and inclined to retirement, he withdrew from college and took up his residence in 1570 at Gloucester-hall, where he sedulously pursued his studies and became an eminent antiquary, mathematician, and philosopher. His talents and learning attracted the notice of several persons of distinction; he was offered a bishopric by Robert, earl of Leicester, and strongly solicited by Albertus L'Askie, count or prince of Sirade, in Poland, to reside with him in his own country; but he declined every proposal of this kind, and preferred the pleasure of retirement and study to secular advantages that were likely to accrue to him from the patronage of the great. He associated, however, with persons most distinguished for literature and science at the period in which he lived, to whom he had access in the house of Henry, earl of Northumberland, the great friend and patron of the mathematicians. By the ignorant and vulgar he was regarded, on account of his great skill in the mathematics, as a magician and conjurer. Mr. Selden informs us, "that he was a person of the most extensive learning and consummate judgment, the brightest ornament of the university of Oxford;" and Camden extols him as "highly

accomplished in an extensive acquaintance with the most valuable arts and sciences." He was curious and diligent in collecting MSS. relating to various branches of learning. These collections have been cited by several authors; but they are now dispersed and lost. His works are, "The second and third books of Ptolemy, concerning the judgment of the stars, with a commentary," published in Latin; notes on many of Lilly's books, and on Bale's book "De Scriptoribus Maj. Britanniae." It is justly to be regretted, that the world has derived so little advantage from the erudition and literary labours of a person, who in his funeral eulogy by Burton, was denominated "not only the Coryphaeus, but the very soul and fun of all the mathematicians of his time. He died Sept. 30th, 1632. Wood's Athen. Oxon. vol. i. Biog. Brit.

ALLEN, THOMAS, a learned divine, was born in 1573, educated in the king's school at Worcester, and removed to Oxford in 1589, where he made a great progress in philosophy, and became a noted disputant. He took orders, but applied to the abstruse and critical parts of learning more than to preaching. He wrote in Latin "Observations on St. Chrysostom's book upon Isaiah," published in Sir H. Savile's edition of Chrysostom's works, and assisted him in his annotations on this father's homilies on the Evangelists. Savile represents him "as a very learned man, and no less skilled in the Greek learning than in divinity." He died in 1636, and was buried in the chapel of Eton-college, of which he was a fellow. Biog. Brit.

ALLEN, BENJAMIN, M. D. published in the year 1700, at London, "The natural history of the chalybeat and purging waters in England," 8vo. This was republished in the year 1711. He gives the analysis of the several waters, which he classes under the heads of chalybeat, saline, sulphureous, or mixed, and attributes their virtues to a subtle gas or spirit with which he supposes they are imbued. There are no memorials extant of the life of this writer.

ALLEN, JOHN, M. D. F. R. S. published in the year 1719, "Synopsis universae Medicinæ Practicæ," 8vo. The work is dedicated to the president and fellows of the Royal College of Physicians, London; and comprises brief descriptions, and accounts of all the diseases incident to the human body, with the most approved modes of treating them; taken, as the author every where acknowledges, from the most eminent writers, ancient and modern. Of this work the author speaks very modestly, and particularly admonishes the reader not to content himself with the abstracts he has given, "sed potius auctores ipsos ubicunque consulat: nam in 'transferendis,' he adds, 'eorum sententiis, verisimile est, me 'frequenter errasse, aut saltem sensum obscurè, aut imperfecè tradidisse. Dulcius ex ipso fonte bibuntur aquæ.'" The work was, however, received with such avidity, not only in England but in all parts of Europe, that in the space of a very few years, it passed through numerous editions, to which, from time to time, the author made such additions, as increased it to nearly double its original bulk. In the year 1734 he gave an English translation, which was published in two volumes, 8vo.: it had been before translated into French. The author appears to have practised medicine in London, but no particulars of his life have been published.

ALLEN, Flopert Van, an engraver, who flourished in 1686. He drew the town of Vienna, in 1686, and engraved the town of Prague, a large, slight print, with many figures. Strutt.

ALLEN, Francis, an obscure engraver of Lubeck, who flourished in 1652.

ALLERS, in *Geography*, a town of the Mar, in North Germany, situated on the Elbe, and near Hamburg, and noted for its salt-mines.

ALLENBACH, or FLEISCHBACH, in *Geography*, a prebendary seat in the principality of Hunsrück, in Germany, lying between the rivers Nahe and Glan.

ALLENBURG, a small town of Prussia, in the government of Pomerania, well situated on the river Alb, eight leagues north-east of Königsberg.

ALLENDORF, a bailiwick of Lower Hesse, in Germany, situate amidst high and rocky mountains, of which those of Gohburg and Holsberg, on the frontiers of Eichsfeld, are the most remarkable, and producing some wine. The town of Allendorff is situated on the river Werra, or Weser, about fifteen miles east of Cassel, N. lat. $51^{\circ} 18'$. E. long. $9^{\circ} 44'$. This town was destroyed by fire in 1637. Near it are the great salt work in the Sedan, which are more ancient than the town itself, as they are mentioned in an instrument of the emperor Otho II. bearing date in 973.

ALLENDORF is also a prefecture of Upper Hesse. The town, named An der Lunde, was erected in 1370. It is six miles north-east of Gießen, and eight south of Marburg.

ALLENSTOWN, a town of America, in New Jersey, in Monmouth county, 15 miles north-east of Burlington, and 13 south by east from Princeton.

ALLENSTOWN is also a township in Rockingham county, New Hampshire, containing 254 inhabitants, situate on the east side of Merrimack river, 25 miles north-west of Exeter, and 40 from Portsmouth.

ALLEN-TOWN, in Pennsylvania, Northampton county, on the point of land formed by Jordan's creek, and the little Lehigh, contains about 90 houses and an academy.

ALLENTROP, a town of Germany, in the circle of the Lower Rhine and duchy of Westphalia, situate on the river Sorbeck, three leagues south of Arenberg.

ALLER, a river of Germany, rises in the duchy of Magdeburg, passes by Luneburg, Gifhorn, Zell, &c. and joins the Weser, a little below Verden.

ALLER *good*, in our *Ancient Writers*. The word *aller* serves to make the expression of superlative signification. So *aller good*, is the greatest good. Sometimes it is written *alder*.

ALLERIA. See ALERIA.

ALLERION, or ALERION, in *Heraldry*, a sort of eaglet, represented without either beak or feet.

The name is French; and is said to have been introduced for the word *eaglet*: it is added, that the practice of calling eaglets, *-allerions*, and of representing them spread, without feet and beaks, is not above a hundred years old, and is of French invention; introduced to represent the Imperialists as subdued. Hence, Menage derives the word from *aquilario*, a diminutive of *aquila*. In Latin they are called *aquila mutile*.

The *allerion*, represented *Tab. Heraldry, fig. 1.* appears much the same with the *martlet*, except that the wings of the latter are close, and it is represented, as it were, *passant*; whereas the *allerion* is spread, and is represented in *pale*. Add, that among our heralds, the *martlet* has a beak, which the *allerion* wants.

ALLERSHEIM, in *Geography*, a town of Germany, in the circle of Swabia, and capital of a bailiwick, in the principality of Oettingen, five miles south of Oettingen.

ALLERSHEIM is also the name of a bailiwick, in the principality of Wolfenbüttel, containing four villages, and anciently called *Ellersen*.

ALLERSPERG, a town of Germany, in the circle of Franconia, six leagues south of Nuremberg.

ALLERSTEIN, called in the Polish language *Ołpinieck*, is a small town with a castle in the province of Ermeland, situate on the river Alle, and built in 1367.

ALLERTSPERG, a town of Germany, in the arch-duchy of Austria, seven miles north of Bavarian Waidhoven.

ALLESANI, a town of Corsica, 13 miles east-north-east of Corte.

ALLESTRY, RICHARD, in *Biography*, an English episcopalian divine, was born at Uppington, near the Wreken, in Shropshire, in the year 1619, and after receiving part of his education at Coventry, under Philemon Holland, the translator, was entered a commoner in Christ-church, Oxford, under the tuition of Richard Busby, afterwards Dr. Busby, the famous master of Westminster school. From a course of study and improvement, in which after he had taken the degree of bachelor of arts, he was chosen moderator in philosophy, the distraction of the times suddenly called him forth to military service. In this new occupation, he and the other Oxford scholars, manifested their loyalty; but having been protected and supported by Sir John Biron, with a party of horse, Allestry and his associates returned to their studies. It was not long before their safety was again endangered by a republican party, who entered Oxford for the purpose of plundering the colleges. Allestry contrived secretly to remove the booty which they had collected; and as soon as it was known that he was the cause of their disappointment, they seized him, and would probably have treated him with severity, if they had not been suddenly called away by the earl of Essex. On a subsequent occasion he was taken prisoner by a party of horse, but when the parliament garrison at Broughton-house, whither he was conveyed, surrendered to the king's forces, he was released. Allestry resuming his studies, took his degree of master of arts. As soon, however, as he recovered from a disorder which threatened his life, and which had prevailed in the garrison at Oxford, he entered again into the king's service, and encountered the fatigues and hazards of a military life, in the humble station of a common soldier. In this service, blending the watchings of a soldier with the lucubrations of a scholar, he continued till the end of the war; and when the republican party became triumphant, he retired to his college. Here he was employed in the office of censor, and as private tutor to several students; and though he had no prospect of ecclesiastical preferment, he entered into holy orders. Still zealously attached to the royal party, he signed the decree passed in the university of Oxford, against the solemn league and covenant. In consequence of this act, he and other members of the university, with whom he concurred, were proscribed and banished from Oxford by the parliamentary visitors. To him, however, a short respite was granted for settling his affairs, "because," as one of their number asserted, "he was an eminent man." During the depression of the royalists he found an asylum, first in the house of Francis Newport, Esq. in Shropshire, where he officiated as chaplain, and afterwards in that of Sir Anthony Cope, in Oxfordshire. His talents and fidelity rendered him an useful and active instrument in preparing the way for the restoration of Charles II. In one of his expeditions for this purpose he was seized at Dover by a party of soldiers, and committed to the jail of the king's friends at Lambeth house. Upon his release from confinement, he proposed to visit his friend Dr. Hammond, at Westwood, near Worcester; but when he approached his house, he met

his funeral procession. Of his esteem, however, he received a valuable testimony in the legacy of his library, which was bequeathed him for this reason; because the testator "well knew that the books in his hands would be useful weapons for the defence of the cause which he had during life so vigorously supported."

Soon after the Restoration, Allestry returned to Oxford, and took the degree of doctor in divinity. In recompence of his past services he was soon made a canon of Christ church, one of the king's chaplains in ordinary, and regius-professor of divinity. In 1665 the king conferred upon Dr. Allestry the provostship of Eton college, which he held till his death. To this college he was a munificent benefactor, by retrenching his own dues in order to pay off its debts, and by erecting at his own expence the west side of the outward court of the college; nor was he less liberal in other respects, as he settled pensions on indigent persons and families, and distributed his income in occasional charities. At the instance of Dr. Allestry, and in compliance with the petition of the provost and fellows of King's college, Cambridge, the king passed a grant under the broad seal, that, whereas formerly the fellowships of Eton were generally disposed of to persons of foreign education, for the future five of the seven fellows should be such as had been educated at Eton school, and were fellows of King's college. In 1679, Dr. Allestry, finding his health, and particularly his sight, much impaired, resigned his professorship of divinity; and in 1681 a dropsy terminated his life, and he was buried in Eton chapel, under a monument of white marble, on which is inscribed a Latin epitaph, distinguished by its terseness and elegance. A biographer in an account of his life prefixed to his sermons represents Dr. Allestry as a man of uncommon talents and singular merit. "Memory, fancy, judgment, elocution, great modesty, and no less assurance; a comprehension of things, and a fluency of words; an aptness for the pleasant, and sufficiency for the rugged parts of knowledge; a courage to encounter, and an industry to master all things, make up the character of his happy genius. There was not in the world a man of clearer honesty and courage; no temptation could bribe him to do a base thing, or terror affright him from the doing a good one. This made his friendships as lasting and inviolable as his life, without the dirty considerations of profit, or sly reserves of craft; not the pageantry of ceremonious address, or cold civility, much less the servile falseness of obsequious flattery." Whatever may be thought of his political principles, no doubt can be entertained of his consistency; and of the benevolence of his disposition, his numerous acts of liberality afford sufficient evidence. Of his literary talents posterity can only judge by a volume of 40 sermons, printed in folio at Oxford, in 1684; and excepting one singular instance of credulity which they furnish, they do no discredit to the memory of the author. His lectures, which gave satisfaction to those who heard them, he would never be prevailed upon to publish. His valuable library he left to his college. Biog. Brit.

ALLESTRY, JACOB, a poet of the 17th century, was the son of a bookseller, in London, and entered Christ church, in Oxford, in 1671, at the age of 18 years. He took the degrees of bachelor and master of arts, and was music-reader in 1679, and terzium in 1682, both which offices he executed with great applause, as he was esteemed a good philologist and poet. He died in 1686, in consequence, as it is said, of the vices of his youth, and was buried in the church of St. Thomas, at Oxford. The pieces of poetry, written by him, were printed in a book, entitled, "Examen Poeticum." Biog. Brit.

ALLEU, or ALLODE, in *Antiquity*. See ALLODIUM.

ALLEVARD, in *Geography*, a town of France, in the

department of Isere, and district of Grenoble, six leagues north-north-east of Grenoble.

ALLEVEURE, the smallest copper coin that is struck in Sweden; it is not worth quite two *deniers Tournois* of France, or about $\frac{1}{4}$ d of English money.

ALLEVIARE, in *Old Records*, to LEVY or pay an accustomed fine or composition.

ALLEVIATION, denotes the art of making a thing lighter, and easier to bear or endure.

The word is originally Latin, compounded of *ad, to*; and *levis, light*.

In which sense, alleviation is synonymous with lightening, and stands opposed to aggravation.

ALLEX, in *Geography*, a town of France, in the department of the Drome, and district of Crest, on the north side of the Drome, 10 miles south of Valence.

ALLEY, WILLIAM, in *Biography*, bishop of Exeter, in the reign of Queen Elizabeth, was born at Great Wycomb, in Buckinghamshire, educated at Eton School, and removed to King's college, in Cambridge, in 1528. Here he took the degree of bachelor of arts, and afterwards pursued his studies at Oxford. He was a zealous reformer; and upon Queen Mary's accession he quitted his benefice, and travelled in the northern parts of England, where he was not known, gaining a decent subsistence by the practice of physic and the instruction of youth. When Queen Elizabeth ascended the throne, he came to London, and acquired such reputation in preaching the divinity lecture at St. Paul's, that he was consecrated to the see of Exeter in 1560; and in 1561 he was created doctor of divinity at Oxford. He died in 1570, as some say, according to others in 1571, and, as Fuller says, in 1576, and was buried at Exeter, in the middle of the choir. Over his tomb is a Latin inscription, representing him as "A zealous advocate for the truths of the Gospel, eminent for his virtues, and remarkably skilled in all the useful parts of learning." He wrote "The Poor Man's Library," a miscellany, in two volumes, containing lectures upon the Epistle of St. Peter, and "An Hebrew Grammar." When the version of the Bible was undertaken by command of Queen Elizabeth, this bishop translated the Pentateuch. "His Judgment concerning the Doctrine and Discipline of the Church," has been published by Strype in his *Annals of Queen Elizabeth*. Biog. Brit.

ALLEY, derived from *aller, to go*, in *Gardening*, signifies a narrow or confined path between beds, borders, or other compartments of a garden, and is chiefly formed for the convenience of going between them, in order to perform the necessary business, such as hoeing and weeding the plants, and also to cut, pick, and collect the plants or fruits. Alleys are made of different breadths, according to the sizes of the beds or compartments; but in general a breadth from one to two feet is sufficient. In extensive kitchen-gardens, where borders are carried round next the walks, and immediately adjoining the main quarters of the ground, they should be divided from them by two-feet alleys, for the convenience of carrying in dung, water, &c. and the large compartments should likewise be divided by one or two cross alleys, with the same intention. Alleys between asparagus beds should constantly be two feet wide; those between strawberries, a foot and a half; but between beds of aromatic herbs, fifteen inches may be fully sufficient; and between beds of onions, leeks, carrots, parsnips, lettuce, endive, and all other small crops, the width of ten or twelve inches is as much as is requisite in general; and the same distance between beds of seedling and pricked-out cabbages, favours, celery, &c. for the convenience of going in to weed, water, and draw the young plants for transplantation, will be the most convenient. Alleys are frequently intended both for

of a moment in slow seasons; therefore, between beds of till, loam, &c., gravel, sand, and other substances, that are bedded, they should in general be eight or ten inches or two feet wide; and in order to have them convenient, the beds should be edged with box, and the alleys filled with the best coloured fine gravel; or where that cannot be readily procured, with sand, shells, or other sorts of lightness. See GRAVEL WALKS.

ALLEY, in *D. Husbandry*, implies the vacant space between the outermost row of corn on one bed, and the nearest row to it on the next parallel bed. In the practice of drill-hoeing it was at first supposed that narrow alleys would not answer the end for which they were intended; while, on the other hand, the making them very wide would be a loss of ground; about four feet, exclusive of the spaces or partitions, between the rows of corn in the beds, was therefore considered as the most suitable and convenient distance. But as it is obvious, that it is not necessary to make the alleys so wide in good soils as in those of inferior quality, and that some sorts of crops require much larger spaces than others; the intelligent husbandman should always decide what breadth is the most proper in different cases, and for different purposes; one circumstance must, however, be duly attended to, which is, that wide alleys are more easily and much better stirred between than those that are narrower; for, when an alley is wide, the large furrow in the middle of it may be cut deep, there being then sufficient room to turn the earth over towards the rows, while, on the contrary, the earth where alleys are narrow cannot be stirred deep enough, nor can room be found for what is turned over out of the furrows, without danger of burying some part of the rows of corn or other crops that may be cultivated. In hoeing these spaces the whole of them is not to be stirred, either with the plough or cultivator, when the crop appears; neither of these instruments should go too near the rows of corn or other crop, for fear of rooting up the rows of corn or young plants; but a slip of earth, about six inches wide, is directed to be left untouched on the outside of each bed, by which means the part of the alley that is to be stirred will be reduced to the breadth of three feet; and even that space is lessened in the first ploughing before winter by a deep furrow, which is then cut close to, and all along those six-inch slips, and the earth taken out of each furrow is thrown into the great furrow in the middle of the alley, which it fills and arches up. These two side-furrows make together a breadth of about eighteen inches, and consequently leave, in the middle of the alley, a space of about eighteen inches more, on which is heaped up the earth thrown out of the two furrows; and thus the alleys are to remain during winter. By the first hoeing in the spring, the earth heaped up in the middle of the alleys is to be turned back towards the rows of corn. The two furrows that were opened before winter are then filled up, and a new one is cut in the middle of the alley. This business may be very easily performed with the common plough; two turns of that instrument being frequently sufficient for the purpose, one on each side of the alley, as near as possible to the beds. But when these two turns are not sufficient to form the furrows perfectly, or where too much earth remains between it and the bed, a third turn becomes necessary, and sometimes a fourth, in order to hollow the middle furrow as it ought to be.—When this work is performed with the cultivator with two mould-boards, the instrument must be placed in the middle of the alley, and the horses in one of the two furrows; the share readily entering a great depth into the earth, which was laid there by the last hoeing before winter, the horses advancing, the ridge of the earth is divided into two parts, and fills up the furrows that were made before winter, on each

side of the alley, close to the beds. Thus, the high furrow in the middle of the alley may be opened, and the whole operation performed by a single turn of the cultivator; by which so much time and labour is saved, that the farmer may afford one or two stirrings more in the summer, which will be of great utility in many cases. See CULTIVATOR, HORSE-HOEING, and DRILL-HUSBANDRY.

ALLEY, in *Perspective*, is that which is larger at the entrance than at the exit; to give it the greater appearance of length.

ALLEYN, EDWARD, in *Biography*, a celebrated comedian, was born in London in 1566, and trained at an early period to the stage, for which he was naturally qualified by a stately port and aspect, corporal agility, flexible genius, lively temper, retentive memory, and fluent elocution. Before the year 1592 he seems to have acquired a very considerable degree of popularity in his profession; he was one of the original actors in the plays of Shakspeare, and a principal performer in some of those of Jonson; but it does not now appear what were the characters which he personated. They were probably the most dignified and majestic, for to these the portly and graceful figure of his person was well adapted. At length he became master of a company of players, and the proprietor of a play-house, called the Fortune, which he erected, at his own expence, near Whitecross-street; and he was also joint proprietor and master of the Royal Bear-Garden, on the Bank-side, in Southwark. By the profits accruing from these occupations, added to his paternal inheritance, and to the dowries of his two wives, by whom he had no children, he amassed a considerable property, which he bestowed in a manner that has redounded more to his honour than his professional merit. The wealth thus acquired enabled him to lay the foundation of a college, for the maintenance of aged people, and the education of children, at Dulwich, in Surry, which institution, called, "The College of God's Gift," subsists at this time in an improved and prosperous state. The liberal founder, before he was 48 years of age, began this building after the design, and under the direction, of Inigo Jones: and it is presumed that he expended eight or ten thousand pounds upon the college, chapel, &c. before the buildings and gardens were finished, which was about the year 1617. It is hardly necessary to mention a fabulous tradition concerning the origin of this college, recorded by Mr. Aubrey. The idle tradition, which deserves no credit, and needs no confutation, reports, that Mr. Alleyn, "playing a dæmon, with six others, in one of Shakspeare's plays, was in the midst of the play surprised by the apparition of the devil, which so worked on his fancy, that he made a vow, which he performed at this place." After the founder had built this college, he met with difficulties in obtaining a charter for settling his lands in mortmain, that he might endow it, as he proposed, with 800*l. per annum*, for the support and maintenance of one master, one warden, and four fellows, three of whom were to be ecclesiastics, and the other a skilful organist; also six poor men, as many women, and twelve poor boys, who were to be maintained and educated till the age of 14 or 16 years, and then put out to honest trades and callings. The master and warden were to be unmarried, and always to be of the name of Allen or Alleyn. At length the opposition of the Lord Chancellor Bacon was overcome, and Alleyn's benefaction obtained the royal licence, and he had full power granted him to establish his foundation, by his Majesty's letters patent, under the great seal, bearing date June 21, 1619. When the college was finished, the founder and his wife resided in it, and conformed in every respect to the regulations established for the government of his almoners. Having, by his will, liberally provided for his widow, and for founding 20 alms-houses, 10 in the parish of St. Botolph, with-

out Bishopsgate, in which he was born, and ten in St. Saviour's parish, Southwark, and bequeathed several small legacies to his relations and friends; he also bequeathed the residue of his property to the use of the college. He died in 1626, in the 61st year of his age, and was buried in the chapel of his own college. The chapel, master's apartments, &c. are in the front of this building, and the lodgings of the other inhabitants, &c. in the two wings, of which that on the east side was handsomely new built, in 1739, at the expence of the college. They have a small library of books, and a gallery of pictures, with that of the founder at full length. The inscription over the door concludes with these words: "Abi tu, et fac similitu!" i. e. Go thou, and do likewise. Biog. Brit.

A. L-GOOD, in *Botany*. See *CERENOPORIUM*.

ALL-HEAL. See *HERACLIUM* and *STACHYS*.

ALLI, or SEMIRUS, in *Asian Geography*, a river of Brutium, in Italy.

ALLIA, a small river of Italy, in the territory of the Sabines, to which Virgil (lib. vii. v. 717.) annexes the epithet of "infaustum nomen," in allusion to the defeat of the Roman army by the Gauls on the banks of this river, when, in the year of Rome 363, 40,000 Romans were either killed or put to flight. Hence, "Allienis dies," is in their almanacks marked as an unlucky day, i. e. the 18th of July, which was the anniversary of this battle. Livy (lib. v. c. 37. tom. ii. p. 165.) represents this river as running down a very steep channel from the mountains of Crustumium, at the 11th mile-stone, and mixing with the Tiber. Our ancestors, says Cicero (ad Attic. lib. ix. 5. tom. viii. p. 355.) deemed the day of the battle of Allia, more fatal than that of the capture of the city.

ALLIANCE, in the *Civil and Canon Law*, the union or connection of two persons, or two families, by means of marriage; otherwise called *AFFINITY*.

The word seems formed of the Latin *adligatio*, q. d. a *tying together*.

The law of the *Twelve Tables* forbids all alliance between persons of unequal rank and condition. And in Portugal, we are told, the daughters of the nobility are prohibited to ally with such as have never been in the wars.

ALLIANCE is also extended to the leagues or treaties concluded between sovereign princes and states, for their mutual safety and defence; in which sense they are the same with what we otherwise call *confederacy*, *league*, &c. Alliances make a species of treaties, which are usually divided into treaties of peace, of commerce, and of alliance, properly so called. These are sometimes particularly denominated foreign alliances.

Alliances are variously distinguished, according to their object, the parties in them, &c. Hence we read of equal, unequal, triple, quadruple, grand, offensive, defensive, &c. alliances. Unequal alliances, *foedera inequalia*, are those wherein one of the contracting powers promises patronage or protection, and the other fidelity and observance; by which they stand contradistinguished from alliances, wherein the several powers treat on a par. Offensive alliance, is that whereby the parties oblige themselves jointly to attack some other power. This stands contradistinguished from defensive alliances.

Alliances, offensive and defensive, are those in which the contracting parties agree to regard as a common enemy any power that attacks either of them, as well as mutually to defend each other. Such was that between the Emperor and the States-General against France, concluded at Vienna the 12th of May, 1689, and which was the commencement of that which was called the general or grand alliance. To this treaty Spain was to be invited by the emperor, and

England by the States, and it was stipulated that all the allies of either party were to be admitted, if they thought proper to accede. The triple alliance between England, Holland, and Sweden, in 1668, concluded by the negotiation of De Wit and Temple, was an event of importance in the history of Europe. England thus recovered her influence and credit in Europe. Temple was applauded for it. The French monarch and the court of Spain were greatly displeased; but they were obliged to acquiesce, as the whole of Europe seemed to repose with security under the shadow of that powerful confederacy, which had been so happily formed for her protection. Another alliance of this kind was formed in 1701 between the kings of Great Britain and Denmark, and the States-General; and another between the Emperor, England, and Holland was concluded in the same year. A triple alliance was formed in 1710 between Great Britain, France, and the States-General. The intrigues of Cardinal Alberoni, prime-minister to Philip V. of Spain, produced various negotiations in 1718, from which at length sprung the treaty, called at first the triple alliance between Great Britain, France, and Holland; and, after the accession of the emperor, styled the quadruple alliance. The object of this alliance was to settle all disputed pretensions between Spain, Germany, and some of the Italian princes. The king of Sicily was admitted into this treaty; and at length the king of Spain himself was forced to accede to it; and ALBERONI was banished by Philip V. But as some points were still controverted between the emperor and king of Spain, these were referred to be amicably determined in the congress opened at Cambray in 1721, under the mediation of his Britannic Majesty and the most Christian king. Puffendorf, Grotius, and other writers upon the laws of nature and nations, have distinguished alliances into personal and real. The former are those which are made with a king considered personally, so that they terminate with his life, and real are such as exist between states and nations, and which subsist and retain their obligation after the death of the king or ruling magistrates. It has been argued by others, that the admission of personal alliances is inconsistent with the foundation of political society, and that they tend to separate the sovereign from his subjects.

Though the title of allies, *focii*, of the Romans, was a sort of servitude, it was much coveted. Ariarathes, we are told by Polybius, offered a sacrifice to the gods by way of thanksgiving for having obtained this alliance. The reason was, that thenceforwards people were sure not to receive any injuries except from them. Cæsar informs us that a great number of kings had this honour. There were divers sorts of allies: some only united to them, by a participation of the privileges of the Romans, as the Latini and Hernici; others by their very foundation, as the colonies; others by the benefactions they received from them as Massinissa, Eumenes, and Attalus, who owed their kingdoms to Rome; others by free treaties, which last, by a long alliance, became subjects, as the kings of Bithynia, Cappadocia, Egypt, and most of the cities of Greece: lastly, others by compulsive treaties, and the law of subjection, as Philip and Antiochus. For they never granted peace to an enemy, without making an alliance with him; that is, they never subdued any people without using it as a means of subduing others.

The allies of Italy, *Socii Italici*, were distinguished from other foreign allies. Of these there were two kinds; those distinguished by the name of *præfœdæ*, who were governed by Roman magistrates and laws, and those who retained the privilege of being governed by their own ancient laws, and were denominated *autonomi*. The Latin allies, *focii latini*, were those who enjoyed the *jus Latii*, and who held the first

rank in the order of allies; of these there were three distinctions, viz. those who inhabited Latium, the Latin colonies, and those on whom were conferred the privileges of the Latin colonies, on account of some service which had been rendered by them to the Roman state, or by the peculiar favour of the Roman people and the emperors. There was a great difference between the allies and the auxiliaries, when they were admitted into the armies of the Roman empire. The allied troops were always taken from the allies of Italy, which had never been reduced into Roman provinces. The auxiliaries were furnished by the foreign allies. The allied troops maintained themselves at their own charge, and were supplied only with corn by the Romans; the latter were kept in pay by them. When the allies joined the Roman army, the consuls chose 12 out of their number to command them, under the name of præfects. They were of the same number, and possessed similar powers with the tribunes of legions. The places which they occupied in the army and camp were assigned them by particular regulations. The allies of the provinces, *socii provinciales*, held the first rank among the foreign allies. The honour of this appellation was conferred on provinces, which submitted to the dominion of the Romans, and were governed by their own magistrates, according to the customs and laws of Rome, and paid an annual tribute to the senate. The *socii immunes* were those who had never been enemies to the Romans, and who were exempt from every kind of imposition. Such were Ptolemy, king of Egypt, and the Jews, who were the first of the eastern nations which solicited the friendship of Rome. Others, after having been enemies of the Romans, laid down their arms and contracted alliances with them.

The forms or ceremonies of alliances have been various in different ages and countries. The Romans conferred it on sovereigns by a deputation of senators, who accompanied it with a sceptre of ivory, the toga picta, and the titles of ally and friend of the Roman people. Among us, signing and swearing, sometimes at the altar, are the chief; anciently eating and drinking together, chiefly offering sacrifices together, were the customary rites of ratifying an alliance. Among the Jews and Chaldeans, heifers or calves; among the Greeks, bulls or goats; and among the Romans, hogs were sacrificed on this occasion. Among the ancient Arabs, alliances were confirmed by drawing blood out of the palms of the hands of the two contracting princes with a sharp stone, dipping herein a piece of their garments, and therewith smearing seven stones, at the same time invoking the gods Vrotalt and Alilat, *i. e.* according to Herodotus, Bacchus and Urania. Among the people of Colchis, the confirmation of alliances is said to be effected by one of the princes offering his wife's breasts to the other to suck, which he was obliged to do till blood issued.

It has been disputed, whether the states of the empire have a right of making alliances without the emperor's participation: and whether the king of England be vested with absolute power of making alliances at discretion, without consent of parliament. Dr. Davenant asserts the negative. According to him, the contrary opinion owes its rise to the mere flattery of modern courtiers, having no foundation in the ancient laws and constitution of the kingdom. King John and Richard II. were, according to this author, the first that attempted any thing like it. It is certain there occur numerous instances in history, where the king has asked, or the parliament have offered, their advice, concerning the alliances to be made; but there are many others, at least of later times, wherein no footsteps of any such consultation appear. There are instances likewise where the parliament have declined giving any advice concerning such arduous matters.

ALLIANCE, in a figurative sense, is applied to any kind of union or connection; and in this sense the late bishop Warburton has used the term in his treatise, entitled, "The Alliance between Church and State," published in 1736. Some persons, however, who are advocates for a religious establishment, have objected to this use of the term; alleging, that alliance implies a contract formed by two or more independent powers; whereas the established church, being a part of the state, or one of its members, cannot properly be represented as entering into alliance with it. "The notion," says Lord Bolingbroke (Works, vol. iv. p. 515.) "of a formal alliance between the church and the state, as between two independent distinct powers, is a very groundless and whimsical notion." He informs us, that Dr. Senior, preaching before King Charles II. at Newmarket from Exod. iv. 14, 15, 16, established on these texts a supposed alliance between the church and the state, or rather between the church and the king. "Warburton," he says, "took his hint possibly from it;" but of this we have no evidence besides his lordship's assertion. Others have objected to the sentiment implied in the expression. "Every other idea" of a church establishment, besides that of a scheme of instruction, and "every other end" that has been blended with that of the preservation and communication of religious knowledge, "as the making of the church an engine, or even an ally of the state; converting it into the means of strengthening or of diffusing influence; or regarding it as a support of regal opposition to popular forms of government, have served only to debase the institution, and to introduce into it numerous corruptions and abuses." Paley's Principles of Moral and Political Philosophy, vol. ii. p. 305, ed. 6th. See RELIGIOUS ESTABLISHMENT.

ALLIANCE ISLAND, in *Geography*, an island in N. lat. 8° and E. long. 100°, discovered by a ship so called from Philadelphia in 1787.

ALLIARIA, in *Botany*, a species of ERYSIMUM.

ALLICA, in *Entomology*, a species of PAPILIO *Nymphalis*, with wings dentated and of a dark yellow colour; with numerous black points intermixed with white; found, of a small size, in Siam.

ALLIENI FORUM, in *Ancient Geography*, a city of Italy, now generally thought to be Ferrara.

ALLIER, in *Geography*, a river of France, which gives name to one of the departments. It rises near Chateau Neuf de Randon, in the department of Lozere, and joins the Loire three miles west of Nevers.

ALLIER, *department of*, is formed of the ancient province, Bourbonnois. It is bounded on the north, by the departments of Saone and Loire, Nievre and Cher; on the east, by those of Saone and Loire, and the Loire; on the south, by those of the Loire, Puy de Dome, and Creuse; and on the west, by those of Creuse and Cher. Its superficies is about 1,454,341 square acres, or 742,272 hectares; its population about 266,105 individuals; it is divided into four communal districts; and its chief town is Moulins.

ALLIGATI, in *Antiquity*, the basest and worst kinds of slaves, whom they kept locked up, or with fetters on.

The Romans had three degrees, or orders, of slaves or servants; the first employed in the management of their estates, the second in menial or lower functions of the family, the third called *alligati*, above mentioned.

ALLIGATION, in *Arithmetic*, a rule or operation by which questions are resolved, relating to the mixture of diverse commodities or ingredients together, with the value, effect, &c. thereof in composition.

The word is formed of *alligare*, to tie together, by reason, perhaps, of a sort of vincula, or circular ligatures, ordinarily used to connect the several numbers together.

Alligation is of two kinds, *medial* and *alternate*; to which some add a third, called *partial*.

ALLIGATION medial, teaches how to find the mean rate of a mixture, when the particular quantities that are mixed or compounded, and their respective mean rates, are given.

The several cases will come under the following rules.

I. The quantity of the ingredients, and the prices of each, being given; to find the price or value of some part of the mixture.

Rule. As the sum of the quantities given,
Is to the sum of the products of each ingredient
by its price,
So is any quantity of the mixture,
To its value.

Example 1. A refiner, or goldsmith, hath 12 $\frac{3}{4}$ of gold at 4*l.* per $\frac{3}{4}$, 8 $\frac{3}{4}$ at 4*l.* 5*s.* 3 $\frac{3}{4}$ at 4*l.* 6*s.* 8*d.* and 9 $\frac{3}{4}$ at 4*l.* 13*s.* 4*d.* per $\frac{3}{4}$; what is an ounce worth of all these melted together?

$\frac{3}{4}$ of gold	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>l.</i>
12 $\times$ by	4	0	0	the product is 48
8 by	4	5	0	34
3 by	4	6	8	13
9 by	4	13	4	42
32 total				137 sum.

Then as 32 $\frac{3}{4}$: 137*l.* :: 1 $\frac{3}{4}$: 4*l.* $\frac{9}{32}$, or to 4*l.* 5*s.* 7 $\frac{1}{2}$ *d.*
By the same rule the value of any other quantity of that composition is to be found: as supposing 7 $\frac{3}{4}$.

For as 32 : 137 :: 7 : 29 $\frac{1}{2}$.

Example 2. Suppose it were required to mix 6 gallons of wine at 5*s.* a gallon, 8 at 6*s.* and 4 at 8*s.* what would be the value of the mixture per gallon?

$$\begin{array}{rcl} 6 \times 5 & = & 30 \\ 8 \times 6 & = & 48 \\ 4 \times 8 & = & 32 \end{array}$$

Whole compound, 18 110 sum of products.

Then 18) 110 (6 $\frac{2}{3}$ or 6 $\frac{2}{3}$ *s.* is the value sought.

II. The prices of the several ingredients, and the sum paid or received for the mixture being given; to find what quantity of each was bought or sold. Divide the sum paid or received, by the sum of the particular prices; the quotient is the answer.

III. The ingredients of a mixture being given, to augment or diminish the mixture proportionally.

Rule. As the sum of the particular quantities of the compound given,

Is to the whole quantity proposed to be augmented or lessened;

So is each particular quantity in the given compound,

To the due proportion required of that specie, fineness, &c.

Example. The compound in the foregoing instance is required to be augmented to 48 $\frac{3}{4}$: that is, 16 is to be added to 32, how much of each ingredient must be taken?

$$\begin{array}{rcl} 12 & : & 6 \frac{3}{4} \\ 8 & : & 4 \\ 3 & : & 1 \frac{1}{2} \\ 9 & : & 4 \frac{1}{2} \end{array} \quad \begin{array}{l} \text{Then as } 32 : 16 :: \\ \text{32 sum.} \end{array}$$

So that there must be 18 $\frac{3}{4}$ of gold at 4 0 0 per $\frac{3}{4}$.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
12	4	5	0
4 $\frac{1}{2}$	4	6	8
13 $\frac{1}{2}$	4	13	4

Sum = 48 for proof of the operation.

IV. The nature, quality, &c. of the several ingredients of

a mixture being given, to find the temperament or degree of fineness resulting from the whole. Place the several quantities of the mixture in rows; against which place orderly their several qualities or fineness: and multiply each quantity by its own quality or degree of fineness; then, as the sum of the quantities is to the products, so is unity to the quality or fineness of the mixture.

V. The quantities of a mixture being given; to find the particular quantities of any ingredient in any part of the mixture.

Rule. As the total of the composition,
Is to the quantity of any simple in that composition,
So is the total quantity proposed, to be proportionably compounded,

To the quantity of each simple to be in that proposed quantity.

Example. How much of each ingredient (or price of gold mentioned in the first case) is in a pound, or 12 $\frac{3}{4}$ of the 32, being the compound given?

$$\begin{array}{l} \text{As } 32 : 12 :: \left\{ \begin{array}{l} 12 \frac{3}{4} : 4 \frac{1}{2} \text{ at } 4 \ 0 \ 0 \text{ per } \frac{3}{4}. \\ 8 : 3 \text{ at } 4 \ 5 \ 0 \\ 3 : 1 \frac{1}{2} \text{ at } 4 \ 6 \ 8 \\ 9 : 3 \frac{1}{2} \text{ at } 4 \ 13 \ 4 \end{array} \right. \\ \text{12 proof.} \end{array}$$

VI. Given the total of a mixture, with the whole value, and the values of the several ingredients; to find the several quantities mixed, though unequally.

This case admits of two varieties: first, where the mixture is of two simples; and, secondly, when it consists of more than of two. For the first, the rule is—Multiply the total of the mixture by the least value, subtract the product from the total value; and the remainder is the first dividend; then take the said least value from the greatest valued ingredient, and the remainder is the first divisor. The quotient of this division shews the quantity of the highest-priced ingredient, and the other is the complement to the whole.

Thus, still referring to the first example, and assuming the two first terms of it:

Gold at 4*l.* per $\frac{3}{4}$.

Ditto at 4*l.* 5*s.*

Total of the composition = 20 $\frac{3}{4}$. Total value 8*l.*

$$\begin{array}{rcl} \times 4 & & -80 \\ \hline 80 & \div \text{ by } \frac{1}{4} \text{ l.} & 2 \text{ (8 the} \end{array}$$

quantity of the highest-priced ingredient.

Secondly, when the quantities are more than two in number.

These kinds of questions, as in those of *alligation alternate*, admit of various answers, all of them true, and are called *INDETERMINATE problems*. They are best done by parcel, two at a time, as in the preceding operation.

ALLIGATION alternate is the method of finding the quantities of ingredients or simples necessary to form a compound of a given rate or quality; and it is the converse of *alligation medial*.

Alligation alternate shews the due proportion of several ingredients; and counterchanges the place of such excesses or differences as arise between the mean price and the extremes; ascribing that to the greater extreme which proceeds from the lesser: and contrarily.

The rules which obtain in *alligation alternate* are as follow: every greater extreme is to be linked with one lesser. If either of the extremes be single, and the other extremes plural, the single extreme is to be linked to all the rest.

If both greater and lesser extremes be not plural, they may be linked to differently that several differences may be taken and a variety of answers may be made to the question, yet all true; but if one of the extremes be single, there can be but one answer.

The numbers being linked, take the difference of each from the mean or common price; and place this difference against the number it is linked to, alternately.

Every number, linked with more than one, must have all the differences of the numbers it is linked to, set against it.

These differences resolve the question, when the price of every one of the ingredients is given without their quantities: and the demand is, to mix them so as to sell a certain quantity at a mean rate.

Example 1. A person would mix wheat at 4s. a bushel with rye at 2s. 8d. so as to sell the mixture at 3s. 6d. a bushel, how much of each must he take?

Thus: $\begin{array}{l} d. \\ 42 \quad 48 \end{array} \left| \begin{array}{l} 10 \text{ bushels of wheat,} \\ 32 \quad 6 \text{ bushels of rye.} \end{array} \right\} \text{Answer.}$

Example 2. A vintner would mix Malaga, at 7s. 6d. a gallon, with Canary at 6s. 9d. and white wine at 4s. 3d. so as to sell the compound at 5s. 2d. a gallon: what quantity of each must he take?

$\begin{array}{l} d. \\ 62 \quad 81 \\ 51 \end{array} \left| \begin{array}{l} 11 \quad 11 \text{ Malaga,} \\ 11 \quad 11 \text{ Canary,} \\ 19.28 \quad 47 \text{ White wine.} \end{array} \right\} \text{Answer.}$

N. B. The difference between 62 and 51 is 11, which is set against 81, and also against 90: the difference between 62 and 81 is 19, placed against 51: the difference between 62 and 90 is 28, which is also set against 51. Then 11, added to 28, is 47: and therefore the differences required are 11, 11, 47.

But, in *Alligation partial*, when the quantity of one, with the price of all the ingredients, is given, and the demand is to know the quantities of the other ingredients; then, the rule of three is to be used.

Say, as the difference standing against the price of the given quantity is to the given quantity, so are the several other differences to the respective quantities required.

Example 1. If it be desired to mix 10 bushels of wheat, at 5s. with rye at 3s. 6d. and barley at 2s. 4d. so as to sell the mixture at 4s. per bushel, how much rye and barley must be taken?

$\begin{array}{l} 48 \left\{ \begin{array}{l} \text{Wheat, } 60 \\ \text{Rye, } 42 \\ \text{Barley, } 28 \end{array} \right\} \left| \begin{array}{l} 6.20 \\ 12 \\ 12 \end{array} \right| \begin{array}{l} 26 \\ 12 \\ 12 \end{array}$

Then 26 : 10 :: 12 : 4 $\frac{1}{2}$ bushels of rye and of barley.

Example 2. How much Malaga, at 7s. 6d. a gallon, Sherry at 5s. white wine at 4s. 3d. must be mixed with 24 gallons of Canary at 6s. 9d. so that the whole may be sold at 6s. per gallon?

$\begin{array}{l} 72 \left\{ \begin{array}{l} \text{Malaga, } 90 \\ \text{Canary, } 81 \\ \text{Sherry, } 60 \\ \text{White wine, } 51 \end{array} \right\} \left| \begin{array}{l} 12 \\ 21 \\ 18 \\ 9 \end{array} \right.$

Or thus:—

$\begin{array}{l} 72 \left\{ \begin{array}{l} \text{Malaga, } 90 \\ \text{Canary, } 81 \\ \text{Sherry, } 60 \\ \text{White wine, } 51 \end{array} \right\} \left| \begin{array}{l} 21 \\ 12 \\ 9 \\ 18 \end{array} \right.$

Then, the quantity of Canary being given, say, by the first method 21 : 24 :: each difference : its respective quantity: that is,

As 7 : 8 :: $\left\{ \begin{array}{l} 12 : 13\frac{1}{2} \text{ gall. Malaga,} \\ 18 : 20\frac{1}{2} \text{ Sherry,} \\ 9 : 10\frac{1}{2} \text{ White wine.} \end{array} \right\} \text{Answer.}$

Or, by the second method:—

As 12 : 24 :: $\left\{ \begin{array}{l} 21 : 42 \text{ gall. Malaga,} \\ 9 : 18 \text{ Sherry,} \\ 18 : 36 \text{ White wine.} \end{array} \right.$

And, in *Alligation total*, when the price of every ingredient is given, without any of their quantities, and the demand is to make up a certain quantity to be sold at a mean rate; then all the differences added together will be the first number in the rule of three; the whole quantity to be mixed, the second number; and each difference apart, the several third numbers; and so many sorts as are mixed, so many operations must there be of the rule of three.

Example 1. A goldsmith would mix gold of 24 caracts with some of 21, and with another sort of 19 caracts fine, and with a due quantity of alloy, so that 190 ounces might be of the fineness of 17 caracts; how much of each sort must be taken?

N. B. Alloy is reckoned at 0 caract.

$\begin{array}{l} 17 \left\{ \begin{array}{l} 24 \\ 21 \\ 19 \\ 0 \end{array} \right\} \left| \begin{array}{l} 17 \\ 17 \\ 17 \\ 2.4.7 \end{array} \right| \begin{array}{l} 17 \\ 17 \\ 17 \\ 13 \end{array}$

64

Then 64 : 190 :: $\left\{ \begin{array}{l} 17 : 50\frac{1}{2} \text{ of the three sorts of gold.} \\ 13 : 38\frac{1}{2} \text{ of alloy.} \end{array} \right.$

Example 1. A mixture of wine is required to be made of 130 quarts from 5 sorts, whose prices are 7d. 8d. 10d. 14d. and 15d. a quart respectively, and the whole is to be sold at 12d. a quart; how much of each is necessary? As there are five quantities, they will admit of several alternations.

First Method.

$\begin{array}{l} 12 \left\{ \begin{array}{l} 15 \\ 14 \\ 10 \\ 8 \\ 7 \end{array} \right\} \left| \begin{array}{l} 5 \\ 4.2 \\ 2 \\ 2 \\ 3 \end{array} \right| \begin{array}{l} 5 \\ 6 \\ 2 \\ 2 \\ 3 \end{array}$

Second Method.

$\begin{array}{l} 12 \left\{ \begin{array}{l} 15 \\ 14 \\ 10 \\ 8 \\ 7 \end{array} \right\} \left| \begin{array}{l} 4.2 \\ 5 \\ 3 \\ 3 \\ 2 \end{array} \right| \begin{array}{l} 6 \\ 5 \\ 3 \\ 3 \\ 2 \end{array}$

Third Method.

$\begin{array}{l} 12 \left\{ \begin{array}{l} 15 \\ 14 \\ 10 \\ 8 \\ 7 \end{array} \right\} \left| \begin{array}{l} 2.4.5 \\ 2.4.5 \\ 3.2 \\ 3.2 \\ 3.2 \end{array} \right| \begin{array}{l} 11 \\ 11 \\ 5 \\ 5 \\ 5 \end{array}$

37

The operation by the last method is as follows:

37 : 130 :: $\left\{ \begin{array}{l} 11 : 38\frac{1}{2} \text{ quarts of wine at } 15d. \text{ and } 14d. \\ 5 : 17\frac{1}{2} \text{ at } 10d. 8d. \text{ and } 7d. \end{array} \right.$

The

The rule for this kind of alligation may be otherwise expressed and applied to all the cases above enumerated, thus: Having coupled the rates as before, then for any pair of differences, take their equimultiples, or multiply them by any number at pleasure; proceed in the same manner with any other pair; and you will thus have a new set of differences with which to work.

Example 1. A grocer would mix 12lb. of sugar at 10d. with two other sorts at 8d. and 5d. so that the mixture may be sold at 7d.; how much must he take?

Common Method.

$$7 \left\{ \begin{array}{l} 10 \\ 8 \\ 5 \end{array} \right\} \left| \begin{array}{l} 2 \\ 2 \\ 1.3 \end{array} \right| \left| \begin{array}{l} 2 \\ 2 \\ 4 \end{array} \right|$$

General Method.

$$7 \left\{ \begin{array}{l} 10 \\ 8 \\ 5 \end{array} \right\} \left| \begin{array}{l} 2 \times 2 \\ 2 \times 3 \\ 1 \times 2.3 \times 3 \end{array} \right| \left| \begin{array}{l} 4 \\ 6 \\ 11 \end{array} \right|$$

The pair of differences against 10 and 5, being 2 and 1, are multiplied by 2, and they become 4 and 2: those against 8 and 5, being 2 and 3, are multiplied by 3, and they become 6 and 9; so that 4, 6, 11, will be the new set of differences.

Then, 4 : 12 $\left\{ \begin{array}{l} 6 : 8\text{lb. at } 8\text{d.} \\ 11 : 33\text{lb. at } 5\text{d.} \end{array} \right.$

Example 2. A farmer would mix wheat at 4s. with rye at 3s. and barley at 2s. and oats at 1s. per bushel, in order to obtain a quantity of 120 bushels, to be sold at 2s. 4d. per bushel; how much of each must be taken?

$$28 \left\{ \begin{array}{l} \text{Wheat, } 48 \\ \text{Rye, } 36 \\ \text{Barley, } 24 \\ \text{Oats, } 12 \end{array} \right\} \left| \begin{array}{l} 16 \times 3 \\ 4 \times 5 \\ 8 \times 5 \\ 20 \times 3 \end{array} \right| \left| \begin{array}{l} 48 \\ 20 \\ 40 \\ 60 \end{array} \right|$$

168

Then 168 : 120 :: $\left\{ \begin{array}{l} 48 : 34\frac{2}{3} \text{ bushels of wheat,} \\ 20 : 14\frac{2}{3} \text{ rye,} \\ 40 : 28\frac{2}{3} \text{ barley,} \\ 60 : 42\frac{2}{3} \text{ oats.} \end{array} \right.$

Or, 7 : 5 :: $\left\{ \begin{array}{l} 48 : 34\frac{2}{3} \text{ bushels of wheat,} \\ 20 : 14\frac{2}{3} \text{ rye,} \\ 40 : 28\frac{2}{3} \text{ barley,} \\ 60 : 42\frac{2}{3} \text{ oats.} \end{array} \right.$

But all questions of this kind are most easily and accurately solved by common algebra, which will enable us to determine their limits; as they form a sort of indeterminate problems, and admit of many, or an indefinite number of answers. For a further explanation of this rule and examples, we refer to Ward, Wallis, Malcolm, Emerson, and other writers on arithmetic and algebra.

We shall add an example, wherein both the kinds of alligation have place. Suppose a mixture of wine of 119 quarts, required to be made of wines of the following prices, 7d. 8d. 14d. and 15d. per quart; and so as that the whole may be afforded at 12d. per quart.

Having linked 8 to 14, and 7 to 15, and counterchanged their differences from the common price, 12d. the sum of their difference is found to be 14; by which dividing 119, the quotient is $8\frac{1}{4}$, or $8\frac{1}{2}$, or for convenience in operation $17\frac{1}{2}$.

$$\begin{array}{r} 8 \left\{ \begin{array}{l} 2 \\ 4 \\ 3 \\ 5 \end{array} \right\} \\ 14 \left\{ \begin{array}{l} 4 \\ 3 \\ 5 \end{array} \right\} \\ 7 \left\{ \begin{array}{l} 3 \\ 5 \end{array} \right\} \\ 15 \left\{ \begin{array}{l} 3 \\ 5 \end{array} \right\} \end{array}$$

$$\begin{array}{l} \text{Quarts.} \\ 17\frac{1}{2} \times 2 = 35 \\ 17\frac{1}{2} \times 4 = 70 \\ 17\frac{1}{2} \times 3 = 52\frac{1}{2} \\ 17\frac{1}{2} \times 5 = 87\frac{1}{2} \end{array}$$

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ALLIGATOR, in *Zoology*, a name given to the American crocodile, a species of *LACERTA*, under which article it is described.

ALLIGATOR Pear, in *Botany*. See *LAURUS*.

ALLIONIA, in *Botany*, so called in honour of Charles Allioni, professor of botany at Turin, a genus of the re-

tribus mangrovea class 2d order, of the natural order of *aggregatae* and *apocynaceae*. It is the characters of which are, that the calyx is a perianthium common to them flower, simple, oblong, five-parted, the petals ovate, acute, permanent; and the petals proper is oblong, 1-sepalous; the corolla proper, 5-sepalous, fringed-shaped, edge quinquefid, and erect; the stamens have setaceous filament, longer than the corolla, bending to one side, anthers roundish; the pistil has a stigma inferior, oblong, style setaceous, longer than the filament, stigma multifid and linear; no pericarpium; seeds solitary, oblong, five-cornered and naked: the receptacle naked. Martyn enumerates two, and Gmelin three species, viz. 1. *A. violacea*, with leaves heart-shaped and calyxes quinquefid, a native of Cumana, in South America. 2. *A. incarnata*, with leaves obliquely ovate, and calyxes triphyllous, a native of Peru, in rocks and sandy soils, introduced into the Paris garden from seeds sent by Dombey, flourishing there and perfecting its seeds in the middle of summer. 3. *A. alba* of Gmelin, with leaves lanceolate, opposite and roughish, and calyxes pedicellated and solitary.

ALLIOTH, in *Astronomy*, a star in the tail of the Great Bear, whose observation is much used at sea.

It is also written *alliot*, and *alio*, and literally denotes a horse. The Arabs give this name to each of the three stars in the tail of the Great Bear, on account of their appearing like three horses, ranged for the drawing of the wagon, represented by four stars, called Charles's wain.

ALLIOTICUM, from *allio*, to vary, a *Galenical medicine*, which alters and purifies the blood, consisting chiefly of the roots of dandelion, succory, fennel, and raisins; with the herbs endive, common ox-eye, lettuce, fennel, fumitory, &c. See *ALTERNATIVE*.

ALLITERATION, in *Rhetoric*, is a figure or decoration of language, chiefly used in poetry, and consisting in the repetition of the same letter or letters at certain intervals, whence its name is derived. This figure has been generally regarded either as trivial in itself, or as an instance of false refinement; but for the use of it we might refer to the best authority, and it unquestionably facilitates the recitation of verse, contributes to both its sweetness and energy, serves to enforce the sentiment which it expresses, and aids the memory in retaining it. Pontanus, one of those ingenious Italians who flourished upon the revival of literature in Europe, has particularly described this figure, and furnished instances of it both from poetical and prose writers. It occurs in the repetition of the same letters, syllables, or words; and when it takes place in the first and last syllables, and even in the middle ones, it is, he says, wonderfully pleasing. The instances which he produces from Virgil are such as follow: "Sæva sedens super arma."—"Tales casus Cassandra canebat."—"Infantum infando indicio."—"Longè sale saxa sonabant."—"Magno misceri murmure pontum."—"Queque lacus latè liquidus."—In the following instance, cited from Lucretius, it is continued from one verse to another:—

"—Adverso flabra feruntur
Flumine."—

Cicero (in Brut.) uses this figure:—"Nulla res magis penetrat in animos, eosque fingit, format, flectit:" and also (De Orat.):—"Quodque me sollicitare summe solet." For the use of this figure we may add to that of Virgil the superior authority of Homer. Il. § 201.

"Ἦτοι ὁ καππιδίον τὸ Ἀλίωνος ἄλλω,
Ὅν θ' ἔμεν καίδων, πᾶσι δ' Ἀθησίων Ἀλίωνος."

Hermogenes

Hermogenes quotes these lines as an example of the figure now described, which he calls by a Greek name, *ἱσχυρισμός*, *parcechsis*, and defines to be beauty in similar words, which under a different signification found the same. Aristotle called this figure *παρομοίωσις*, *paromoiosis*; and the Latin rhetoricians styled it *Anominiatio*. Giraldus Cambrensis informs us, that in the time of Henry II. the English and the Welch were so attached to this verbal ornament in every highly finished composition, that nothing was by them esteemed elegantly delivered, no diction considered but as rude and rustic, if it were not first amply refined with the polishing art of this figure. From this national taste may probably be derived some of our proverbial similes, which, independently of the sound, have no other merit.

Spenser and Shakspeare adopted this practice. Spenser says—

“For not to have been dipt in *Lethe lake*
Could *save the Son of Thetis* from to die;
But that *blind bard* did him immortal make
With verses, *dipt in dew* of Castalie.”

Thus Shakspeare:—

“Had my sweet Harry had but half their numbers,
This day might I, *hanging on Hotspur's neck*,
Have talked.” Hen. IV. part 2. act 2.

Milton also followed them:—

“For eloquence, the *soul*; *song* charms the *sense*.”
P. L. ii. 556.

Again:—

“Behemoth, *biggest born* of earth, upheav'd
His vastness.—” P. L. vii. 471.

Dryden employed this figure frequently, and, like Virgil, with singular simplicity and strength. E. G.

“Better to *hunt* in fields for *health* unbought,
Than see the *doctor* for a *nauseous draught*.
The wife for cure on exercise *depend*;
God never made his work for man to *mend*.” Fables.

Pope adopted the same figure, as in the following couplet:—

“Eternal beauties grace the *shining scene*;
Fields ever *fresh*, and *groves* for ever *green*.”

Gray, who professed to have learnt his versification from Dryden, seems also to have paid particular attention to this ornament, as in the following instances:—

“*Ruin* seize thee, *ruthless king*!”
“To *highborn Hoel's harp*, or *soft Ilewelyn's lay*.”
“*Weave the warp*, and *weave the woof*.”
“Stamp we our *vengeance deep*, and *ratify his doom*.”
“*Regards* of the *weeping whirlwind's sway*.”
“*Eyes* that *glow*, and *fangs* that *griev*.”
“—*Thoughts* that *breathe*, and *words* that *burn*.”
“*Hauberk crash*, and *helmet ring*.” &c. &c.

J. Jov. Pontani Actius-Dialogus, tom. ii. p. 104. ed. Venet. apud Ald. 1519. Harris's Philological Inquiries, p. 94—102.

ALLIUM, probably from *αλειν*, to *avoid*, because some persons avoid the plant on account of its very disagreeable smell, or from *αλλεθω*, *exilire*, from the quickness of its growth, or from *αγλιν*, which signifies a head of garlic,

GARLIC, in Botany, a genus of the *hexandria monogynia* class and order, of the natural order of *spatheaceae* and *asphodeli* of Juslieu: its characters are, the *calyx* is a common spathe or sheath, roundish, shrivelling, and many-flowered; the *corolla* consists of six oblong petals: the *stamina* have six filaments, subulate, generally of the length of the corolla, the anthers are oblong and upright: the *pistillum* has a germ, superior, short, bluntly three-cornered, the corners being marked with a grooved line, style simple, stigma acute: the *pericarpium* is a capsule, very short, broad, three-lobed, three-celled, and three-valved; and the *seeds* are many and roundish. Professor Martyn enumerates 45, Gmelin and Willdenow 53 species, distributed into several divisions. I. Those with stem and leaves flat, and umbel capsule-bearing. 1. *A. ampeloprasum*, great round-headed garlic; has umbel globose, stamens three-cusped, and petals with a rough keel: its stem is a foot or more in height, having leaves at the bottom, glaucous and succulent: the spathe is conical, one-leaved, and deciduous; it flowers in a close ball on peduncles which are about an inch in length: the stamens are somewhat longer than the corolla, which is of a pale purplish colour: this is eaten along with other pot-herbs; it communicates its flavour to the milk and butter of cows that eat it: it grows naturally in the East, in Switzerland, on the Holms island in the mouth of the Severn, &c. is perennial, and flowers with us in July. 2. *A. porrum*, porrum sativum of Ray and Miller, common leek, has umbel globose, stamens three-cusped, petals with a rough keel, root coated: it has a rather high stem, leafy at bottom, spathe shortly conical, deciduous: flowers in close large balls on purple peduncles in April or May: it is very like the former species, and probably only a variety: it has been generally supposed that there are two sorts of leeks; but Martyn has made trial of both, and found that they were the same; the difference being occasioned by saving the seeds from old roots, and not from the seedling leeks, whereby they have degenerated, and become smaller and more narrow-leaved: this species was cultivated by Gerard in 1597, and probably at an earlier period; but its native place is not ascertained: it is highly esteemed in some places for culinary uses. 3. *A. lineare*, linear-leaved G. with umbel globose, stamens three-cusped, twice as long as the corolla, grows naturally in Siberia, and is called by Miller, who cultivated it in 1768, porrum ampeloprasum. 4. *A. suaveolens*, with umbel capitated, and stamens awl-shaped, twice as long as the corolla; grows in Austria. 5. *A. deflexum*, has three-cusped stamens, of the length of the corolla, leaves narrow and linear, and stalk declined. 6. *A. rotundum*, great round-headed G. with umbel sub-globose, stamens three-cusped, and side-flowers nodding, has the fruit and seeds of the second species or leek, and is a native of the southern parts of Europe. 7. *A. viatoriale*, long-rooted G. with umbel rounded, stamens lanceolate, longer than the corolla, and leaves elliptic; grows on the mountains of Switzerland, Italy, Austria, Silesia, and Savoy; cultivated in 1739 by Miller. 8. *A. subhirsutum*, hairy G. or Dioscorides's Moly, with stamens awl-shaped, and lower leaves hirsute, is a native of Italy, Spain, Africa, and the Levant; was cultivated by Gerard in 1596; flowers in May. 9. *A. magicum*, Homer's G. or Moly, with simple stamens and bulb-bearing branches, was cultivated in 1596 by Gerard, and is preserved in gardens for the sake of variety; but it has a very strong scent. 10. *A. obliquum*, oblique-leaved G. with filiform stamens, thrice as long as the flower, and oblique leaves, is a native of Siberia, and cultivated here before 1768 by Miller. 11. *A. ramosum*, branched G. with globose umbel, stamens awl-shaped, longer, leaves linear and sub-convex, grows naturally

in Siberia, whence the seeds of this and the former sort were sent to Peterburgh, and from them the botanic garden, in which they are preserved for the sake of variety, was supplied. 12. *A. Tataricum*, Tartarian G. with umbel flat, stamens simple, and leaves semi-cylindrical, is a native of Siberia, and introduced into Kew gardens in 1787 by Mr. Haneman. 13. *A. roseum*, rose G. with umbel flat topped, petals emarginate, and stamens very simple, grows naturally about Montpellier and in Piedmont, in the fields, olive-grounds, and vineyards, and was cultivated in 1752 by Miller. 14. *A. caruleum* has a globose umbel, simple stamens, linear leaves, and prickly sheaths. Gmelin.

II. *A.* with stem-leaves flat and umbel bulb-bearing. 15. *A. sativum*, common G. with compound bulb and three-cusped stamens, is said to be found wild in Sicily, and cultivated in 1551, or probably at a much earlier period. 16. *A. scorodoprasum*, Rocambole, with three-cusped stamens, crenulate leaves, and two-edged sheaths, is found wild in Sweden, Denmark, Germany, and Hungary, and cultivated here by Gerard in 1596: it has compound bulbs, but much smaller than those of garlic: the root is heart-shaped, solid, and generally stands sideways of the stalk: the leaves are rather broad and crenated at the edges: the flowers, which are collected into a sort of globular head, are of a pale purple colour: the stem generally rises from two to three feet in height, and produces many small bulbs at the top, that may be made use of as well as those of the root. 17. *A. arenarium*, *A. scorodoprasum* of Flor. Dan. 290, sand G. with three-cusped stamens, columnar sheaths, awnless spathe, and petals slightly rough in the keel, distinguished from the last species by its round sheaths, and by its growing always in a sandy soil: bulbs, which are numerous, and blossoms, are blue; stamens a little longer than the blossoms; leaves three or four, lower ones quickly withering, broad, edges hairy, or rather finely toothed, teeth not discernible without a glass; leaf-sheaths strongly keeled; stem two to five feet high; flowers few, on short stalks, small, purple, marked with a deeper line: it grows wild in Thuringia, Scania, Denmark, Switzerland, Italy, and in the woody and mountainous parts of the north of England, particularly about Lowther in Westmoreland, Castle Howard in Yorkshire, Thorp-arch, and Hestington-fields near York. It is perennial, and flowers in July. 18. *A. carinatum*, ampeloprasum prolium of Lob. ic. 156, Moly montanum fecundum Clusii, mountain G. with awl-shaped stamens, very long (acute, Smith) spathe; stem, when cultivated, four feet high; leaves a foot long, not half an inch broad, sheath-leaves two, awl-shaped, unequal; umbel has few flowers, but many bulbs; blossom of a dull brown yellow colour, often changing to purple: the plant has but little of the garlic smell: it is found wild in Scania, Germany, Carniola, Italy, and Switzerland, and also in the rocky and mountainous parts of the north of England, near Settle in Yorkshire, in Hestington-fields near York, and about Knareborough, on the rocks about Longsledale in Westmoreland, near Ramsgate in the isle of Thanet, and between Sandwich and Deal: it is perennial, and flowers in July.

III. *A.* with stem-leaves columnar, and capsule-bearing umbel. 19. *A. sphaerocephalon*, Moly montanum with a purple flower of Clusius, small round-headed G. with three-cusped stamens, longer than the corolla, and semi-columnar leaves, is a native of Switzerland, Italy, Germany, and Siberia, was cultivated in 1759 by Miller, and is thought by Haller not to be specifically distinct from *A. descendens*. 20. *A. parviflorum*, small-flowered G. with globose umbel, simple stamens, longer than the corolla, and awl-shaped spathe, is a native of the south of Europe, and introduced into Kew

garden in 1781 by M. Thonin. 21. *A. defolium*, purple-headed G. with three-cusped stamens, and shorter petals, is a native of Italy and Switzerland, and cultivated in the Oxford garden in 1766: this G. has two bulbs at the origin of the stalk, the leaves being subulate and channelled above, the stalk generally two or more feet in height, the sheath quadrifid. 22. *A. moschatum*, musk-smelling G. Moly of Bauhin and Rudbeck, with umbel flat-topped, mostly six-flowered, acute petals, simple stamens, and flat leaves, grows wild in Provence, Narbonne, and Spain; brought by Saltzmann, according to Casp. Bauhin, from the hills about Montpellier in 1598, and cultivated in his garden. 23. *A. flavum*, sulphur-coloured G. with flowers pendulous, ovate petals, and stamens longer than the corolla; thought by Gerard and Gouan to be a variety of the last species; is a native of the south of France, Italy, and Austria, and cultivated in 1768 by Miller. 24. *A. desertorum*, with awl-shaped stamens, and petals marked by a dark line in the middle. Forsk. Fl. Æg. Arab. p. 72: doubtful whether it be a distinct species. 25. *A. pallens*, pale-flowered G. with flowers pendulous, truncated; stamens simple, equalling the corolla; is a native of Italy, Spain, Montpellier, and Hungary; and introduced into the Kew garden in 1779 by Abbe Poiret. 26. *A. paniculatum*, panicled G. with peduncles capillary, spread out, stamens awl-shaped, and very long spathe, joined by Gerard to the preceding, is a native of Italy, Austria, Switzerland, Carniola, Siberia, and the Levant; and introduced into the Kew garden in 1780 by Sign. Giov. Fabroni. 27. *A. vineale*, *A. sylvestre* of Ray and Gerard, crow G. with three-cusped stamens; bulbs tapering, bowed back, often running into long hair-like points, compacted into a close head; blossom small, violet; filaments with two long bristles, projecting beyond the flower; stem about two feet high; leaves smooth, hollow, slender, and very long; umbel sheath of one leaf, broad at the base, ending in an awl-shaped point about an inch long, scored with green lines; bulbs numerous, white; and blossoms few, small; there is a variety with a double head of bulbs: this species is a native of Switzerland, Germany, Italy, &c. and with us is frequent in dry pastures, communicating its rank taste to the milk and butter, and growing in old walls and among corn, chiefly in calcareous soil, near Worcester (Stokes): it is perennial, and flowers in July. 28. *A. oleraceum*, purple striped, or streaked, field or wild G. with stamens simple, leaves rough, (not rough, Withering.) semi-columnar, furrowed underneath: the root a solid bulb, stem two or three feet high, upright or a little bent towards the top, smooth, not scored, solid; leaves hollow, bulbs numerous, egg-shaped, forming a roundish knob, between which arise several thread-shaped fruit-stalks, each supporting a single flower, which is drooping, cylindrical, but somewhat bell-shaped; blossom whitish green, with three dark purple streaks on each petal, or pale with purple lines; germen prism-shaped, six-angled; style slender, longer than the blossom; stamens shorter than the petals; with minute white dots, hardly visible to the naked eye, scattered over the whole plant: it is a native of Sweden, Germany, Switzerland, Italy, and Ingria; and with us in Westmoreland, near York, near Bristol, at Fincham, Norfolk, and Black Notley, Essex, and Baydale near Darlington, among corn, and about the borders of fields. It is perennial, and flowers in July. 29. *A. Pallasii*, Pallas's G. with umbel difform, stamens simple, equalling the corolla, and style very short; three-cornered capsule; is a native of Siberia.

IV. *A.* with leaves radical and stem naked. 30. *A. nutans*, porrum of Gmelin, flat-stalked G. with scape two-edged,

edged, leaves linear, flat, and three-angled stamens; is a native of Siberia, and introduced into Kew garden in 1785 by Dr. W. Paterson. 31. *A. afcalonicum*, cepa afcalonica of Moryson, cepa stercis of Bauhin, shallot and eichallotte, with scape columnar, leaves awl-shaped, umbel globose, and three-angled stamens: this species has a coriaceous root consisting of numerous oblong parts bound together by means of a thin delicate membranaceous covering, each of which sends forth two or three long fistular awl-shaped leaves from a sheath nearly like those of the common onion; the flower-stems arise from membranaceous sheaths, are round, nearly naked, and terminated by globular umbels of flowers, that have erect saucer-shaped petals, of the length of the stamina, and of a purplish colour: the roots are very pungent, have a strong but rather pleasant smell, on which account they are generally preferred to the onion for various purposes of cookery; was found by Hasselquist, native, in Palestine, and cultivated here in 1633. 32. *A. fensicenis*, Narcissus-leaved onion or G. with scape two-edged, leaves linear, convex beneath, smooth, umbel roundish, and awl-shaped stamens, joined by Haller and Scopoli to the *A. angulosum*, is a native of Siberia, the Alps, Silesia, and the island of Sicily, and cultivated by Gerard in 1596. 33. *A. filiforme*, with a columnar scape, leaves linear-lanceolate, flat, umbel flat-topped, and awl-shaped stamens, grows naturally in the vine and olive yards of Austria. Willdenow. 34. *A. odorum*, sweet-smelling G. with scape nearly columnar, leaves linear, channelled, angular beneath, umbel flat-topped, is a native of the south of Europe, China, Japan, &c. 35. *A. inodorum*, Carolina G. with scape naked, subtriquetrous, leaves linear, flat, keeled beneath, umbel fastigiate floriferous, and simple stamens, is a native of Carolina, introduced in 1776 by the Duche's dowager of Portland, and flowers in March and April. 36. *A. angulosum*, cepa of Gmelin, angular-scaped G. with scape two-edged, leaves linear-channelled, somewhat angular beneath, and flat-topped umbel, is a native of Siberia, Italy, Austria, Switzerland, and Germany, in moist places. 37. *A. striatum*, with a three-cornered scape, linear leaves, striated with furrows beneath, fastigiate umbel, obtuse petals and simple stamens, is a native of the Cape of Good Hope. 38. *A. narcissiflorum*, with a columnar scape, linear awl-shaped leaves, fastigiate umbel, or umbel terminal inclined, pointed petals, or petals lanceolate, and simple stamens, shorter than the corolla, is a native of the mountains in the southern parts of France. 39. *A. pedemontanum*, with a four-cornered scape, linear obtuse leaves, and few-flowered umbel, is a native of the Alps of Piedmont. 40. *A. nigrum*, *A. multibulbosum* of Jacquin and Murray, *A. monspessulanum* of Gouan, both of which are in Gmelin's Linnæus characterised as distinct species, black G. with scape columnar, leaves linear, (lanceolate, Willd.) umbel hemispherical, petals erect, (patent, Willd.) spathe pointed and bifid, (stamens simple, Willd.) is a native of Provence, Italy, Austria, and the neighbourhood of Algiers, and cultivated in 1759 by Miller. 41. *A. Canadense*, Canada tree onion, with scape columnar, leaves linear, and head bulb-bearing, is a native of North America: this species has a perennial root; smooth, flat, straight leaves, six or seven inches in length; stem cylindrical, smooth, nearly naked, hardly longer than the leaves, spathe ovate, sharpish, and pointed, flowers few and whitish, petals oval, the filaments simple, nearly of the length of the corolla, having brownish red anthers. 42. *A. usifinum*, *A. sylvestre latifolium* of Ray, broad-leaved G. or Ramsons, with scape three-sided, (semi-cylindric, Smith,) leaves lanceolate, petiolate, and flat-topped umbel, flowers large, numerous, and white; is a native of Sweden, Denmark, Ger-

many, Switzerland, and Italy, in woods and moist shady places, and with us in England it is frequent in such situations. It is perennial, and flowers in May and June: the smell and taste, according to Haller and Scopoli, are very acrid: Dr. Smith says, that the plant has a strong smell of garlic, and that it affords to sheep and cattle a pasture not disagreeable; the milk is of course nauous and foetid; and other plants near it do not flourish. 43. *A. Clusianum*, Moly minus of Clusius, with columnar scape; linear, flat, ciliated leaves; few-flowered umbel, and obovate concave petals; a native of the southern parts of Europe. 44. *A. triquetrum*, three-cornered Moly, Moly of Parkinson and Ray, with scape and leaves three-sided, and simple stamens, is a native of Italy, and Spain about Narbonne, and cultivated in 1768 by Miller. 45. *A. cepa*, cepa of Miller and Bauhin, common onion, with scape swelling out below, and longer than the columnar leaves, is well known by its fistular leaves and swelling stalks: it differs from the garlic only in having a swelling pipy stalk, that is considerably larger in the middle than at the extremities: the Latin name *cepa*, says Mr. Martyn, is derived from *caput*, a head, on account of the form of its bulb, and for the same reason the Greeks called it κερμηλον. Others derive it from γήρυς æolice γηρυον, or from γήρυς and γήρυς æolice for γήρυς. The English and French name are deduced from the Latin *unio*, because the bulb never throws out any off-sets: the varieties of the common onion are, the Strasburgh, or common oval; the Spanish, silver skinned and red skinned; the Portugal great oval onion; and the Tripoli: all these vary from seeds, and there are several intermediate differences not worth enumerating. 46. *A. Moly*, yellow Moly, with scape sub-cylindric, leaves lanceolate, sessile, and umbel level-topped, is a native of Hungary, on Monte Baldo, about Montpellier, and on the Pyrenees, and cultivated in 1604 by Edward Lord Zouch: it was formerly preserved in gardens for the sake of variety, but most persons have rooted it out on account of its very strong garlic taint. 47. *A. tricoccum*, three-seeded G. with scape naked, semi-columnar, leaves lanceolate-oblong, flat, smooth, umbel globular, and seeds solitary, is a native of North America, and introduced in 1770 by Mr. W. Young. 48. *A. fistulosum*, Welch onion, or ciboule, with scape equalling the columnar swelling leaves, is perennial, and does not form bulbs like the common onion: it was cultivated in 1629: the *A. altaicum* of Pallas, a native of Siberia, is of a smaller size, and a variety of this species: in Gmelin's Linnæus it is made a distinct species. 49. *A. schœnoprassum*, cives or chives, or G. with scape equalling the columnar awl-filiform leaves, is a native of Italy, Switzerland, Sweden, and Siberia; where a variety of this plant has been found and figured by Gmelin, in which the leaves are reflected, whereas in the common sort they are straight: it has been found with us very rarely in meadows and pastures, near Fast-castle on the borders of Berwickshire, in Argyleshire, in Westmoreland, and near Kirby Moor-side, Yorkshire, and Cartmel Fell, in a small rivulet called Chivey Syke: this is a very small plant when compared with the former, the stems naked and seldom exceeding five or six inches in length, the roots producing little or no bulbs, and the leaves hollow and awl-shaped: it has a very strong smell. 50. *A. Sibiricum*, Siberian G. *A. schœnoprassum* β. Linn. spec. 433. Murray, Gotting. Com. 1755, t. 4.; *Cepa palustris altissima* of Buxb. and *cepa alpina palustris tenuifolia* of Tournefort; with scape columnar, leaves semi-cylindric, stamens awl-shaped, petals lanceolate acute, is found in Siberia and the mountains of Silesia, and was introduced into the Kew garden in 1777 by Chevalier Murray. 51. *A. falerianum*, with a columnar scape, semi-cylindric

femi-cylindric leaves, dense umbels, and subulated stamens longer than the corolla, is a native of Siberia, near the river Jenisea. 52. *A. capillare*, with columnar scape, capillaceous leaves, few-flowered umbel, and petals lanceolate acute. 53. *A. tenuissimum*, slender-leaved G. with scape columnar, empty; leaves awl-shaped, filiform; and heads loose and few-flowered (Gmelin), or columnar scape; leaves linear, awl-shaped; umbel few-flowered; and petals roundish-ovate obtuse (Willdenow); is a native of Siberia: it is much eaten by the field-mice, and they lay up the roots for their winter food: the stamens in this and the preceding are shorter than the corolla. 54. *A. Chama-Moly*, bastard G. with scape scarcely any, naked, capsules drooping, leaves flat ciliate, is a native of Italy and Spain, and flowers in January. 55. *A. gracile*, Jamaica G. with scape naked, columnar, very long, leaves linear, channelled, stamens awl-shaped, connate at the base, is a native of Jamaica, was introduced in 1787 by Hinton East, Esq. and flowers in February. 56. *A. Neapolitanum*, Naples G. with scape naked ancipital, leaves lanceolate channelled, umbel scattered, is cultivated in the gardens near Naples, begins to grow spontaneously about the city, and flowers in March. 57. *A. ornithogaloides*, with scape columnar, umbel bearing and few-flowered, and leaves awl-shaped and flat. Walt. Flor. Carol. p. 121. Gmelin's Linnæus. Martyn's Miller. Willdenow's Linnæus. Smith's Flor. Brit. vol. i. p. 355. Withering's Bot. Arr. vol. ii. p. 332.

ALLIUM, in Gardening, is applied to *garlick*, *onion*, and *leek*. Of the first or garlick kind of plants, though there are a great number of species only few are valuable either for use or ornament in the garden. The kinds necessary to be taken notice of in this view are: 1st. The *Jatoum* or *common garlick*; 2d. *Scorodoprasum* or *rocambol*, which are officinal or culinary plants. 3d. *Moly* or *common yellow moly*. 4th. *Sublirfutum* or *hairy white moly*. 5th. *Spherocephalon* or *spherical headed purple moly*. 6th. *Roseum* or *rose-coloured Montpellier garlick*. 7th. *Flavum* or *straw-coloured pendulous moly*. 8th. *Magicum* or *great purple moly*. 9th. *Victorale* or *elliptical garlick*. 10th. *Descendens* or *oval purple-headed garlick*: which are all of the flowering kind.

These different species are of the bulbous-rooted tribe, some having large bulbs, others not bigger than peas; they are perennial in root, but annual in leaf and stalk; they are all hardy plants, prosper in almost any exposure and soil in the garden, and in general are very productive, but most of the sorts have a strong scent like the common garlick.

The *common garlick* has a large round white bulbous root, of an irregular form, with numerous fibres at the bottom, composed of many smaller bulbs denominated cloves, which are included in a common membranous covering; each of which being planted, grows, and in one season attains the size and structure of the parent bulb; the leaves are cauline, or form a kind of stalk, which seldom spindles, except when the same roots remain in the ground two or three years, when they run up and bear a flower and small bulbs at the top. It deserves to be cultivated in the garden for the sake of its root, which is in great estimation for culinary and other domestic purposes. Indeed, the roots, as well as all the other parts of the plant, have a very acrid taste, with an highly offensive smell, which has rendered its cultivation in gardens less desirable. It is a hardy plant, capable of growing in most sorts of soils and situations, and readily propagated either by roots or seeds.

Rocambol has very small compound bulbs, which grow in clusters; the stalk generally spindling two or three feet

high, with many bulbs at its summit, which, as well as the root bulbs, are useful for the same purposes as garlick, though much inferior.

The latter or the flowery kinds have the flower-stems rising immediately from the root, growing erect and attaining different heights, from twelve to thirty inches; in some the leaves are radical, in others cauline, or elevated with the stalk, some are broad like those of a tulip, others long and narrow like a daffodil, and some taper and rush-like; but in all the sorts the stems are terminated by a sort of sheath, from which is protruded an aggregate of many small flowers forming a kind of umbel. The flowers singly are composed each of six petals, which, though separately small, from many being collected into large heads, are very conspicuous. The *allium moly*, *sublirfutum*, *spherocephalon*, *roseum*, and *flavum*, generally grow from twelve to fifteen or eighteen inches in height, and their umbels often continue in bloom for the space of a month or six weeks. But the *magicum*, *victriale* and *descendens*, rise about a yard in height, producing large highly ornamented umbels. They mostly flower in May, June, and July, ripen plenty of seed, and many small bulbs on the stalk and umbel in several of them.

Method of propagation. In all the sorts it may be effected with the utmost facility by off-sets from the root, and in many of them by seed and the small bulbs contained on the stalk.

Common garlick is constantly propagated by the small bulbs that constitute the main root, which may be readily divided into a great number of separate cloves; these are to be planted in the spring, in beds four feet wide, a little raised in rows lengthways, at from six to nine inches distance from each other, and six inches asunder in each row, and two or three inches deep. The planting may be performed either by means of a blunt dibble or by drawing drills, and placing the cloves in them, afterwards covering them with the earth. When planted in this way they mostly shoot up their leaves in a month or six weeks, only requiring occasional small hoeing afterwards to kill the weeds that may rise.

About the end of July or beginning of August, the bulbs are generally full grown, as is evident from the yellow appearance and withering of the leaves; they must be then taken up, cleaned and dried in the sun, and afterwards tied or plaited in bunches to be hung up and preserved for use.

Rocambol may be propagated either by the off-sets of its roots, or by the cloves produced on the top of the stalks, which may be planted in Spring or Autumn; but in the Autumn planting, as about October or November, they generally grow considerably larger than when planted in the Spring season. The seeds are to be planted in the manner directed for garlick, and are commonly fit for use about July or August, according as they have been put in early or late. But it may be observed that the roots never acquire any very large size.

The different flowering kinds propagate very rapidly by off-sets, which may be separated any time after the decay of the flower, taking only such as are large and fine, and planting them at once in the borders where they flower the following Summer.

The propagation by seed is best accomplished in a shady border in Spring, the plants being fit to transplant in such cases in the Autumn.

Of the second division, or the *onion* kind, the characters, &c. of which are the same as those of garlick; the species are these, 1st. *Cepa*, or common onion, the best garden varieties of which are the Strasburgh or common round onion, the oval long-keeping common onion, the Spanish large Rat

onion, the Spanish silver-skinned onion, the Spanish red-skinned onion, and the Portugal great roundish oval onion. 2d. *E. foliosum* or the Ciboule or Welsh onion. 3d. *Schœnoprænum*, chives or chives. 4. *Asiaticum*, shallot or shallot. 5. *Canadense*, or Canada-tree onion. All the first species and varieties have large bulbous roots, and the plants are biennial, or being sown in the Spring arrive at perfection in the root the same year, and next year shoot up into stalk, flower, and ripen seed, when the stalks quickly die and the individuals are annihilated. But the second and third species never form any bulbs at bottom; they are, however, hardy and perennial, and may be continued many years by the roots according to the directions given below for them. And the fourth and fifth species are bulbous-rooted perennials, multiplying greatly by offsets, as is evident from their culture.

The method of propagation and culture in the onion kind. Common onion. Among the several varieties of the common onion, the Straßburgh is probably the best for general culture, having a handsome bulb, mostly assuming a roundish oval shape. It is of firm growth, and generally keeps well for winter use. The Spanish onions are large and flat; the first sort is, however, of the mildest flavour; but all the varieties for the most part afford profitable crops, and none excel them for culinary purposes; but they seldom keep so well after Christmas as the Straßburgh or oval sort of onion. The Portugal onion is a very large handsome bulb, of a roundish oval shape, though it rarely attains the size here, as in that climate, as is obvious from those annually imported from that kingdom. If, however, seeds sown in Portugal be sown here, the bulbs will arrive at a much larger size than from such as are sown in this country, especially where preserved two or three years successively, in which cases they are often so far degenerated, that the bulbs become flat, and not larger than the common onions. The mode of transplanting them at an early period, which is adopted in that country, may also have much effect in rendering the bulbs so large. From this sort of onion being very mild, it is much esteemed for sauces and other culinary uses.

All these kinds are propagated by seed sown annually; which for the general crop should always be performed from about the twentieth of February until the latter end of March, though in cold wet stiff soils it may be proper to defer sowing entirely until towards the middle of the latter of these months. But in cases of omission in sowing at the times above recommended, it may be performed with tolerable success in the beginning or any time before the fifteenth of April, but the crops of the February or March sowing always bulb more freely and acquire a much larger growth than those sown at later periods.

The most proper situation for crops of this kind is an open exposure, and where the soil is moderately light and rich in vegetable matter. Thus spots of the best mellow ground in the garden should always be chosen, with the addition, if possible, of a good coat of well rotten dung, dug well in, but not too deep, the surface being kept level, and while it is fresh stirred, well raked, and the seed sown, a point which is of importance to be attended to. The sowing when the surface is so wet or moist as to clog to the feet or rake in preparing it, should not however be performed.

The proper quantity of seed is in general about an ounce to every rod or pole of ground; but where it is not required to have them thick for cuttings, two ounces for three rods may be sufficient. Great care should be taken to procure fresh seed, as but very little of that which is kept more than one year will vegetate.

The seed may either be sown over the whole of the piece

or plot of ground, or it may first be divided into beds of four or five feet in width, allowing foot-wide alleys between them. In sowing, the seed should be put in with a regular spreading cast, and the surface, when very light, immediately trodden over evenly upon the seed; afterwards, where sown in beds, the alleys may be pared an inch or two deep and the earth cast over them, proceeding directly to rake in the seed regularly with an even hand, trimming off all the stones, roots, &c. See SOWING SEEDS.

The method of sowing them in beds is the most eligible, where it is designed to draw or cull the young onions from time to time for market or family use; as, in such cases, a person can stand in the alleys without treading upon the beds, which not only renders the surface hard, so as to injure the crop, but highly destructive, by trampling upon the plants themselves. It is likewise very convenient to stand in the alleys, in order to weed, thin, or hoe the crop as occasion may require. Although it is a common practice in the general culture of onions to sow them thick, in order to allow for culling or drawing out the superabundant plants, by degrees as they are wanted; it would no doubt be a better mode to sow a piece particularly for general culling, exclusive of the main crop; because by daily thinning out the superfluous plants there is no avoiding treading upon, disturbing and loosening the remaining ones, by which they become stunted in their growth, and by no means so fine. There is also another very common but injudicious practice, which is that of mixing other crops such as leek, lettuce, radish, carrot, &c. with these crops. It is productive of confusion, as well as obstruction to the chief crop, without producing any great advantage; nothing should therefore be admitted, except a very thin sprinkling of cobs lettuce in some cases. In about fifteen or twenty days after the seed is sown the plants generally appear, and in a month or six weeks after that, as in May and the beginning of June, they will be three or four inches high; when they should be well cleaned from weeds, and the main crop thinned to three or four inches distance. The weeding and thinning should be begun in due time, before the weeds branch and spread much, which may either be performed by the hand or small hoeing; the latter is the most expeditious method, as by it one man may do as much as three, and it is also the most beneficial to the plants; as by stirring the ground about them with the hoe, it greatly forwards their growth, as is mostly seen in a few days after the operation. This mode, however, is more particularly eligible for the larger principal crops, for which a good sharp one-hand hoe, about two inches, or not more than two and a half broad, is the best, taking the opportunity of dry weather for performing the business and carefully cutting up all weeds. Where the onions stand too close they should be cut out in a regular thinning order to about three inches distance; or in such crops as are not wanted for occasional cutting, they may be hoed out at once to about four or five inches, having regard to leave the strongest plants, as much as possible, for the continuing crops.

In the course of two or three weeks or something more, it will generally be proper to run over them again in the same manner, in order to cut up all advancing weeds, and any superabundant plants that may have escaped in the first hoeing; after this they seldom require any further culture, than that of pulling out such casual straggling weeds as may rise.

But where the crops are small, or where they are required for thinning or culling by degrees, for use in their young green state and in small bulbs, the weeding and requisite thinning where they are in clusters, may generally be best performed by

by the hand. In the advanced growth of the crop, when the superabundant plants are occasionally thinned out for use, as wanted, they should be drawn somewhat regular, so as to leave a sufficiency of the strongest plants remaining at moderate distances for a full crop to attain their full growth in large bulbs.

It is highly necessary to continue to keep the different crops very clear from hurtful weeds in their advancing growth during the months of May, June, and July, which being their principal growing seasons, if they are not kept free from weeds, and sufficiently thinned to proper distances in due time, they draw one another up, weak and slender, which much retards their bulbing. About the middle or latter end of June the continuing crops begin swelling a little at bottom in their bulbing order, but more fully in July; and in August the bulbs arrive to full growth, and are proper for taking wholly up. Towards the middle of August the crops in general should therefore be examined, and when the necks shrink and fall, and the leaves wither, it may be concluded that the bulbs are arrived at maturity, and have done growing.

They should then be pulled up, cleaned, dried, and housed for use; this being best done in dry weather on a piece of the ground hoed, raked, and cleaned, in order to spread them on as they are pulled up, to dry and harden. They should lie in this way a week or a fortnight, being turned every day or two, when, if the weather proves dry, they will be duly prepared for keeping; the first opportunity should then be taken to house them. The bulbs must be first divested of all adhering earth, loose skins, and the grossest parts of the leaves and neck, rejecting all infectious and bruised ones, and then they may be carried into any dry upper room, out of the damp, spreading them on the floor as thinly as convenient. The closer the room is kept the better, but care must be taken to turn them over once in three weeks, and to clear out such as have any tendency to infection.

As in the culture of onions it frequently happens, that through badness of seed many are disappointed of a crop, by waiting in expectation of the plants rising till it has been too late to sow again; in such cases recourse may be had to transplantation from other gardens, as a neighbouring one, where there are superfluous crops, or a bed or such part of one as is necessary may be purchased from a market gardener. This business should be done in May or early in June, and if possible in moist weather; having a spot of well-dunged ground prepared, take up the plants with good roots, and plant them in rows six inches distant, and four inches asunder in each row, inserting the roots but moderately into the ground, for if planted too deep, they do not bulb well; giving them a good watering as soon as transplanted. By repeating the waterings occasionally for a week or fortnight, the plants will generally grow freely, and form tolerably handsome bulbs.

Onions for pickling are in great request in many places: such as are proper for this purpose should not be bigger than common round buttons, therefore in order to procure them in due quantity, some seed should be sown late, in a spot of light poor land; about the middle of April is probably the best time. It should be sown moderately thick, the plants requiring little thinning, except where they rise in very thick clusters. They bulb in June and July, and are generally fit to take up in August. In the Spring many of the keeping onions will unavoidably grow as they lie in the house; these may be planted out in rows, at six inches distance, and will serve to draw by way of escallions.

The Autumn or Michaelmas crop, is generally sown in August, and the plants rise before Michaelmas, stand the Winter, some to be drawn occasionally for use in that season, but principally intended for Spring use, to be drawn up young for sallads, &c. and likewise where the Straburgh or any other variety of the common onion are sown, they, if permitted to stand, bulb to a tolerable size in June, and supply the kitchen or market as headed onions, till those of the Spring crop are bulbed.

But as the common onion is liable to be cut off in severe winters, it is always necessary to sow at the same time some beds of Welsh onions, which bid defiance to the most rigorous Winter frosts. August is the best season for sowing these crops, for if sown sooner they are not only apt to get too forward in growth before Winter, but to run up for seed earlier in the Spring; and therefore the proper time to sow the main crop is the first or second week of that month, or in the third week for a late standing one, sowing them in beds four feet wide, with twelve inch alleys between; sow and rake in the seed as directed in the Spring crop, only let a much larger quantity be sown in this case. The plants generally appear in a fortnight, and numerous weeds, to which early attention must be had to clear them out by hand before they begin to spread; but the plants of this crop are not now to be thinned. But in November and December if they stand very thick, some of the largest may be occasionally thinned out for various uses.

Saving Seed. February is the proper time to plant onions in this view, though this is often done in October by those that save great quantities for sale. For this purpose, make choice of a due quantity of the largest and handfomest bulbs, rejecting all blemished ones, and such as have already made any effort to grow, and having made choice of a spot of ground well exposed to the sun, which being dug, proceed to plant the onions; strain a line, and with a hoe or spade open three drills, twelve inches asunder, and six deep, place the bulbs therein nine inches distant, and rake the earth over them; measure off two feet for an alley, and plant three more rows as above, and in that manner proceed to the end; the wide space of two feet is by way of alley to go between, to hoe and clear off weeds as well as to stake and support the stalks of the plants when necessary. In June the flower-stalks will be shot to their full height, and the flower heads will be formed at top, to secure which, in erect position, drive some stout stakes in the ground along each row, at two yards distance, and from stake to stake fasten double lines of packthread; and if these are tied together in the interval, between the stems of the plants, it will effectually secure them. About the latter end of August the seed will be ripe, which is known by the capsules opening, and the black colour of the seed; the heads should be cut in a dry day and spread upon cloths in the sun, care being taken to remove them under cover in case of wet and at night; and when perfectly dry, beat or rub out the seed; cleaning it from the rubbish, and putting it up in bags for use.

As it is of the utmost importance to have good fresh seed, some to try its goodness, before they venture their general crop, sow a little in a pot, and place it in a moderate hot-bed or near a fire; a more expeditious method however is to tie about a thimble full of the seed, loosely in a piece of linen rag, and put it into a vessel of hot water, suspended by a thread; in ten to fifteen or twenty minutes, pull it out, and if the seeds are good, they will, in that time, have germinated or sprouted, perhaps to the extent of a quarter of an inch in length.

As leek-seed is similar in its nature it may be tried by the same means.

Chalk or Welsh onion. This is a perennial plant, which never forms any bulb at bottom; therefore deserves to be cultivated only to be drawn as young green onions for sallads, &c. in Spring; but on account of its strong taste it is greatly inferior to those of the common onion. From the plants being so extremely hardy as to survive the severest Winter, in which though their blades be cut off, the roots remain sound and shoot forth with great vigour early in Spring, furnishing seasonable supplies till May, when they generally run to seed; from this singular hardiness they may be cultivated more or less as a winter-standing crop, with advantage, for Spring use.

They are perennial in root which increase by off-sets into great clusters, but not to be propagated thereby for general use, but by seed, the same as the former sorts of onion. The best season for sowing them is August, in the manner of the Autumn onion crops.

The plants mostly appear in twelve or fifteen days after being sown, and towards Michaelmas should be carefully hand-weeded. It is a peculiarity in this species of onion to lose their tops in November or December, and remain divested thereof till towards Candlemas, when the roots shoot forth again; at that period it is proper to dig the alleys, and spread about an inch depth of the earth evenly over the surface of the beds, by which vigour is given to the roots, and the plants are made to rise strong, and at the same time the part within the earth blanched white and rendered more tender and mild for eating as well as more agreeable. Where the sowing of a Michaelmas crop has been omitted, some have sown seed towards the end of January, when the plants will rise in February or March, and being hardy, continue growing, and be fit for drawing in the early Spring. In order to have plenty of seed of this species of onion, it is necessary to retain some plants for stools. In the end of March a parcel of strong young plants may be put out nine inches distant, which produce seed in August. If the roots be let remain in the following years they produce treble the quantity; but as they increase into great bunches, the stools should be removed and separated every second or third year.

Gives or Chives. This is the smallest of all the onion kind, rising but a few inches high; but its roots are perennial, and increase considerably into clusters, from which large tufts of slender awl-shaped leaves issue, which are the principal part used, the roots never forming any bulb, at least not bigger than small peas. This is a hardy plant which merits a place in every garden; its clusters of leaves rise early in Spring, and are useful both in sallads and for culinary purposes, in default of onions. The method of gathering it is to cut the leaves off near the ground, by which a fresh supply is soon produced from the bottom; or occasionally the plants in clusters may be slipped quite to the root in separate little plants, resembling young onions, and used as substitutes for them. It is easily increased by dividing the roots in Spring, and planting eight or ten of them together in holes at six inches distance; in this way by Autumn they will multiply into bunches of a large size.

Escalot, or Shallot. This is a species of onion which is bulbous-rooted, and which increases greatly by off-sets, the largest of which are the proper parts of the plant for use. The bulbs are oblong, irregular, and seldom grow large; as they generally increase into clusters they do not swell like roots that grow singly. From the roots are produced many long, narrow, infirm leaves in the Spring, and which wither

in July or August, when the roots are full grown; they are then taken up, made dry and housed, when they keep in good perfection till the following Spring.

In the propagation of this plant the smaller roots or off-sets are the best; these may be planted out in Autumn or early in Spring: the end of October, or beginning of November, for the Autumn planting, and February and March for that of the Spring, but not later than the beginning of April. The Spring is the most general season of planting them, but when planted in Autumn, in a dry light soil, they often grow larger, and sooner attain full growth the following Summer; they are to be planted in beds four feet wide, in rows length-ways, the beds six inches asunder; each off-set inserted singly, either by means of a dibble or placed in drills not more than two or three inches deep; and the distance as above in each row. They shoot up in leaves in March or April, and the roots increase in growth till July or August. The only culture which they require is that of keeping them clean from weeds, by occasional hand weeding or hoeing. Towards the end of July or beginning of August the bulbs will have attained their full growth, as is seen by the withering of the leaves. They should then be taken up in a dry day, and spread in the sun to harden; the largest, cleaned and housed for use, and the smaller off-sets reserved for propagation.

As shallots are sometimes required early in the Summer time for immediate use, in such cases as they will have formed small bulbs towards the latter end of May or in June, a few may occasionally be taken up for present supply; permitting a principal crop to remain in order to attain their full growth.

Canada or Tree Onion. This deserves to be cultivated both as a curiosity in producing the onion at top of the stalk; and for the use of the onions, especially for pickling, in which they are excellent and superior in flavour to the common onion. It is perennial, and propagated by planting the bulbs in Spring or Autumn, either the root bulbs, or those produced on the top of the stalk, being planted in a bed or beds of any good earth, in rows a foot asunder, six inches distance in each row, and two or three inches deep; they shoot up leaves and stalks in the Spring and Summer, and produce the bulbs for use in July or August; and the root-bulb remaining, furnish a production of top bulbs, annually in that season; the root-bulb increasing by off-sets, may be taken up occasionally at the time the stem decays, in Autumn; or once in two or three years, in order to separate the off-sets and replant them when necessary.

The leek is the third division of the genus, the general characters of which are the same as those before described, and the species and varieties are the *Porrum* or common leek; which may be said to be an annual-biennial plant, for although the roots often survive, after perfecting seeds, yet the plants always attain perfection the same year they are sown, and the year afterwards run up to stalk and become unfit for use. The seed-stalk of this plant does not belly like that of the onion.

The best of the varieties of this plant for general culture, is the broad-leaved or London leek, which attains a large growth, the neck acquiring a thick substance, in length from six to nine or ten inches, dividing upwards into many large, long, thick leaves, arranging themselves in somewhat a fan-shape.

The narrow-leaved leek runs up with a long thin neck, and narrow thin straggling leaves, which, as a degenerate variety, does not deserve culture; and the striped-leaved kind

is retained merely for variety, which may be continued by suckers rising from the old roots.

Propagation, Culture, &c. The common leek is raised annually from seed sown in the Spring; the proper time, for the general crop for Autumn and Winter use, is the same as that recommended for the onion, as from the twentieth of February to the end of March; but for later crops to stand for Spring use, any time in April may answer, or for a small crop to stand as late in the following Spring as possible, without running to seed, the beginning of May.

It is a common practice from the notion of making the most of the ground, to sow leeks along with the crops of onions; which should not by any means be recommended, as experience has shewn it to be considerably the best culture to keep them separate. It is often practised by the market gardeners, when intending to cull out the onions from time to time for market; so that by a daily thinning, they are mostly all cleared off by the end of July; and those being gone, the same ground remains occupied by a crop of leeks. This method cannot be practised to equal advantage in the main crops of onions that are to stand to grow to full size for keeping. The best culture, therefore, for the general crops of leeks, is to sow them pretty thick in a spot by themselves to be afterwards transplanted, either wholly or the greater part thinned out regularly and planted; the others being left at good distances for full growth, and the same situation, soil, and method of sowing are to be adopted as directed for the onion. In June, July, and August, the plants will be of a proper size for transplanting; in doing which make choice of an open spot of the best ground; if dunged it will be of much advantage, digging in the dung one spadep deep; then drawing a parcel of the largest leeks, and trimming their tops and the extreme parts of their root-fibres, proceed to plant them by line and dibber in rows, which for the early crop should be twelve inches distant, and eight or nine inches apart in each row; and for better crops nine inches between the rows and six the other way, putting them three or four inches in the ground, or nearly to the length of their necks, and watering them immediately. The only culture they require afterwards is to be kept clear from weeds, which may be done either by hand-weeding, or more expeditiously by applying a sharp hoe in a dry season.

The leeks thus cultivated are generally finer than those that remain where sown, their necks, which is the principal esculent part, are much longer, and all the part within the earth is finely whitened and rendered mild and tender, which is a desirable property in this plant. However, when it is intended to raise a crop of leeks in good perfection, to remain where sown till their full growth, the seed should be sown much thinner; and when the plants are somewhat advanced, as in June or July, they should be regularly thinned to about ten or twelve inches distance; those thinned out being planted in another compartment of the garden. The remaining plants will by this means attain a larger and thicker growth below, with large spreading tops of thick fleshy leaves.

This is a valuable family plant from Autumn till Spring, for soups, broth, &c. and for boiling the neck part and top leaves together, to use as greens, in the manner of coleworts, &c. to eat with flesh-meat. It is in perfection from September till May, when it shoots up to stalk for seeding.

In order to save the seed of this plant, a quantity of the finest plants should be transplanted in February into a sheltered sunny bed or under a south wall, paling hedge, or other fence. This is mostly necessary, as the seeds ripen late in

the Autumn, and unless assisted by such situation and shelter, seldom ripen freely in this climate. In this view it would be of particular advantage to plant some in a row close under a south fence, at ten or twelve inches distance, they will then shoot up their stalks considerably in May; and in June attain two or three feet in height, when they should be supported, and continued in an upright growth. In July the flowers protrude from their sheath at the summit of each stalk, and form a large globular head; and in September the seeds begin to ripen. After this is effected, cut the heads with part of the stalk and tie them in small bunches, hanging them across lines in a dry airy apartment, two or three months, when the seed will be hardened, and the capsules readily break by threshing or rubbing, and thus discharge it more readily from the cells in which it is lodged.

Allium, diœtic and medical qualities of several species of. The culinary uses of several species of the allium are well known; and it is needless particularly to describe them. They are referred by Dr. Cullen to a particular head under the title of *Alliaceæ*; and he considers them more as condiments than as aliments. Of this order the leek and onion are most commonly employed with the last intention, and they afford a large proportion of alimentary matter. In their boiled state, when their acrimony is exhaled, they manifest, with some sweetness, a large proportion of mucilaginous matter; and even in their recent state, and especially when young, their acrimony is not so strong as to prevent their being used among the lower classes as a considerable part of their food. But by those of superior rank, it is the onion only that is taken in its young and recent state; but hardly in larger quantity than may be regarded as a condiment. Deprived, however, of their acrimony by boiling or roasting, they are used by persons of every condition more freely. Nevertheless it is so difficult to deprive them entirely of all peculiar taste, that many persons, from a particular idiosyncrasy cannot bear them even in a boiled state. The *garlic*, *rocamboles* and *shallots* contain also alimentary matter; and when the garlick in certain warmer climates is produced with less acrimony than it is with us, and of course is much milder both in smell and taste, it is more frequently and more largely employed as a part of diet. As condiments, those of the milder kind, more especially when deprived of their acrimony, are very safe and proper; and even the more acid, as garlick, which is almost solely employed as a condiment, serves, if the odour and taste can be admitted, to stimulate the stomach very powerfully, and to promote digestion. As promoting perspiration and urine, all these vegetables are properly joined with our animal food, and may also be justly reckoned among the antifebriles. In the eastern nations, among the Jews, ancient and modern, and also in Russia, Hungary, Spain, and France, the several species above enumerated, have been freely used both as aliments and condiments. In Egypt, onions have been from time immemorial a part of their constant food; they are sweet and soft, and used in their soup, and roasted with their meat, so as to make a dish, called by the Turks *belish*, of which they are very fond. Onion, and particularly garlick, which is more powerful in its effects, by stimulating the stomach favour digestion; and as this stimulus is more readily and quickly diffused through the whole system than that of almost any other known substance, they may be considered as useful condiments, with the food of phlegmatic people, or those whose circulation is languid, and secretions interrupted; but for those who are subject to inflammatory complaints, or where great irritability prevails, these roots, especially in their acrid state,

may prove very hurtful. Onions, says Dr. Lewis, taken in great quantities, produce flatulencies, thirst, headache, and various symptoms. In cold sluggish phlegmatic temperaments, they are of service, by warming the lungs, and stimulating the humors, and promoting the natural excretions, particularly expectoration and urine. They are likewise powerfully antiscorbutic, and by virtue of this quality, are recommended by some as a fabulous addition to the food in scorbutic cases. The disagreeable scent of onions, as an article of diet, may be remedied by eating a few raw pears immediately after them, which will not only counteract their strong smell, but make them fit more easily in the stomach.

The medical virtues of several of these species have been long attested and generally allowed. That the juice of alliaceous plants in general has considerable effects upon human calculi, may be inferred from the experiments of Dr. Lobb; and we are warranted in asserting, says Dr. Woodville, that a decoction of the heads of *leeks*, *A. porren*, taken liberally and continued for a length of time, has been found remarkably successful in calculous and gravelly complaints. To this purpose he alleges the case of a boy, six or seven years old, who had suffered for a considerable time by a calculus in the urinary bladder, which had been discovered or founding, but by recurring to this decoction his pain was soon relieved; after which his urine became extremely turbid, and constantly deposited a clay-like sediment for several weeks, when it resumed its natural appearance, and the boy was afterwards freed from complaint. Other similar cases have been also known. Dr. Cullen observes, that although all the species of *allium* have been by many writers commended as useful in nephritic and calculous cases, they do not seem to act otherwise than as diuretics, the use of which, in such cases, is in general very doubtful.

The onion, or *A. cepa*, contains a very volatile part, which, however, flies off so readily, when the substance is cut and exposed to the air, that it cannot be directed to any medicinal purpose, or employed as an active remedy. Onions are externally employed as cataplasms for suppurating hard tumors; but Dr. Cullen observes, that as they are applied in a heated state, they do not seem to have more power than other mucilaginous poultices. Some have recommended them to be rubbed on bald places for promoting the growth of hair. Frederick Hoffman reports, that suppressions of urine, in children, are speedily relieved by the application of roasted onions to the region of the pubes. Lanzoni mentions a fact, in which they were used, as crude and boiled, and as a decoction, and produced a very considerable discharge of urine in an hydropical case. Murray refers to a case of a woman who had an ascites after abortion, and whose feet were swelled, who was effectually relieved by a copious discharge of urine, and a subsidence of the tumor, in consequence of applying to the abdomen a cataplasm of white onions macerated in spirit of wine. The lithontriptic powers of the juice or decoction of onion have been extolled by some, and disputed by others: but in the cure of deafness, a few drops of the juice put into the ear at bed-time have been found effectual. The root, which is the most acrid part of the plant, is much deprived by drying both of its smell and taste, and loses near seven-eighths of its weight. It gives out its virtue by infusion, both to water and spirit, but to neither readily and completely. In distillation no essential oil could be obtained. The watery decoction, inspissated to the consistence of an extract, is very mucilaginous, but has scarcely any taste, and that of the spirituous extract is very weak.

The medical virtues of *A. sativum* or *garlick*, are very various. The whole of the plant possesses similar qualities; but the root, which has a strong pungent odour and a very acrid taste, is the only part employed in medicine. These qualities depend upon a very volatile part, which is readily dissipated by drying, if the roots be bruised and the interior parts be exposed to the air, or by boiling in water. On drying, says Dr. Lewis, the root loses almost nine parts in 15 of its weight, without losing much of its taste or smell; and hence, he says, six grains dried may be considered as equivalent to 15 grains of the fresh root. Dr. Cullen, however, thinks that the virtue of garlick is diminished by drying, and that it is possible by these means to dissipate it entirely; and he is of opinion, that Dr. Lewis improperly proposes the dried garlick to be used in any proportion as a medicine. The volatile substance of this root is at least in part an essential oil, which exhales along with the steam of boiling water; and therefore the garlick should never be boiled either with vinegar or with watery liquors. This oil, which is of a pale yellowish colour, and of a thick ropy consistence, may be obtained by distillation; and like that of many of the siliquose plants, it sinks in water. The virtues of the root may more readily and more perfectly be extracted by rarefied spirit of wine, digested upon it when dry, than by either water or vinegar; and with this menstruum the active matter of the garlic does not easily exhale; and nearly the whole of its virtue remains in the inspissated extract. Both the fresh and dry root give out their virtue to water by warm infusion. A quart of water poured boiling hot upon a pound of the fresh root, cut in slices, and suffered to stand upon it in a close vessel for 12 hours, forms an infusion, which, with a proper quantity of sugar, was the syrup of garlick of the shops; and the oxymel of garlick was prepared by infusing an ounce and a half of the fresh root in half a pint of vinegar, and dissolving in the strained liquor, by the heat of a water-bath, 10 ounces of clarified honey; and in order to cover the ill-smell of the garlick, carraway and fennel seeds bruised, of each two drams, were boiled in the vinegar before the garlick was put into it. But the syrup and oxymel are now expunged from the British Pharmacopœias. The odour of garlick is extremely penetrating and diffusive; inasmuch that when the root is taken into the stomach, the alliaceous scent impregnates the whole system, and is discoverable in the various excretions, as in the urine, perspiration and milk. According to Bennet the discharge of issues and ulcers becomes imbued with this odour very soon after it is taken; and Haller says, that on being applied to the feet, the alliaceous taste has been perceived in the mouth. Garlick has been long in estimation as an expectorant in phtisous and spasmodic asthma, and other pulmonary affections, unattended with inflammation. Dioscorides mentions its use in moderate coughs. Celsus employed it mixed with honey in these complaints. Rosenstein recommends it to be boiled in milk, and a pint to be taken night and morning. Dr. Cullen allows what has been asserted, that even in its external application to the soles of the feet, it has been useful in these diseases. Its utility as a diuretic in dropsies is attested by unquestionable authorities. Dr. Sydenham found some dropsies cured by garlick alone; and as a warm strengthener it has been serviceable not only in the beginning of dropsies, but for preventing a new accumulation of water after evacuation. Dr. Cullen says, there can be no doubt of the *A. sativum* being a remedy for the scurvy. Dr. Lind also commends it both as a preservative and a cure for this complaint. Its febrifuge power has been experienced in preventing the paroxysms of intermittents;

Bergius says, that he has seen even quansans cured by it in many instances. He recommends to begin with a single small bulb morning and evening, and one bulb to be added, till the patient takes four or five at a time. If the fever subside, the dose is to be diminished; and it will be sufficient as the preventive of a return, to take one or two bulbs, morning and evening, for several weeks. Some have held it in great esteem as an antidote to the contagion of peltential and other putrid disorders, whence it received the name of "*Theriaca bullicorum*;" and with a view of subduing the plague, it is to be administered in such a quantity as to excite a copious diaphoresis. The virtues ascribed to it of obviating and resisting contagion appear to Dr. Cullen very doubtful; though he allows the probability that, in the plague, which is commonly attended with a low fever, it may have been useful. Another virtue ascribed to garlic is that of an anthelmintic; for this purpose the common people boil it in milk; and Hoffman considers it as one of the capital medicines of that class. In calculous disorders it is also said to have been found very beneficial, not only as a diuretic, but as possessing a lithontriptic power. The penetrating and diffusive acrimony of garlic renders its external application useful in many disorders, as a rubefacient, and more especially as applied to the soles of the feet, to cause a revulsion from the head and breast; and thus it was successfully practised and recommended by Sydenham, especially in the confluent small-pox about the eighth day. When it occasions pain, as it sometimes does, this, he says, may be relieved by a cataplasm of bread and milk. Dr. Cullen remarks, that though when bruised and applied to the skin it produces inflammation, and frequently vesicates the part, its effects are not so permanent nor so slow in healing as those of mustard and the other siliquose; and that it is more capable of absorption, and of extending its action to remote parts. It has, therefore, been variously employed externally in cases of tumors and cutaneous diseases: and in some instances of deafness, particularly of the rheumatic kind, a clove or small bulb of this root, wrapt in gauze or muslin, and introduced into the meatus auditorius, has been found an efficacious remedy. Bergius recommends for this purpose the juice of garlic dropped in cotton. Garlic may be administered in various forms; swallowing the clove entire, after being dipped in oil, is recommended as the most effectual; or, where this cannot be done, it may be cut into pieces without bruising it, and this may be found equally beneficial, without producing any uneasiness in the fauces. On being beaten up, and formed into pills, the active parts of this medicine soon evaporate.

Several other species of allium, as the *A. porrum*, *A. ascalonicum*, *A. fistulosum*, and *A. schcenoprasum*, are employed in diet, but hardly in medicine, as their qualities are in a less considerable degree than those that have been already mentioned. In Kamtschatka the wild garlic is useful both in medicine and food. It is gathered by the Russians and natives, for Winter supply, and formed into a ragout with other ingredients, and is their principal remedy for the scurvy. Pennant in his *Tour* 1772, p. 175, says, that an infusion of *A. ursinum* in brandy is esteemed a good remedy for the gravel. The young shoots of *A. vineale* are eaten in sallads, or boiled as pot-herbs. Lewis, *Mat. Med.* p. 32. 214. Cullen's *Mat. Med.* vol. i. p. 272.—429. vol. ii. p. 172.—178. Bergius, *Mat. Med.* vol. i. p. 264.—271. Murray's *Appar. Medic.* vol. v. p. 122.—139. Woodville, *Med. Bot.* vol. iii. p. 460.

ALLIUM. See HYACINTHUS, HYDROXIS, and TRAND-SCANTION.

ALLIX, PETER, in *Biography*, a learned divine of the church of England, and an eminent writer, was born in the year 1641, at Alençon in France; and after receiving a liberal education, became minister of the reformed church at Rouen. In this situation he acquired great reputation by his excellent writings on the subject of the Eucharist. From thence he removed to Charonton, which was the resort of the most distinguished protestants in France, and where he had the charge of the principal church belonging to the reformed in that country. Having now an opportunity of essentially serving the protestant cause, he preached several sermons in its defence, which were designed to counteract the attempts of the bishop of Meaux, who was one of its most able opponents. Twelve of these sermons were printed at Rotterdam in 1685, which were highly commended by Bayle, and contributed to increase the reputation of the author. Upon the revocation of the edict of Nantes in 1685, Mr. Allix was obliged to quit France, and to seek an asylum in England. His first object was to acquire a competent knowledge of our language; and in this he succeeded to such a degree, that in 1688, he published a defence of the Christian religion, in a work, entitled, "*Reflections upon the Books of the Holy Scripture, to establish the Truth of the Christian Religion*," to which he prefixed a dedication to king James II. acknowledging, in very respectful terms, his personal obligations to that prince, and expressing his sympathy and concern for the distressed refugees in general. "I could wish, Sir," says he, towards the close of this dedication, "that this work, which I now present to your Majesty, might be so happy as to pass to posterity with this character of our acknowledgments; and that it might stand as a faithful record for ever, to perpetuate the memory of that lively sense of your bounty, which is imprinted on all our hearts." The author was so well received in this country, that he was soon complimented with the degree of doctor of divinity, to which his character and writings gave him a just claim; and in 1690, he was made treasurer of the church of Salisbury. The time and talents of Dr. Allix were diligently employed in writing several valuable treatises in defence of the reformed religion, which he vindicated both from reason and authority, from the practice of early ages, and also from the precepts of the Gospel; alledging against the church of Rome, that whilst she treated others with the opprobrious name of heretics, she had herself invented new articles of faith. From the defence of religion in general, and of the protestant cause, he proceeded to that of the doctrine of the trinity against the Unitarians, who maintained that the notion of the divinity of Christ had originated with Justin Martyr. This work exhibits a great display of Greek and Hebrew literature; and it was intended, not merely to refute the assertions of the Unitarians, but to prove, that the Trinitarian doctrine was held by the ancient Jewish church. At a time when the distinguished reputation of our author was universally acknowledged, he incurred some raillery and censure, particularly on the part of Mr. Bayle, who had before expressed sentiments of the highest respect for his abilities and erudition, by a publication, in which he hazarded a conjecture concerning the second advent of Christ, the period of which, deduced from an erroneous explication of Scripture prophecies, he fixed to the year 1720, or, at the latest, to 1736. His character, however, for eminent talents, indefatigable assiduity, extensive litera-

ture, and various services which he had rendered to religion and the reformation, was not depreciated in the estimation of the best judges. Having protracted his useful life, and enjoyed an uncommon share of health and spirits to the 76th year of his age, he died at London, Feb. 21st, 1717; "leaving behind him the reputation of a man equally assiduous in the right discharge of all the offices of public and private life, and every way as amiable for his virtues and social qualities, as venerable for his uprightness and integrity, and famous for his various and profound learning."

Mr. Bayle highly commends the learning, candour, and abilities of Dr. Allix; and in speaking of his sermons he says, "that they contain a thousand beautiful passages, equally strong in sentiment, and delicate in their turn and expression." His works were numerous, and they were written in Latin, French, and English. Those of the first class were "A Dissertation on the first rise of the Trisagium or Doxology," 8vo. Rouen, 1674; "On the Blood of our Lord Jesus Christ," 8vo.; "On the Life and Writings of Tertullian," 12mo. Amsterdam, 1701; "On the authority of certain Councils," 8vo. 1680; "Anastasi's twelfth Book of Contemplations on the Six Days Work of the Creation, &c. from the Version and with the Notes of Andrew Dacier, with an expository Preface, &c." 4to. London, 1682; "An historical Preface, as to the Doctrine of Transubstantiation, to the Determination of Brother John Paris, Jacobin, as to the mode of our Lord's Body existing in the Sacrament of the Altar, &c." 8vo. London, 1686; "Of the two Advents of the Messiah, in as many Dissertations against the Jews," 12mo. London 1701; "Nectarius's Confutation of the Pope's Authority in the Church," a translation from the Greek original, printed in 1672 in Moldavia, 8vo. London, 1702; "A Preface to Augustus Herman Francke's Introduction to the Reading of the Holy Scriptures," 8vo. London, 1706; "A Dissertation on the Year and Month of the Nativity of our Lord Jesus Christ," 8vo. London, 1707, and 1710. In French, Dr. Allix published, "An Answer to a Dissertation of Anselm on Bertram and John Scot," printed at the close of Claude's answer to Arnaud, Quevilly, 8vo. 1670; "Ratramn, or Bertram, the Priest, on the Body and Blood of our Lord," in Latin and French, 12mo. Rouen, 1672; "Twelve Sermons on several Texts," 12mo. Rotterdam, 1685; "The Maxims of a good Christian," Amsterdam, 1687; "St. Paul's Farewell to the Ephesians," 12mo. Amst. 1688; "Preparations for the Lord's Supper," 8vo. often printed at Geneva. In English we have by Dr. Allix, "Reflections upon the Books of the Holy Scripture, to prove the Truth of the Christian Religion," 2 vols. 8vo. London, 1688; "Some Remarks upon the Ecclesiastical History of the Ancient Churches of Piedmont," 4to. London, 1690; in answer to the "History of the Variations of the Protestants in Matters of Faith," by the bishop of Meaux, which was penned to facilitate the design of Lewis XIV. to oblige all his subjects to be, or seem to be, of one faith; "Researches upon the Ecclesiastical History of the Ancient Churches of the Albigenes," 4to. London, 1692; "The Judgment of the Ancient Jewish Church, against the Unitarians in the Controversy upon the Holy Trinity, and the divinity of our Blessed Saviour," 8vo. London, 1689; "Preface and Arguments on the Palms," in which the author disapproves of the notion of a double completion of the prophecies contained in them; "The Prophecies which Mr. Whiston

applies to the times immediately following the appearance of the Messiah, considered and examined," 8vo. London, 1707; "Remarks upon some Places of Mr. Whiston's Books, either printed or in MS." 8vo. London, 1711. Biog. Brit.

ALLOA, or ALLOWAY, in *Geography*, a sea-port town of Scotland, situated in the Frith of Forth, about 10 miles above Leith, and five miles east of Stirling. The town is populous, has two market days in the week, and is remarkable for its fine castle, the seat of the Earl of Mar, and for its adjacent coal-mines. The harbour is commodious, having a good depth of water for ships of burden, and vessels are expeditiously loaded with coals, conveyed from the pits by a waggon-way in carriages of such easy draught, that one horse may draw three waggons, each containing one ton and an half. A dry dock has lately been erected, and there is a glass-house in the town, from which any quantity of bottles may be supplied at the shortest notice.

The Frith at this town first becomes a copious and navigable river. N. lat. 56° 10'. W. long. 3° 45'. The tower and lands of Alloa were exchanged by David king of Scots in 1355, with Thomas Lord Erskine, for the lands and estate of Strathgarney, in Perthshire, and since that time the castle has been the residence of the family of Mar. The situation is beautiful, and the gardens, containing about 40 acres, were laid out under the direction of Le Nature, and the plantation was begun in 1706. The tower of Alloa is 89 feet high, its walls are 12 feet thick, and it was built towards the close of the 13th century. The last heir of the Scots monarchy, who was nurtured here, was Henry prince of Wales; of whom some youthful relics are preserved, as is also the private signet of the unfortunate Mary, after she was obliged, by the treaty of Edinburgh, to desist from wearing the arms of England in the first quarter, the chair of James VI. her son, and the festive chair of Thomas Lord Erskine, the second earl of Mar of that name, with an inscription;

"Soli deo honor et gloria."

ALLOBROGES, in *Ancient Geography*, the inhabitants of that part of Gallia Narbonensis, which was situated between the rivers Isara to the south, and Rhodanus to the north, and the lacus Lemanus, comprehending a great part of the countries since known by the names of Savoy, Dauphiné, and Piedmont. Polybius, Plutarch, Dion, and Appian write their name, *Allobriges*, and Ptolemy and Stephan. Byz. *Allobryges*; but the true orthography, established by two inscriptions, is *Allobroges*. Their metropolis was Vienna. The Allobroges were inferior, neither in strength nor riches, to any of the inhabitants of Gaul. When Hannibal passed the Rhine into their country, he found two brothers contending for the crown, and took part with the eldest. This people, whose country bordered on that of the Salves, and with whom they were in amity, were disposed to succour them against C. Sextius Calvinus, who had overcome Teutomalus, their king. But after Domitius had, during his consulship, settled the country of the Salves in peace, a work which had been happily begun by Sextius, three years before, the Allobroges, being uneasy at the settlement of the Romans in their neighbourhood, prepared to make an attack upon the Roman colony at Aquæ Sextiæ. Domitius, in order to prevent the Arverni, a powerful people, from joining the Allobroges, formed an alliance with the Ædui, one of the most considerable nations in Transalpine Gaul. In consequence of this connexion the Arverni commenced hostilities against the Ædui; and

and the Roman general took occasion, from this circumstance, to force a passage into the country of the Arverni, whose king sent a deputation to the general, attended by a number of large dogs, and a bard or priest, who chaunted the praises of his king, the people, and the ambassador. The envoy, after being received with respect by Domitius, assuming an imperious air, commanded him, in the name of his master, to forbear molesting the Allobroges, and immediately to retire from Gaul. Domitius, unintimidated by this address, gave orders for his troops to march into the fruitful plains of the Cavari, in the neighbourhood of the present Avignon. Whilst he was encamped near a village, called Vindalia, he was attacked by the Allobroges; but they were easily routed by his regular and well disciplined troops. We are told that 20,000 Gauls were killed on the spot, and 3,000 made prisoners of war. The Allobroges, after this defeat, and another victory gained by Fabius Maximus over the Arverni, submitted; and so important was this event deemed at Rome, that Fabius took from this occasion the surname of Allobrox. At length the Romans made themselves masters of their whole country. Cicero, (Catilin. iii.) commends the Allobroges for their fidelity; but Horace (Epod. xvi.) reproaches them, on account of their fondness for novelty:

“Novissique rebus infidelis Allobrox.”

ALLOCATION, **ALLOCATIO**, the admitting or allowing of an article in an account; and passing it as such.

ALLOCATION is also an allowance made upon an account; used in the exchequer. Hence,

ALLOCATIONE facienda, a writ directed to the lord-treasurer and barons of the exchequer, upon the complaint of some accountant; commanding him to allow him such sums as he hath in execution of his office lawfully expended. Reg. Orig. p. 206.

ALLOCATO comitatu, is a new writ of exigent allowed, before any other county-court holden, when the former has not been fully served, or complied with, &c. Fitz. Exig. 14.

ALLOCATION. See **ADLOCATION**.

ALLODIAL, in *Ancient Customs*. See **ALLODIUM**.

ALLODIAL tenure of lands, in *Agriculture*, a sort of free tenure still existing in some parts of Scotland, under which the tenant is not required either to pay any quit-rent, or acknowledge a superior.

ALLODIARIUS, the owner or proprietor of an *alodium*, or *allodial lands*; also used to denote a lord paramount of a manor.

This is otherwise written *alodiarius*, *alodarius*, *aloarius*, *aloer*, *aloerius*, and *aleutier*.

ALLODIUM, or **ALLEUD**, land held of a man's own right, without acknowledgment of service, or payment of any new rent to another; and this is property in the highest degree; but *feudum* or *feodum*, is such land as is held of another for which service is done, or rent is paid, as an acknowledgment thereof. When the barbarous nations overrun Europe, and settled in the countries which they had subdued, in the fifth and sixth centuries, the victorious troops divided the conquered lands. The portion which fell to every soldier was seized by him as a recompence due to his valour, as a settlement acquired by his own sword. He took possession of it as a freeman in full property. He enjoyed it during his own life, and could dispose of it at pleasure, or transmit it as an inheritance to his children. Thus property in land became fixed. It was

at the same time *allodial*; i. e. the possessor had the entire right of property and dominion; he held of no sovereign or superior lord, to whom he was bound to do homage, and perform service. How it afterwards was converted into feudal possession, will appear under the articles **BENEFICIUM**, **FEUD**, and **FEUDAL SYSTEM**.

In several parts of Europe this change had taken place, or allodial property had become almost entirely feudal, before the beginning of the 10th century. The former species of property seems to be so much better and more desirable than the latter, that such a change seems surprising, especially when we consider that the allodial property was frequently converted into feudal, by a voluntary deed of the possessor. The motives which led to a choice so repugnant to modern ideas concerning property have been investigated and explained, with his usual discernment and accuracy, by Montesquieu in his *Spirit of Laws*, lib. xxxi. c. 8. vol. ii. Those who were seized of fiefs, says this writer, (p. 431.) enjoyed very great advantages. The composition for the injuries done them was greater than that of freemen. It was a privilege belonging to the king's vassal, established by the Salic law, and by that of the Ripuarians, that whoever killed him should pay a composition of 600 sous; whereas they gave but 200 for the murder of a person freeborn, if he was a Frank or Barbarian living under the Salic law, and only 100 for a Roman. Besides, when a man was summoned in court, and did not make his appearance, nor obey the judge's orders, he was appealed before the king; and if he persisted in his contumacy, he was excluded from the king's protection, and no one was allowed to entertain him, or even to give him a morsel of bread. If he was a person of an ordinary condition, his goods were confiscated; but if he was the king's vassal, they were not. The first by his contumacy was deemed sufficiently convicted of the crime, the second was not: the former for the smallest crimes was obliged to undergo the trial by boiling water; the latter was condemned to this trial only in the case of murder. Moreover, the king's vassals could not be compelled to swear in court against another vassal. These privileges augmented daily, and the capitulary of Charlemagne does this honour to the king's vassals, that they shall not be obliged to swear in person, but only by the mouth of their own vassals. When a person who had these honours did not repair to the army, his punishment was to abstain from flesh-meat and wine, as long as he had been absent from the service; but a freeman who neglected to follow his count, paid a composition of 60 sous, and was reduced to slavery till he paid it. When these several circumstances are considered, it is natural to think that those Franks who were not the king's vassals, and much more the Romans, became fond of entering into the state of vassalage; and that they might not be deprived of their domains, they devised the usage of giving their allodium to the king, and of receiving it from him afterwards as a fief, and of nominating to him their heirs. This usage was always continued, and took place especially during the disorders of the second race, when every body stood in need of a protector, and wanted to incorporate himself with the other lords, and to enter, as it were, into the feudal monarchy, because the political no longer existed. This continued under the third race, as we find by several charters; whether they gave their allodium and resumed it by the same act; or whether it was declared an allodium, and afterwards acknowledged as a fief. These fiefs were called *fiefs of resumption*.

In those times of anarchy and disorder, which became general in Europe after the death of Charlemagne, it became necessary for every man to have a powerful protector, under whose banner he might range himself, and obtain from him a merit, whence he could not singly oppose. For this reason he relinquished his allodial independence, and subjected himself to the feudal services, that he might find safety under the patronage of some respectable superior. In some parts of Europe this change from allodial to feudal property became so general, that he who possessed land had no longer any liberty of choice left. He was obliged to recognize some liege lord, and to hold of him. Upon this principle was formed the maxim, which, at length, became general in the law of France, "Nulle terre sans seigneur." During the 9th, 10th, and great part of the 11th century, the property in the province of Languedoc seems to have been entirely allodial; and during these centuries, the state of property seems to have been alike in Catalonia and the country of Roussillon. In the Low Countries allodial property continued to a later period; for during the 11th, 12th, and 13th centuries, this species of property appears to have been of considerable extent. Some villages of it appear there as late as the 14th century. It appears also by several facts, that allodial property subsisted in different parts of Europe long after the introduction of feudal tenures. Whilst some persons were fond of relinquishing this kind of property, in order to hold it by feudal tenure, others were solicitous to convert their fiefs into allodial property; of which instances occur in a charter of Louis le Debonnaire, again in 1299, and so late as the year 1387.

In Italy, allodial property continued longer in estimation than in France. Many of the charters granted by the emperors in the 9th century, conveyed an allodial right to land. But in the 11th century, there are found examples of persons who resigned their allodial property, and received it back as a feudal tenure. In Germany, the imperial vassals did not aspire so early to independence as in France, nor did they so soon obtain the privilege of obtaining their benefices by hereditary right. Conrad II. or the Salic, who began his reign A. D. 1024, is said to have been the first emperor who rendered fiefs hereditary. In Germany, as well as in France and Italy, a considerable part of the lands continued to be allodial long after the feudal mode of tenure was introduced. Robertson's Charles V. vol. i. p. 255.—Hume's Hist. vol. ii. p. 106. 8vo.

All the lands in England, except the crown-lands in the king's own hands, in right of his crown, are of the nature of FEUDUM, or FEE; for although many have lands by descent from their ancestors, and others have bought land, it cannot come to any either by descent or purchase, but with the burden that was laid upon him who had *novel-fee*, or first of all received it from his lord; so that there is no person hath *directum dominium*, i. e. the very property or demesne in any lands, but the king in right of his crown.

The origin of the word is controverted. Casseneuve says, it is almost as obscure as the head of the Nile. There are few of the European languages, from which one etymologist or other has not derived it; yet some, not improbably, take it for a primitive French word without etymon.

Wachter (*Glossar. Germanic voc. Allodium*) makes it a compound of the German particle *an* and *lot*, i. e. land obtained by lot; and it appears from the authorities cited by him, and

by Du Cange (voc. *fors*) that the northern nations divided the lands which they conquered in this manner.

Bollandus explains *allodium*, to be *prædium, seu quævis possessio libera, jurisque proprii, & non in feudum clientelari onere accepta*.

After the conquest of the Gauls, the lands were divided in two ways; viz. into benefices, *beneficia*; and *allodia*.—Benefices consisted in lands given by the king to his officers and soldiers; either for life, or for a time fixed. See BENEFICIUM.

Allodia, or *alleuds*, were such lands as were left in property to the ancient possessors; so that land possessed in *propriety*, which is mentioned in the law of Charlemagne, was, according to the stile of that age, allodial land; *aboder* and *proprietas*, *allodium* and *proprium* being terms perfectly synonymous. The clearest proof of the distinction between allodial and beneficiary possession is contained in two charters, published by Muratori, by which it appears that a person might possess one part of his estate as allodial, which he could dispose of at pleasure, the other as a benefice, of which he had only the usufruct, the property returning to the superior lord on his demise. Antiq. Ital. mediæ ævi. vol. i. p. 559. 565. The same distinction is pointed out in a capitulare of Charlemagne, A. D. 812. Edit. Baluz. vol. i. p. 491. In the curious testament of Count Everard, who married a daughter of Louis le Debonnaire, by which he disposes of his estate among his children, he distinguishes between what he possessed *proprietate*, and what he held *beneficio*, and it appears that the greater part was allodial. A. D. 837. Aub. Miræi Opera Diplomatica, Lovan. 1723. p. 19. See Robertson's Hist. Charles V. vol. i. p. 258.

The sixty-second title of the Salic law, is *de allodiis*: where the word signifies hereditary lands, or those derived from a man's ancestors. Whence *allodium* and *patrimonium* are frequently used indiscriminately.

In the ancient capitulars of Charlemagne, and his successors, we find *allodium* constantly opposed to *fee*; but, toward the period of the second race of kings, it lost the prerogative; the feudal lords obliged the proprietors of allodial lands to hold of them for the future. The same change also happened in Germany, &c.

In the customary laws of France, we find mention made of two kinds of allodiums, viz.

ALLODIUM *nobile*, *aleu noble*, that to which *justitia* or jurisdiction was annexed; and which was also free from all homage and service.

ALLODIUM *villanum*, *aleu raturier*, that to which no jurisdiction was annexed.

ALLOGIA, in *Antiquity*, denote winter-quarters appointed for the soldiery.

Some will have the word of French origin, from *logement*; others, with more probability, from the Italian *alloggio*, formed of *locus*, *place*.

ALLOISI, BALDASSARE, called GALANINO, in *Biography*, an eminent painter, was born at Bologna, in 1578, and educated in the celebrated school of the Caracci, whose style he retained in all his compositions. Being of a melancholy disposition and fond of retirement, he devoted himself to the study of his art; but by his attachment to solitude, he became so indigent as to be under a necessity of procuring a subsistence by painting portraits. In this department of his profession he excelled to such a degree, as to gain very high esteem, not only for striking resemblance, and the beauty of his colouring, but for a new and unusual boldness

boldness of manner, by which his portraits seemed absolutely to breathe. He was allowed to be superior to all his contemporaries; and the Italian writers place him in the same rank of merit with Vandyck. As an engraver, Mr. Strutt mentions one print done by him, which is a copy of Guido's beautiful etching from Annib. Caracci, where, "St. Rock is giving charity to the poor;" but the copy, he says, is far inferior to the original. He died in 1638. Pilkington and Strutt.

ALLOM. See ALUM.

ALLONGE, in *Fencing*, a thrust, or PASS at the enemy. The word is French, formed of the verb, *allonger*, to lengthen out a thing.

ALLOPHYLI, denoting *Strangers*, in *Ancient Geography*, a name given by Sulpicius Severus, and also in the Septuagint, to the Philistines.

ALLOPHYLUS, in *Botany*, a genus of the *monogynia* class and order, and of the natural order of *guttiferae*, Juss.; the characters of which are, that the calyx is a four-leaved perianthium, leaflets orbiculate, exterior, opposite, lesser by half; the corolla has four petals, less than the calyx, orbiculate, equal, claws broad, of the length of the two smaller leaves of the calyx; the *stamens* consist of filaments filiform, of the length of the corolla, anthers roundish; the *pistillum* has a germ superior, roundish, twin, style filiform, longer than the stamens, stigma bifid, with the divisions rolled back, quadrid (Linn. Syst.). M. B. The flowers of *Rhus Cominia* and *Cobbe* agree with the character of this genus; and *Apoetica* of Forster should be referred to it. Swartz. Martyn enumerates five, and Gmelin in his system of Linnæus three species. 1. *A. zeylanicus*, with leaves oval acuminate quite entire, racemes axillary, very short. This is a tree having the appearance of *Persea*, and a native of Ceylon: its fruit is yet unknown. 2. *A. rigidus*, with leaves simple, denticulated and spiny, and flowers in racemes. 3. *A. racemosus*, with leaves ternate, flowers in racemes. This and the last species are natives of Hispaniola. 4. *A. cominia*, *Rhus cominia* of Linnaeus, &c. *cominia* of Brown, and toxicodendron arboreum of Tournefort, has leaves ternate, and flowers in panicles, rises 30 feet in height, with a stem of the thickness of a man's thigh, and smooth ash-coloured bark, with numerous whitish yellow flowers, to which succeed small, orange-coloured, smooth berries, about the size of a pin's head, with a brittle shell and large kernel, and grows plentifully in Jamaica. It was introduced into Kew Garden in 1778, by Dr. Clark. 5. *A. ternatus*, with leaves ternate serrate, and racemes long terminating, is a shrub five feet high with spreading branches, and small white flowers with hairy petals, and a nectary of four glands, and bifid style. It is a native of Cochinchina, by the banks of rivers; and the inhabitants use the leaves as a cataplasm in contusions.

ALLORI, ALESSANDRO, called BRONZINO, in *Biography*, a painter of history and portrait, was born at Florence in 1535, and was the disciple of Agnolo Bronzino, who, by his affectionate attention, supplied the place of his father, whom he lost when he was five years old. He was assiduous in his application, and imitated the manner not only of his master, but the different manners of other most eminent masters. His first work was a crucifixion, intended for an altar-piece, consisting of a variety of figures well-grouped, beautifully coloured, and distinguished by good expression. In painting portraits he was much encouraged, and devoted much of his time to this branch of his profession. His picture of the "Last Judgment," after the manner of Michael Angelo Buonaroti, whose works he studied

with peculiar attention and pleasure, is still preserved at Rome, and will perpetuate his honour. He died in 1607. Pilkington.

ALLORI, CHRISTOFARO, called BRONZINO, the son and disciple of the former, was born at Florence in 1577; and having studied design from the works of Santi di Titi, and colouring from the lively and elegant tints of Cigoli, he acquired a manner very different from that of his father, which he first followed. He executed several designs for altars; but he excelled in small pictures, into which he introduced a number of minute figures, so correctly drawn, so round and relieved by the colouring, and so delicately touched, that it was surprising how the hand or eye could execute them. His portraits, as large as life, were highly valued for the expression and the attitude. Pilkington.

ALLORIA, in *Ancient Geography*, a town of Crete. Steph. Byz.

ALLOS, in *Geography*, a town of France, in the department of the Lower Alps, and district of Barcelonnette, four miles north of Colmar and nine south of Barcelonnette.

ALLOSYGNE, in *Ancient Geography*, a sea-port town of India, on this side the Ganges.

ALLOTRIGÆ, or ALLITRIGÆ, a people placed by Strabo in the northern part of Spain, and probably the same with the *Altrigone* of Ptolemy, and *Antrigones* of Pliny.

ALLOTTING, or ALLOTMENT of goods, in matters of *Commerce*, is when a ship's cargo is divided into several parts, bought by divers persons, whose names are written on as many pieces of paper, which are applied by an indifferent person to the several lots or parcels; by which means the goods are divided without partiality; every man having the parcel to which the lot with his name upon it is appropriated. See INCH of Candle.

ALLOTMENTS of Lands, in *Agriculture*, are such portions of ground as are allotted to claimants on the division and inclosure of commons or other waste lands, and which are generally proportionate to the extent of the right which they enjoy upon them, from the possession of lands, tenements, &c. in the same parish in which they are placed.

ALLOUE', in *Geography*, a town of France in the department of the Charente, and district of Confolent, on the Charente, two leagues west of Confolent.

ALLOVIA, in *Botany*, a species of MARANTA.

ALLOW, a river of England in Northumberland, which runs into the Tyne, between Hexham and Newcastle.

ALLOWANCE of *Frauchise*, in *Law*. See FRANCHISE.

ALLOWANCE of Pardon. See PARDON.

ALLOWANCE of Writs of Error. See ERROR and JUDGMENT.

ALLOWANCE to Bankrupts. See BANKRUPT.

ALLOWAY Creek, in *Geography*, a creek of America, in the county of Salem, and State of New Jersey, which empties itself into the Delaware. It is navigable 16 miles, with the interruption of draw-bridges.

ALLOY or ALLAY, — *alliage*, Fr. — *Legiren Metalle* f. — *Legung*, Germ. — *Lega*, Ital.

The true origin of this word is probably derived through the medium of the French, from the Latin *ad-ligatio*, signifying the act of tying, or binding, or connecting together; since, however, the term was formerly almost wholly confined, in England, to the goldsmiths and the mint, where it

was

was appropriated to the *assaying* the purity of gold or silver by mixing with copper, previously to its being coined or manufactured, it seems gradually to have assumed the orthography and meaning of the English verb to alloy, *i. e.* to unite, to lower. All the other known combinations of metals with each other were simply called *mixed metals*. But as increased attention has been paid to the accuracy of chemical Nomenclature, the term alloy has at length comprehended all the binary and more complicated metallic compounds; those of which mercury makes a part, being indeed more generally known by the name AMALGAM.

An alloy, therefore, may be defined, a combination of any two or more metals, into one homogeneous mass; to the express exclusion of mere mechanical mixtures, which, however, in some cases, are not easily distinguished from genuine alloys. The most valuable and useful of these have acquired peculiar names, such as brass, type-metal, tutenag, bronze, speculum-metal, &c. all of which will be described in their proper places hereafter; the object in this article being confined to the statement of such general facts and inferences as are deducible from a comparison with each other of those experiments on the combinations of metals that have been made with sufficient accuracy, the number of which is unfortunately very small.

As no metal, except mercury, is fluid at the common atmospheric temperature, and as without the fluidity of one at least of the ingredients, no metallic combinations can take place, it is necessary to expose the materials in a crucible, or other proper vessel, to a heat somewhat greater than is required for the liquefaction of their most fusible part; but as this diminution of cohesion is equally favourable to intimate mixture as to chemical combination, and since all tendency to separation ceases, the very moment of the congelation of the mass, it no doubt often happens that these two circumstances are confounded together, and thus cause many of the anomalies and peculiar difficulties with which the subject is encumbered.

The method that is given in most chemical books for ascertaining whether a mass of metal is a real alloy, or only a mechanical mixture, consists in fusing it with as little heat as possible, and keeping it in this state till its component parts separate from each other, like oil from water, according to their respective specific gravities; and perhaps there is upon the whole no other way equally simple and practicable of effecting this; at the same time that it is liable to a number of errors. In the first place, when experimenting at high temperatures, it is very difficult and indeed impossible to preserve an equal degree of heat through the process, and it is highly probable that a metallic combination may take place at a mere melting heat, which is decomposed by a higher one, or *vice versa*. If this may happen in alloys that consist of only two materials, it is still more likely to do so when three or a still greater number of metals are united into one mass. Thus, if an alloy made of one part zinc and two of mercury be mixed with another of one part bismuth and one mercury, the whole may be fused together by a heat just sufficient to make them flow, may be kept in fusion for a considerable time, and then poured into a melting cone without any separation of the constituent parts; but when the alloy is heated so as to make the mercury boil, the greater part of the zinc immediately rises to the surface and separates, owing to the destruction of the equilibrium between the antagonistic affinities, by the presence of a certain quantity of caloric.

Again, supposing no change in the affinities to take place, if the mixed metals are nearly of the same fusibility and

specific gravity, a spontaneous separation by fusion is scarcely to be expected: so also, if they differ in these two particulars, and the metal of easiest fusion is of the greatest specific gravity, as in an alloy of copper and lead, where the two parts are in equal proportions, the first effect of the heat will be the separation of part of the lead before the mass enters into fusion, this will occupy the bottom of the crucible, and the fusibility of the alloy decreasing by the gradual separation of the lead, a temperature nearly equal to the melting heat of copper will be required to bring the whole to a fluid state; when this is effected, the lead receiving the first impression of the heat as it enters the crucible from below, being also covered with melted copper, will be made to boil, and in consequence will be continually thrown up into the copper notwithstanding its superior specific gravity.

The only way, therefore, of determining with certainty the difference between an alloy and a mere mixture, is by a comparison of the properties of the compound with those of its elements, which if they are not intermediate, nor caused by mere mechanical action on each other, may be received as adequate evidence of a proper chemical union. Here, however, a number of difficulties and doubts, as yet wholly uninvestigated and incapable of being resolved by common cases of affinity, require examination.

If two metals being fused together produce a mass, whose specific gravity is either greater or less than the mean specific gravity of its elements, the result is said to be an alloy, or proper chemical combination. How few however, if even any experiments for the purpose of ascertaining this have been made with sufficient care? It is not enough that the specific gravity of each of the simple metals should be taken and compared with that of the alloy; but they ought to have been previously melted by themselves, and cooled in the same circumstances to which the alloy was afterwards to be exposed. For example, suppose an alloy to be made of copper and gold, equal parts; the copper to have been cut off from a piece of hard wire, and the gold to have been laminated, the specific gravity of the first will be nearly 8.87 and of the latter 19.36; the two metals being thoroughly mixed by fusion, and either left to cool in the crucible or poured into a melting cone, are then weighed in the hydrostatic balance, and the difference or agreement between the specific gravity of the alloy and the mean gravity of the materials, is considered as a fair ground of inference for the reality of chemical combination, or the contrary. But the specific gravity of copper cooled slowly and not wire-drawn is only 7.78, and that of gold in the same circumstances is 19.25; now the alloy is precisely in this state, having been merely melted and cooled gradually; if therefore no chemical combination whatever had taken place, yet the specific gravity of the alloy, instead of being = 14.11, as deduced by calculation from that of the materials, would be = 13.51, merely from the circumstance of slow cooling without compression. By cooling a malleable metal suddenly, as by pouring it into cold water, it becomes hard, and in some degree brittle, resembling in this respect a piece of the same metal that has been laminated without subsequent annealing; the specific gravity of the laminated metal is increased, and probably the same effect is produced by the sudden cooling: thus a great seeming change in specific gravity may exist where there is none in fact. Besides, it is possible that a real alteration of specific gravity may appear in a mixture of two metals, which, instead of being an evidence of chemical combination shall be merely the effect of the hardness and tenacity of one of them. It is well known that all metals expand by heat, and alter their dimensions when passing from the

the fluid to the solid state. Let A B then be a binary mixture of three parts A, and one B; A is the least fusible of the two and contracts least in cooling; it will necessarily happen therefore, upon the supposition that no chemical affinity subsists between them, that when they are well mixed by fusion and then allowed to cool, A will harden first, and by its excess in quantity will entirely envelope all the melted particles of B with a crust impenetrable to the air, and capable of supporting the whole atmospheric pressure; afterwards B will become solid and contract, leaving part of the cell which it occupied while fluid, a perfect vacuum, at the same time that these pores may easily be invisible even to common magnifiers; hence the result will be a mixture of less than the mean specific gravity.

The change that takes place in the ductility of metals when mixed together is generally brought forwards as one of the most striking proofs of chemical combination; even here, however, difficulties occur that have not yet been explained. Macquer lays it down as a constant fact that alloys are less ductile than the metals of which they are composed, and Gellert in his *Chimie Metallurgique* infers, that the mixture of gold with silver is not a true alloy on account of its perfect ductility; from the want of accurate experiments it is perhaps impossible at present to determine the question; but, so far from the position of Macquer and Gellert being universally true, the general result of the facts which have been hitherto ascertained, if rightly understood, seems to render the direct reverse highly probable; and that the brittleness of alloys from ductile materials is in all cases a proof of supersaturation, or of mere mechanical mixture. When to any quantity of pure copper one third of zinc is added, the alloy called brass is produced; and that this is a chemical combination between the two metals may be inferred from the remarkable change of colour and fusibility of the mass; the ductility however of brass is fully equal to that of copper. But if the proportion of zinc is increased to an equality with the copper, the colour of the alloy, instead of being yellow like gold, will be nearly a medium between that of brass and of zinc, and its ductility will be destroyed; thus shewing, that the point of mutual saturation of these metals is between one third and a half of zinc to two thirds and a half of copper, and also that brass has little or no affinity with zinc. The ductility of any metal depends on the strong cohesive attraction of its particles, which slide upon each other when impressed by any external force instead of separating; now it may readily be conceived that two ductile metals being intimately mixed so as that every particle of the one is in contact with a particle of the other, provided no very powerful affinity subsists between them, may be broken by a blow which would only have slightly altered the relative position of homogeneous cohering particles; and therefore, that a brittle mixture of two ductile metals does not necessarily infer a chemical combination between them.

Change of colour, in the few cases in which it occurs, provided it is not intermediate between those of the elements of any alloy, may be considered as a very probable evidence of chemical union; of this kind is the golden colour of brass, and the silvery white of arsenicated copper. But the general similarity of colour between all the white metals and their alloys, confines the application of this external character to a very few instances.

One of the most striking proofs of actual combination between the parts of an alloy, or at least what is the most

difficult of explanation upon the theory of mere mechanical mixture, is a remarkable increase of fusibility; this, in almost all cases, is much greater than could be inferred from the mean fusibility of its component parts; thus equal parts of tin and iron will melt at the same temperature as is required for equal parts of tin and copper, or bronze, notwithstanding the great difference between the fusing heat of copper and iron, when they are each of them pure. So also an alloy of tin, bismuth and lead, will melt in boiling water, which is a less heat than is necessary for the liquefaction even of bismuth, the most fusible of the three.

The oxydability of an alloy is generally either greater or less than that of the simple metals. Tin and lead for instance being mixed together and exposed to a low red heat take fire and oxydate almost instantaneously.

Elective affinity takes place in the combinations of metals, as in those of all other substances; thus an alloy of copper and silver is decomposable by lead. Again certain metals resist supersaturation, while others may be mixed in almost all proportions, as cobalt may be combined with a certain proportion of lead, but cannot even be mixed with a larger quantity. These enquiries, however, though highly interesting and intimately connected with many of the useful arts, have been almost wholly neglected during the last fifty years; and the experiments of Gellert, Kraast and Lewis, still continue to be our only authorities. Many peculiar difficulties attend the investigation of the general principles, according to which metals act on each other, and the general phenomena necessarily attending such action; it is a subject that may demand the abilities, and will recompence the attention, of the greatest and most accurate philosopher, and which unfortunately has hitherto received less notice than any other branch of chemical enquiry.

ALLOY of coinage. See ASSAY.

ALL-SAINTS, in *Geography*. See ALL-Saints.

ALL-SEED, in *Botany*. See LINUM and CHENOPodium.

ALL-SPICE. See MYRTUS.

ALLSTADT, or ALLSTETT, in *Geography*, a very ancient town of Germany, in the circle of Upper Saxony, and principality of Eisenach; 26 miles north of Weimar, and five south-south-east of Sangerhausen. The emperor Otho had a palace in this town, and held a diet here in 974. It belongs to a bailiwick of the same name, lying between that of Sangerhausen in the electorate of Saxony, the principality of Querfurt, and the bailiwick of Bockstedt, in the county of Mansfeld.

ALLUDSJE, a town of Arabia, 14 miles east-north-east of Beitel Fakili.

ALLUM. See ALUM.

ALLUMBADDY, in *Geography*, a town of Hindostan, in the country of the Mysore, 63 miles east of Seringapatam, and 50 south of Bangalore.

ALLUM Bay, lies round the NEEDLES point, or north east from the rocks so called, at the west end of the Isle of Wight, on the coast of Hampshire. It has good anchorage, and a sufficient depth of water, not far from the bottom of the bay, and out of the strong run of the tide, which is frequently very rapid, and accelerates or retards the motion of a vessel, as a ship sails with or against its direction, to an astonishing degree.

ALLUMÉ'E, FR., in *Heraldry*, a term applied to the eyes of a bear, or other beast, when they are drawn sparkling and red.

ALLUMETÆ, in *Ancient Geography*, the name of an ancient people of Arabia Felix.

ALLUMINOR, from the French *allumer*, to lighten, is used for one who coloureth or painteth upon paper or parchment; and the reason is, because he gives light and ornament by his colours to the letters, or other figures. Such ornaments are styled illuminations. The word is used in Act. i Rich. III. cap. 9. But now such a person is called a *painter*.

ALLUMINOUS, any thing that contains *allum*, or partakes of the nature and qualities of that salt.

Crew describes some extraordinary kinds of *alluminous* earths in the repository of the Royal Society.

ALLUMINOUS Clay, Earth, and Schist, in *Agriculture*. See CLAY, EARTH, and SCHIST.

ALLUMINOUS waters, are those impregnated with the particles of that salt.

Alluminous waters make a species of those called mineral or medicinal waters.

We have also factitious waters, under the denomination of *alluminatus*; such as that called in the shops *aqua alluminosa magistralis*.

Its preparation is thus: take of rock-allum, and white sublimate, ana ℥ii. boil them in rose and plantain water, ana ℥b i. till half is consumed; filter the remainder, and keep it for use.

This is prescribed against deformities of the skin, and often for the itch; but it is an uncertain remedy, and not to be used without caution.

ALLUSH, or ALLUSH, in *Scripture Geography, a city of Idumea, which was one of the stations of the Israelites, between Dophkah and Rephidim, in their migration from the wilderness of Sin to that of Sinai. Numbers, xxxiii. 13, 14. Eusebius and St. Jerom fix Allush near Gabala, *i. e.* Petra, the capital of Arabia Petræa. In the accounts of the empire, it is situated in the third Palestine, and by Ptolemy among the cities of Idumea. It is also called Eluza or Chaluza. The Jerusalem Targum, in Gen. xxv. 18, and in Exod. xvi. 22. translates the desert of Seir by Allush. Calmet.*

ALLUSION, ALLUSIO, formed of *ad*, and *ludere*, to play, in *Rhetoric*, a figure whereby something is applied to, or understood of another, by reason of some similitude of name, or sound.

Camden defines allusion a dalliance, or playing with words alike in sound, but unlike in sense; by changing, adding, or subtracting a letter, or two; whence words resembling one another become applicable to different subjects. Thus the Almighty, if we may use sacred authority, changed Abram, *i. e.* high father, into Abraham, *i. e.* father of many.—Thus the Romans played on their tippling emperor Tiberius Nero, by calling him Biberius Mero: and thus in Quinilian the four fellow Placidus is called Acidus.

Allusion is a species of COMPARISON, not extending to a SIMILE, and consisting chiefly in comparing one fact with another. The most fanciful and poetical is, when two facts, bearing a remote resemblance in a few circumstances, are compared; of which we have a beautiful example in one of Dr. Ogden's sermons. "If it be the obscure, the minute, the ceremonial parts of religion for which we are contending, though the triumph be empty, the dispute is dangerous; like the men of Ai we pursue, perhaps, some little party that flies before us, and are anxious that not a straggler should escape, but when we look behind us we behold our city in flames." Lowth's Lectures by Gregory, vol. i. p. 251.

Allusions are nearly allied to what we popularly call *poes*.

ALLUVIAL LIMESTONE, in *Agriculture*, a sort of soft limestone found in many districts, supposed to have been formed in the early ages of the world by the disposition of calcareous matters held in the state of solution in water. This kind of limestone is supposed by Dr. Darwin, in his Philosophy of Agriculture, to contain magnesia, which it probably may have acquired from the sea-water in which it was originally dissolved. Such limestone as contains magnesia has been found, by the experiments of Mr. Tennant, to be much less useful when burnt into lime, for the purposes of agriculture, than such as is purely of the calcareous kind.

ALLUVION, ALLUVIO, formed of *adluo*, I wash to, compounded of *ad* and *luvo*, in the *Civil Law*, a gradual addition or accretion made along the sea-shore, or the banks of large rivers.

The civil law places alluvion among the lawful means of acquisition; and defines it to be a latent, imperceptible accretion.—Hence, where any considerable portion of ground is torn away at once, by an inundation, and joined to some neighbouring estate, this is not acquired by right of alluvion, but may be claimed again by the former owner.

Bracton says, that if an island arise in the middle of a river, it belongs in common to those who have lands on each side of it; but if it be nearer to one bank than the other, it belongs only to him who is proprietor of the nearest shore; which is agreeable to the civil law. However, if the whole soil of the river is the freehold of any one man, as it usually is when a several fishery is claimed, in this case it seems just, and such is the constant practice, that the eyotts or little islands, arising in any part of the river, shall be the property of him who owneth the piscary and the soil. But if a new island rise in the sea, though the civil law gives it to the first occupant, yet ours gives it to the king. And as to lands gained from the sea, either by *alluvion*, by the washing up of sand and earth, so as in time to make terra firma, or by *dereliction*, as when the sea shrinks back below the usual water-mark; in these cases the law is held to be, that if this gain be by little and little, by small and imperceptible degrees, it shall go to the owner of the land adjoining; for *de minimis non curat lex*: and, besides, these owners being often losers by the breaking in of the sea, or at charges to keep it out, this possible gain is therefore a reciprocal consideration for such possible charge or loss. But if the alluvion or dereliction be sudden and considerable, in this case it belongs to the king; for, as the king is lord of the sea, and so owner of the soil while it is covered with water, it is but reasonable he should have the soil when the water has left it dry; so that the quantity of ground gained, and the time during which it is gaining, are the circumstances that make it either the king's, or the subject's property. In the same manner, if a river, running between two lordships, by degrees gains upon the one, and thereby leaves the other dry; the owner who loses his ground thus imperceptibly, has no remedy; but if the course of the river be changed by a sudden and violent flood, or other hasty means, and thereby a man loses his ground, it is said that he shall have what the river has left in any other place, as a recompence for this sudden loss. And this law of alluvions and derelictions, with regard to rivers, is nearly the same in the Imperial law; from whence our determinations seem to have been declared and adopted; but we ourselves, as islanders, have applied them to marine increases; and

have given our sovereign the prerogative he enjoys, that whatever hath no other owner is velted by law in the king. Blackst. Com. vol. ii. p. 262, 8vo.

Great alterations are made in the face and limits of countries, by alluvions of the sea, rivers, &c. Whole plains are sometimes formed by alluvions. It is controverted whether the alluvions should be considered as fruits, and as such accruing to usufructuaries.

Alluvion of the sea, in *Agriculture*, signifies such kinds of soil as are formed by the deposition of various sorts of matters, held in solution either by the sea, or larger rivers, from their overflowing their banks. The depth of soils formed in this way are various according to particular circumstances. It is observed by Mr. Young, in his agricultural survey of Lincolnshire, that the marsh land in the vicinity of Winterringham, is a tract of *alluvion of the Humber*, deposited to the depth of six feet, apparently as good at the bottom as the top. Soils of this mixture are mostly productive, whether grain or grass be cultivated upon them.

ALLY, in matters of *Polity*, a sovereign prince or state, that has entered into alliance with others. See **ALLIANCE**.

ALMA, in *Geography*, a river of Russia, that takes its rise from the mountains of Taurida.

ALMA, in *Ancient Geography*, a river of Italy, in Etruria.

ALMA, or **ALMUS**, a mountain of Illyria, in the vicinity of Serinium. The emperor Probus planted vines on it, which he conveyed from Italy.

ALMACANTARS, **ALMACANTARAS**, or **ALMICANTHARATH**, in *Astronomy*. See **ALMUCANTARS**.

ALMACANTARS Staff. See **ALMUCANTARS Staff**.

ALMACARON, or **ALMAZERON**, in *Geography*, a fortified sea-port town of Spain, in the province of Murcia, at the mouth of the river Guadalquivir, on the Mediterranean, which has mines of alum in its neighbourhood, is situated 20 miles west of Carthage. On the west side is a castle, and on the east a rock with a watch-tower upon it. N. lat. 37° 28'. W. long. 0° 56'.

ALMADA, a small market town of Portugal, on the gulf formed by the Tagus, over against Lisbon. It has a church on the summit of a hill, and the English hospital at the foot of it.

ALMADE, in *Sea-language*, a small vessel used by the negroes of Africa, about four fathoms long; and made usually of the bark of a tree.

The same name is also given to the vessels of Calicut in India, which are eighty feet long, and six or seven broad, and square sterned. These are otherwise denominated *catthuri*. They go with great swiftness. Witsen says, that they are twelve or thirteen paces long, sharp at head and stern, and that they are moved both by sails and oars.

ALMADEN, in *Geography*, a small town of Spain in the kingdom of Seville, and province of La Mancha, near which are mines of quicksilver; 13 leagues south-west of Ciudad-Real.

ALMADIA, a fortress of Asia, in the province of Curdesan, 50 miles south-west of Betlis.

ALMADRONES, a town or village of Africa, in the kingdom of Fez, near Cape Spartel. The bay faces the Atlantic Ocean, and lies under the lee of Cape Spartel on the south. The road is safe, and has good anchorage, and is well sheltered from north and east winds, but exposed to the south and west. When the wind shifts to the west, and south-west of this point, ships should be prepared for putting to sea, and take shelter round the point in Tangier bay.

ALMENA. See **ALMANA**.

ALMAGEST, the name of a celebrated work, composed by Ptolemy, and consisting of 13 books; being a collection of many of the observations and problems of the ancients, relating both to geometry and astronomy. It contains a catalogue of the fixed stars with their places, besides numerous records of eclipses, the motions of the planets, &c. being the first work of the kind that has been transmitted to us, it is valuable to astronomers.

In the original Greek it was called *αλμαγεστος*, *g. d. greatest construction*, or *collection*: which last word *magis*, joined to the particle *al*, gave occasion to its being called *almagest* by the Arabians, who found it at Alexandria, in Egypt, on their capture of that kingdom, and translated it into their tongue about the year 827, by order of the caliph Almamun.—The Arabic word is *almagesti*. It was first translated into Latin about the year 1230, by favour of the emperor Frederic II. But the Greek text was not known in Europe till about the beginning of the 15th century, when it was brought from Constantinople, then taken by the Turks, by George, a monk of Trebizond, who translated it into Latin; and this translation has frequently published.

Ricciolus also published, in 1651, a body of Astronomy, which he entitles, after Ptolemy, the new *Almagest*: being a collection of ancient and modern observations and discoveries in that science.

We have also a botanical *Almagest*, composed by Plukenet, being a kind of *pinax*, or general index of plants, containing the proper and descriptive names of upwards of six thousand. To which, in a supplement, since published by the same author, have been added above one thousand others. *Almagestum Botanicum*, five *Phytographiæ Plucenetianæ Onomasticon*, &c. Lond. 1696. fol.

ALMAGRA, in *Natural History*, a name given in later ages to an earth of the ochre kind, called *fil atticum* by the ancients. It is an ochre of a fine and deep red, with some admixture of purple, very heavy, and of a dense yet friable structure, and rough dusty surface. It adheres very firmly to the tongue, and melts freely and easily in the mouth, and is of an austere and strongly astringent taste; it stains the skin in touching it, and ferments very violently with acid menstrua; by which single quality, it is sufficiently distinguished from the *fil syriacum*, to which it has in many respects a great affinity. It is found in immense quantities, in many parts of Spain; and in Andalusia there are in a manner whole mountains of it. It is used in painting, and in medicine, being a very valuable astringent.

ALMAGRO, **DIEGO DE**, in *Biography and History*, one of the colleagues and rivals of Francisco Pizarro, and Ferdinando de Luque in the conquest of Peru, was probably a foundling of obscure birth and unknown parentage, and derived his name from the village in which he was born, about the year 1463. Although he was un instructed in reading and writing, he advanced himself by military service; and having acquired wealth and influence in Panama, he formed an association with the persons above-mentioned in 1524, for discovery and conquest on the coast of Peru. Each engaged to devote his talents and his whole fortune to the adventure, and their confederacy for this purpose was authorized by Pedrarias, the governor of Panama. The province assigned to Almagro was that of conducting the supplies of provisions and reinforcements of troops, as Pizarro might need them in the prosecution of their enterprise. This office he performed with persevering assiduity, though their first attempts in 1525 and 1526 were attended with difficulties, which would have deterred adventurers less ardent than themselves from renew-

ing their efforts. At length, however, they discovered the coast of Peru, and landed at Tumbes, a place of some note, about three degrees north of the line, distinguished for its fertile soil, and a palace of the Incas, or Emperors of the country. Having in 1528 settled some preliminaries, and adjusted among themselves that Pizarro should claim the station of governor, Almagro that of lieutenant governor, and Luque the dignity of Bishop in the country which they determined to conquer, Pizarro was deputed as their agent to Spain, in order to negotiate and to obtain further powers and supplies. In this negotiation Pizarro, principally concerned about his own interest, neglected his associates; and though he obtained for Luque the ecclesiastical dignity to which he aspired, because it did not interfere with his own pretensions, he claimed for Almagro only the command of the fortress which should be erected at Tumbes. On his return from Spain and arrival at Panama in 1530, he found Almagro so much exasperated at the manner in which he had conducted the negotiation, that he refused to act with such a perfidious companion, and determined to form a new association. Pizarro, however, temporized for the present; and by offering voluntarily to relinquish the office of Adelantado, and promising to concur in soliciting that title, with an independent government for Almagro, he gradually mitigated the rage of an open-hearted foldier, which had been violent, but was not implacable. The confederacy was again renewed on its original terms; and it was agreed, that the enterprise should be carried on at the common expence of the associates, and that the profits accruing from it should be equally divided between them. With an armament of three small vessels, and 180 foldiers, Pizarro sailed for Peru in February 1531, leaving Almagro at Panama with instructions to follow him with such reinforcement as he should be able to muster. Having succeeded in the province of Coaque, and obtained from a principal settlement of the natives rich spoil, he instantly dispatched one of his ships to Panama, with a large remittance to Almagro, by which means he was enabled to complete his reinforcement, which almost doubled the number of Pizarro's followers, and to land with them at St. Michael towards the close of the year 1532. The Inca Ahatualpa was now in the hands of the Spaniards, and when they had received the sum which had been paid for his ransom, Almagro and his followers demanded an equal share of it; and in order to secure this object, they eagerly insisted on putting the Inca to death. Accordingly he was tried and executed. Ferdinand Pizarro was deputed to sail for Spain with an account of the success of the adventurers, and with remittances of great value; in consequence of which his brother's authority was confirmed and enlarged, and Almagro received the honour which he had so long desired. The title of Adelantado, or governor, was conferred upon him, with jurisdiction over 200 leagues of country, stretching beyond the limits of the province allotted to Pizarro. As soon as Almagro was informed, that he had obtained the royal grant of an independent government, he attempted to make himself master of Cuzco, the imperial residence of the Incas, under a pretence that it lay within the boundaries of his territory. This produced new dissensions between him and Pizarro; but a new reconciliation took place, to which was annexed a condition, that Almagro should attempt the conquest of Chili, and that if this province did not afford an establishment which he thought adequate to his merit and expectation, Pizarro engaged to yield up to him a part of Peru. Almagro in 1535 began his march towards Chili, at the head of 570 men, and here he suffered by pursuing a wrong route very

great hardships and losses. Whilst he was contending with a more vigorous resistance than the Spaniards had experienced in other countries, and pursuing his conquests, he was recalled to Peru by the intelligence that Cuzco, as well as Lima, were invested by the natives, who had assembled in great numbers to rescue themselves from their oppressors. In order to hasten his return he pursued a new route; and in marching through the sandy plains on the coast, he suffered from heat and drought calamities, though of a different kind, little inferior to those in which he had been involved by cold and famine on the summits of the Andes. He arrived at Cuzco in a critical moment, and resolved to occupy the place both against the Indians and his Spanish rivals, who were preparing to supplant him. Having gained a decisive victory over the Peruvians, he proceeded to the gates of Cuzco without further interruption; but the Pizarros attempted to obstruct his entry. Almagro, however, whose open, affable, generous temper, had gained an accession of many adherents of the Pizarros, who were disgusted with their harsh domineering manners, advanced towards the city by night, surprised the sentinels, and surrounded the house where the two brothers resided, and compelled them, after an obstinate defence, to surrender at discretion. Almagro's claim of jurisdiction over Cuzco was universally acknowledged, and a form of administration established in his name. This event was the commencement of a civil war; and it was soon followed by more bloody scenes. In the first attack of a body of foldiers, deputed by Francis Pizarro for the relief of his brothers, and which were commanded by Alonso de Alvarado, whose fidelity Almagro in vain endeavoured to corrupt, Almagro succeeded, and took the commander and his principal officers prisoners; but neglecting to improve the advantages he had gained, he marched back from this victory to Cuzco, and there waited the approach of Pizarro. Pizarro practised his usual artifice, and Almagro was weak enough to suffer himself to be amused with a prospect of terminating their differences by amicable accommodation. The negotiation between them was protracted, and whilst every day was precious to Almagro, several months elapsed before they came to any final agreement. In the mean while one of the Pizarros and Alvarado found means to bribe the foldiers to whose custody they were committed, and not only secured their own escape, but persuaded 60 of the men who had guarded them to accompany them in their flight. The other Pizarro was also released by the governor. Whilst Almagro was thus deluded by a pretended treaty, Pizarro was preparing for open hostility, and he determined to settle the dominion of Peru, not by negotiation, but by arms. In 1538 an army of 500 men was ready to march for Cuzco; and Almagro, instead of obstructing their progress in the difficult passes of the mountains through which they marched, waited their arrival in the plains of Cuzco. When the two armies met, Almagro, worn out with the fatigues of service and declining with age, was unable to exert his usual activity; and obliged to commit the conduct of his troops to Orgognez, who, though an officer of great merit, did not possess the same ascendant either over the spirit or affections of the foldiers, as the chief whom they had been long accustomed to follow and revere. The conflict was fierce, and maintained by each party with equal courage. Orgognez was wounded, and the rout of Almagro's troops became general. This officer and several others were massacred in cold blood, and above 140 foldiers fell in the field. Almagro anxiously observed from an eminence, to which he was conveyed on a litter, the progress of the battle, and when he witnessed the total defeat of his own troops, he felt the

the passionate indignation of a veteran leader, long accustomed to victory. Although he endeavoured to save himself by flight, he was taken prisoner; and after remaining for several months in custody under all the anguish of suspense, he was impeached of treason, formally tried and condemned to die. Humbled and dispirited in the approach of an ignominious death, he earnestly supplicated life; but all his entreaties, which were abject in a degree unworthy of his former fame, and all the arguments by which they were enforced, proved ineffectual. The Pizarros were inflexible. As soon, however, as Almagro knew his fate to be inevitable, he met it with the dignity and fortitude of a veteran. He was strangled in prison and afterwards beheaded. He suffered in his 75th year, A. D. 1538, and left one son by an Indian woman of Panama, whom, though at that time a prisoner in Lima, he named as successor to his government, in pursuance of a power which the emperor had granted him. Almagro blended with the qualities of intrepid valour, indefatigable activity and insurmountable constancy, an openness, generosity and candour, that are natural to men whose profession is arms; he was, therefore, beloved by his followers, his misfortunes excited their sympathy and pity, and his death was sincerely regretted not only by them, but by the Indians in general, who regarded him as their protector against the rigour of the obdurate Pizarro. After his death the attachment of his friends was transferred to his son, who was now advanced to the maturity of manhood, and who possessed all the qualities which captivate the affections of soldiers. Of a graceful appearance, dextrous at all martial exercises, bold, open, and generous, he seemed to be formed for command; and as his father, conscious of his own inferiority from the total want of education, had been very attentive to his instruction; and the accomplishments which he had acquired heightened the respect of his followers, who were illiterate adventurers; urged likewise by the feelings of distress, as well as by sentiments of affection, they ranged under his standard, and sought deliverance by his skill and valour from the oppressions of Pizarro. Their consultations, whilst Pizarro confided in his own security, were directed by Juan de Herrada, an officer of great abilities, who had the charge of Almagro's education, with a zeal and authority which contributed to their prosperous issue. A conspiracy was formed against Pizarro, the accomplishment of which, notwithstanding his vigorous resistance, terminated in his death. The assassins, triumphing in their success and waving their bloody swords, proclaimed the death of the tyrant, and compelled the magistrates and principal citizens of Lima to acknowledge Almagro as lawful successor to his father in the government. His triumph, however, was of no long duration. In 1541 Vaca de Castro arrived at Quito, and produced the royal commission, appointing him governor of Peru, with the privileges and authority of the deceased Pizarro. His talents and influence overpowered the interest of Almagro; who perceiving the rapid progress of disaffection to his cause, and wishing to check it before the arrival of Vaca de Castro, set out at the head of his troops for Cuzco, where the most considerable body of opponents had erected the royal standard, under the command of Pedro Alvarez Holguin. During his march, Herrada, the guide of his counsels, died; and from that time his measures were conspicuous for their violence, but concerted with little sagacity, and executed with no address. At length Almagro and Vaca de Castro met at Chupas, about 200 miles from Cuzco, on Sept. 16, A. D. 1542; and victory, after long remaining doubtful, declared at last for the new governor. Almagro conducted the military operations of the

day with a gallant spirit, worthy of a better cause and deserving another fate; and his followers magnified themselves by their valour. The carnage was great in proportion to the number of combatants; of 1,300 men, the total number of combatants on both sides, 500 lay dead on the field, and the number of the wounded was still greater. Almagro escaped, but being betrayed by some of his own officers, was publicly beheaded in Cuzco; and in him the name of Almagro, and the spirit of the party, were extinct. *Mod. Un. Hist.* vol. xxiv. p. 387—390. Robertson's *Hist. of America*, vol. iii. p. 4—114, 8vo.

ALMAGRO, in *Geography*, a town of New Castile, in Spain, and capital of the district of La Mancha, called Campo de Calatrava, and situate three leagues east-south-east of Ciudad Real. It was built by the archbishop Roderic, of Toledo, who garrisoned it in 1214, in order to restrain the incursions of the Moors. Its environs are level and fertile, and near it are medicinal springs.

ALMAGUER, a town of South America, in the country of Popayan.

ALMAIN, JAMES, in *Biography*, a scholastic divine, was born at Sens, and became professor of divinity at the college of Navarre, in Paris, in the year 1508. He was a subtle logician and metaphysician, and a strenuous advocate for the principles of Scotus and Ocam. In 1512 he was employed in explaining the book of Sentences, and also in writing on behalf of Lewis XII. against pope Julius II., and in vindicating the authority of councils against a book published by cardinal Cajetan. He died at an early age, in 1515. His philosophical works were, "A Treatise on Physics," printed in 1505; "Four Treatises of Ethics," printed in 1510; several treatises on school divinity, and others concerning the power of the church. Lugdunens collected and published them at Paris in 1516. His subtlety, it is said, was equal to his learning; and his application to indefatigable, that he never spent so much as one hour of a whole day without reading, writing, or teaching. *Dupin. 16th cent. vol. vi. p. 254. Cave Hist. Lit. vol. ii. p. 242. Gen. Dict.*

ALMAJORIFASGO, in *Commerce*, a term in the Spanish American customs, denoting a duty paid in America on goods imported and exported, and amounting on an average to 15 per cent.

ALMALECI, in *Medical History*, a celebrated work, containing a system of the ancient Arabian physic.

The word imports as much as the *royal work*.

Concerning the history, contents, &c. of the *almaleci*, see Freind's *Hist. of Phys.* p. ii. p. 36.

ALMAMON, ALMANUS, or MAMON, called also ABDALLAH, in *Biography*, caliph of Bagdad, and an eminent philosopher and astronomer, was the son of the caliph Harun Al Rashid, and great grandson of Almanfor. He was born on the day when his father succeeded to the caliphate, A. D. 786. At the time of his father's death, A. D. 809, he was governor of Khorsan; and he was appointed, by an express declaration of Harun, rendered public and solemn by being hung up in the Canba, to be the successor of his brother Al Amin, who was now caliph. Al Amin, however, conceiving a prejudice against him, formed a design to exclude him from the succession, and ordered the forces in Khorsan to march immediately to Bagdad. Almamun, notwithstanding this unprovoked insult, was faithful to his brother, and obliged the people of Khorsan to take the oath of allegiance to Al Amin upon his accession. The new caliph addicted himself to drunkenness and gaming, and entrusted the concerns of government to his prime minister. Misled

by this minister, Al Amin proceeded to avow his enmity against his brother by acts of open hostility, and at length invaded Khorasan with an army of 60,000 men. As he was advancing to the frontiers of the province, Almamon prepared to receive him, and appointed Thaker bin Hofein, one of the greatest generals of the age, to the command of his army. The caliph's invading army was soon dispersed. Almamon assumed the title of caliph, and determined to maintain it. Thaker pursued the war with vigour and success; and such was the rapidity of his conquests, that the provinces of Egypt, Syria, Hijaz and Yemen, abandoned the service of Al Amin, whose character was generally detested; and Almamon was proclaimed caliph in his room. The desertion of these provinces was soon followed by a complete revolution. Al Amin was formally deposed at Bagdad, and afterwards assassinated; and his brother succeeded to the caliphate without any farther opposition, A. D. 813. The conduct of his reign, however, was attended with numerous errors; and as he favoured the sect of Ali, his character was unpopular, and it was with difficulty that the dissensions which he sought to manifest itself, was prevented from breaking out into a civil war. Whilst the agitation continued, Thaker, the caliph's general, availed himself of the opportunity of Almamon's absence to acquire the sovereignty of Khorasan, where he formed a dynasty, which subsisted for 60 years. As soon as tranquillity was restored, Almamon presented the plans he had formed for introducing literature and science into his dominions, and for thus laying the foundation of that distinguished honour with which his name has descended to posterity. Whilst he resided in Khorasan he had assembled a number of learned men from various countries, and formed them into a society or college, over which he appointed, as president, Mesue of Damascus, a famous Christian physician. When his father remonstrated against this appointment, because Mesue was a Christian, he replied, that he had chosen him, not as a teacher of religion, but for the instruction of his subjects in science and useful arts, and that his father well knew, that the most learned men and skilful artists in his dominions were Jews and Christians. Upon his accession to the caliphate, he made Bagdad the seat of learning, by forming in it an academy, and inviting thither eminent men from all quarters. He likewise caused translations to be made into Arabic from many valuable books in the Greek, Persian, Chaldean and Coptic languages, among which were the works of Aristotle and Galen. He visited the schools which he had established, treated the professors with respect, and thus encouraged by his example and patronage, every species of mental cultivation. In various parts of knowledge, and particularly in mathematics, astronomy and philosophy, he himself was a considerable proficient. He caused Ptolemy's *Almagest* to be translated in 827, either by Isaac ben Honain, according to Herbelot, or according to others, by Alhazen ben Joseph and Sergius. He also employed the most skilful astronomers to compose a body of astronomical science, which still subsists amongst oriental manuscripts, entitled, "*Astronomia elaborata à compluribus, D. D. jussu regis Maimon.*" History records two observations of the obliquity of the ecliptic, which were made either by Almamon himself, or under his immediate auspices, one at Bagdad, and the other at Damas. In the former, conducted by Jahia ben Abilmanfor, Sened ben Alis, and Abbas ben Saïd, the greatest declination of the ecliptic was found to be $23^{\circ} 33'$, according to the report of Iba Jounis; but according to Alfragan, $23^{\circ} 35'$. The other observation was made in the year 233 of the Hegira, at Damas, by Chalid ben Abdolmelic, Abultib, Sened ben Alis, and Alis ben Ifa, and the result of it was $23^{\circ} 33' 52''$.

This caliph also employed able mathematicians to measure a degree of the meridian, upon an extensive plain in Mesopotamia, called Singiar or Sandjia; and they found it to contain $56\frac{2}{3}$ miles, each mile being 4000 coudees or cubits. But of the precise length of the cubit there have been different opinions. Abulfeda says that this cubit contained 27 inches, each inch being determined by six grains of barley placed sideways; but Thevenot says, that 144 grains of barley placed in this manner, would give a length equal to $1\frac{1}{2}$ Paris foot, and therefore four cubits would be equal to one toise and 9 inches, and therefore 4000 cubits, *i. e.* $56\frac{2}{3}$ miles, would give 63,750 toises. But if the ordinary or royal cubit of 24 inches was the measure to which this calculation is to be referred, the degree in this estimate of it would contain 56,666 toises. But according to Maffoudi's valuation of a cubit, this measure would consist of 53,123 French toises.

In consequence of the encouragement afforded to science by Almamon, the Saracens began to acquire a degree of civilization and refinement, which distinguished them at a period of very general ignorance and barbarity. But the Mahometan zealots were alarmed; and the scientific Almamon has been reproached by the Sunnites, or orthodox Mussulmen, as little better than an infidel. It must be acknowledged that he manifested an undisguised inclination towards the party of the Moatazites, who denied the eternity of the Koran, and maintained the doctrine of the free-will of man. Some have said, that in order to quiet the murmurs which prevailed against him on this account, he once determined to evince his zeal for religion by establishing a kind of inquisition, which should compel all his subjects to profess islamism; but if this were the case, his compulsive plan did not comprehend his Christian subjects, and the issue of his experiment was the introduction of universal toleration.

In the progress of his reign he assisted Thomas, a Greek, who, in 822, made war against Michael the Stammerer, emperor of Constantinople, and besieged his capital; but the expedition was on his part unjust, and terminated in the imprisonment and death of Thomas. In his war against the Greeks, in 829 and 830, he was more successful, took several places, and widely ravaged their territories. In 831 he made an expedition into Egypt, and there suppressed a rebellion. Here he discovered a great treasure which had been buried under two columns by Merwan, the last caliph of the house of Ommijah. He displayed his love of science by erecting a new mikias or nilometer, for measuring the increase of the Nile, and repairing one that was decayed. In his return from Egypt, in 833, he penetrated into the territories of the Greek emperor, as far as Tarsus in Cilicia; and in his way towards Bagdad, he encamped on the banks of a river Badandun, and quenched his thirst by drinking freely of its cool waters; and he also partook plentifully of some dates, to which he had access. This repast brought on a fever which endangered his life. In the prospect of dissolution, he wrote letters to the provinces, declaring his brother Moatasem his successor, and then waited the event which he apprehended. After a long struggle, he exclaimed, "O thou who never diest, have mercy on me, a dying man!" and then expired at the age of 48 or 49 years, after a reign of twenty years and some months. His body was buried at Tarsus, and this circumstance some zealots interpreted as a token of reprobation.

Science humanized the temper of this Saracen caliph; and in contemplating his character, we cannot do less than admire his liberality and beneficence. As an instance of his clemency and magnanimity, his conduct towards his uncle and rival, Ibrahim, deserves to be recorded. When he was discovered, after having been concealed for some years, and brought

brought to the caliph, under an unanimous sentence of condemnation by the council: "Your counsellors (said Ibrahim), judged according to the customary rules of political government: if you pardon me, you will not, indeed, judge according to precedent, but you will have no equal among sovereigns." The caliph then tenderly embracing him, replied, with great emotion, "Uncle, be of good cheer; I will not do you the least injury:" and he not only pardoned him, but granted him a rank and fortune suitable to his birth. Upon being complimented by his courtiers for this generous act, he exclaimed, in the fulness of his heart, "Oh! did men but know the pleasure I feel in pardoning, all who have offended me would come and confess their faults!" Modern Un. Hist. vol. ii. p. 176—202. Montucla Hist. des Mathematiques, tom. i. p. 356—359.

ALMANA, in *Ancient Geography*, a town of Macedonia, mentioned by Livy, situate on the river Axios, and probably not far from Belazora.

ALMANAC, a calendar or table, in which are set down the days and feasts of the year, the rising and setting of the sun, the course and phases of the moon, the eclipses of both luminaries, &c. for each month of the year.

The original of the word is much contrived among grammarians.—Some derive it from the Arabic particle *al* and *mana* *h*, to count; whence is naturally enough derived *al manah*, the *diary*. Others, and among them Scaliger, rather derive it from *al*, and *mananos*, the course of the months: which is contradicted by Golius, who advances another opinion. He says, that, throughout the East, it is the custom for subjects, at the beginning of the year, to make presents to their princes; and, among the rest, the astrologers present them with their ephemerides for the year ensuing; whence those ephemerides came to be called *almanha*, i. e. handbills, or new-year's gifts.—To say no more, Veritegan writes the name *almon-at*; and makes it of Saxon original. Our ancestors, he observes, used to carve the courses of the moon, of the whole year, upon a square stick, or block of wood, which they called *al-monaght*, q. d. *all-moonheed*.

The use of almanacs or diaries, containing a great variety of astrological and agricultural records, and of others sanctioned by a prevalent superstition, was very common among the Arabians; and it is natural to imagine, that from them, by means of the Saracens, it was introduced into European nations. The present form and method of almanacs have been ascribed to Regiomontanus, who is said to have first published, in 1474, an almanac, resembling that of the moderns, and containing the characters of each year and month, predictions of eclipses and other celestial phases, calculations of the motions of the planets, &c.

The modern almanac answers to the *FASTI* of the ancient Romans.

For the construction of an almanac: 1st. Compute the sun's and moon's place for each day of the year; or take them from ephemerides. 2d. Find the dominical letter, and, by means of it, distribute the calendar into weeks. 3d. Compute the time of Easter, and thence fix the other moveable feasts. 4th. Add the immoveable feasts, with the names of the martyrs. 5th. To every day add the sun's and moon's place, with the rising and setting of each luminary; the length of day and night; the twilight, and the aspects of the planets. 6th. Add, in the proper places, the chief phases of the moon, and the sun's entrance into the cardinal points, i. e. the solstices and equinoxes; together with the rising and the setting, especially heliacal, of the planets, and chief fixed stars; means for each of which will be found under the proper heads. The duration of the twilights, or the end of the evening and beginning of the morning twilight; to-

gether with the sun's rising and setting, and the length of days, may be transferred from the almanac of one year into that of another; the differences in the several years being too small to be of any consideration in civil life.

Hence it appears, that the construction of an almanac is neither mysterious nor difficult; if access be had to the tables of the heavenly motions.

Some divide almanacs into public and private, perfect and imperfect, heathen and christian, book-almanacs and sheet-almanacs. Public almanacs are those of a larger size, such as sheet almanacs, usually hung up for common or family use; private are those of a smaller form, of which there is a great variety, to be carried about either in the hand, inscribed on a staff, or in the pocket: perfect almanacs are those which have the dominical letters, as well as primes and feasts inscribed on them; imperfect are those which have only the primes and immoveable feasts. Till about the fourth century, almanacs bear the marks of heathenism; from that age to the seventh, they are generally divided between heathenism and christianity; and from that time they have been altogether christian.

Almanacs vary in their contents and the mode of their composition: some containing more points, others fewer. The essential part is the calendar of months and days, with the risings and settings of the sun, age of the moon, &c. To these are added various parerga, astronomical, astrological, meteorological, chronological, and even political, rural, medical, &c.; as calculations and accounts of eclipses, solar ingresses, aspects and configurations of the heavenly bodies, lunations, heliocentric and geocentric motions of the planets, prognostics of the weather, and predictions of other events, tables of the planetary motions, the tides, terms, interest, twilight, equation, kings, &c.

Henry III. of France very prudently decreed, by an ordinance of 1579, that 'no almanac-maker should presume 'to give predictions relating to civil affairs, either of states, 'or private persons, in terms either express or covert.

The almanac, annexed to the book of Common Prayer, is part of the law of England, of which the courts must take notice in the returns of writs, &c. For ascertaining many circumstances relative to a particular day past, the court hath determined by an inspection of the almanac. Upon a writ of error from an inferior court, the error assigned was, that the judgment was given on a Sunday, the day being 26 Feb. 26 Eliz.; and it appearing, by inspection of the almanacs of that year, that the 26th of February actually fell upon a Sunday, this was held to be a sufficient trial, and that a trial by jury was not necessary, although it was an error in fact; and so the judgment was reversed. But in all these cases, the judges, if they conceive a doubt, may order it to be tried by jury. Blackst. Com. vol. iii. p. 333. For every almanac or calendar for one year or less, the following stamp duties shall be paid, viz.

1d	9 Ann. c. 23. §. 23.
1	30 Geo. II. c. 19. §. i.
2	21 Geo. III. c. 56. §. 1.
4	37 Geo. III. c. 90. §. 1.

In the whole amount the stamp duty is 8d. And for every almanac serving more than a year, the same duty shall be paid for each year: but perpetual almanacs pay for three years only. 9 Ann. c. 23. 30 Geo. II. c. 19. and by 10 Ann. c. 19. all books and pamphlets serving chiefly to the purpose of almanacs, shall be charged as such. If an almanac contains more than one sheet, one sheet only need be stamped; and every almanac shall be so printed that some part of the print shall be upon the stamp. 9 Ann. c. 23. §. 26. 21 Geo. III. c. 56. §. 3. Selling almanacs unstamped incurs a penalty,

nday, upon conviction before one justice on the oath of one witness, a commitment to the house of correction for a term not exceeding three months; and the person apprehending such an offender, shall receive a reward of 20 shillings. 15 Geo. II. c. 26. §. 5. 30 Geo. II. c. 19. §. 20.

In the Philosph. Collect. we have a perpetual almanac, described by Mr. R. Wood.

Many forms of a head-almanac have been proposed in some of our periodical publications; but the following distich will very well answer the purpose:

“At Dover Dwells George Brown Esquire;
Good Christopher Finch, And David Frier.”

The twelve words answer to the twelve months; the first letter of each word stands in the calendar against the first day of the corresponding month; and if the dominical letter is known, it is easy to find on what day of the week any day of the month will fall throughout the year. In 1802, C being the dominical letter, Dec. 25 is Saturday, because the first day denoted by F is Wednesday.

ALMANAC, among *Antiquaries*. See *Runic Staffs*.

ALMANAC, *nautical*, and *astronomical ephemeris*, is a kind of national almanac, published annually, by anticipation, under direction of the commissioners of longitude. Beside every thing essential to general use that is to be found in any almanac hitherto published, it contains many new and interesting particulars; more especially, the distances of the moon from the sun and fixed stars for every three hours of apparent time, adapted to the meridian of Greenwich, by comparing which with the distances carefully observed at sea, the mariner may readily, and with little danger of mistake, infer his longitude to a degree of exactness, that may be thought sufficient for most nautical purposes. And the publication of it is chiefly designed to facilitate the use of Mayer's lunar tables, by superceding the necessity of intricate calculations, in determining the LONGITUDE at sea. It began with the year 1767, has been continued ever since, and greatly contributes to the improvement of astronomy, geography and navigation. In this almanac the sun's longitude, and every thing relating to it, have been always inserted, as computed from Mayer's tables, printed under the inspection of Dr. Maskelyne, the astronomer royal, and published in 1770; and both the sun's place and the moon's place are inserted in the almanacs from the year 1791, as computed from Mayer's tables, and Mr. Mason's tables of 1780, duly corrected. In the ephemeris of 1803, the latitudes as well as longitudes of the stars are proposed to be thoroughly corrected; and the moon's distances from them computed by the late Mr. Taylor's accurate tables of logarithmic sines and tangents to every second of the quadrant. The calculations of the planets' places have been made for every ephemeris, beginning with that of 1780, from M. De la Lande's tables, contained in the second edition of his astronomy; and those of the eclipses of Jupiter's satellites were made from Mr. Wargentin's tables, annexed to those of De la Lande, those of the second satellite excepted, which are inserted from new tables of Mr. Wargentin annexed to the nautical almanac of 1779. To the nautical almanacs from 1795 to 1804, both inclusive, are added the eclipses of Jupiter's satellites, computed to mean time, from M. De Lambre's new tables, annexed to the third edition of M. De la Lande's astronomy. To the almanacs of several years, since the commencement of this useful publication, many valuable papers have been added, which are more directly or indirectly connected with its general contents and principal object. The articles of the ephemeris are enumerated and explained, together with those of the

“Requisite Tables,” connected with them, but separately published; and examples of their use are adduced in the appendix annexed to them. See LONGITUDE.

ALMANAR, in the Arabian *Astrology*, denotes the pre-eminence, or prevalence of one planet over another.

ALMANDIN, or ALABANDIN, a precious stone of the RUBY kind, something softer than the oriental rubby; and, as to colour, partaking more of that of the granite than the ruby.

It is ranked among the richest of stones, and takes its name from Alabanda, a city of Caria, whence Pliny says it was brought.

ALMANSOR, ALMANSUR, or ALMANZOR, the *Vicerious*, in *Biography and History*, the surname of Abu Jaafar, second caliph of the house of Al Abbas, or the Abassides, succeeded his brother Abul Abbas Al Saffah, A.D. 753, in the year of the Hegira 136, and was inaugurated at Al Hashe-miyah in the following year. His right of accession, though Al Saffah had declared him presumptive heir of the crown, and he had been proclaimed caliph in the imperial city of Anbar, then the capital of the Moslem empire, was, immediately upon his inauguration, disputed by his uncle Abdallah ebn Ali, who caused himself to be recognized as caliph at Damascus. In order to support his pretensions, he collected a numerous army in Arabia, Syria and Mesopotamia, and marched to the banks of the Masius, near Nisibis, where he encamped. Here he was harassed for five months by Abu Moslem, who had the command of Almanfor's forces, assembled in Persia, Khorasan and Irak; and at length, A.D. 754, totally defeated. After this victory, and notwithstanding the services which Abu Moslem had rendered to the family of Al Abbas, he became an object of jealousy, and was assassinated by order of Almanfor in his own presence. See ABU MOSLEM. The death of Abu Moslem was succeeded by the rebellion of Sinon, a magian, who having seized on the treasures of the deceased governor of Khorasan, excited the people of that country to a revolt; but this insurrection was soon quelled by Jamhur ebn Morad, the general of Almanfor. The spoil obtained by this victory was avariciously seized by the caliph, and the outrage so incensed Jamhur, that he immediately turned his arms against his master; but he was soon defeated by the caliph's forces. About this time Theodorus, patriarch of Antioch, having been detected in an illicit correspondence with the Grecian emperor, was banished into an obscure part of Palestine, and the Christians in the dominions of the caliph were prohibited from building or repairing any churches, and laid under several other restraints.

In 757 Almanfor sent a large army into Cappadocia, fortified the city of Malatia or Melitene, garrisoned it with 4000 men, and deposited in it a great part of his treasures. But in this year he was attacked by the Rawandians, a sect of believers in the Metempsychosis, so called from their head or founder Al Rawand. The followers of this chief assembled at Al Hashe-miyah, where the caliph resided, and by the ceremony of going in procession round his palace, as the religious Moslems go round the Caaba, intimated their purpose of invoking him as a deity, and paying him divine honours. The caliph provoked, as it is said, by their impiety, ordered several of these sectaries to be imprisoned; upon which their resentment was roused, and they formed a design of assassinating him. Their intention, however, was defeated by the generous interposition of Maan ebn Zaidet, an Ommiyan chief, who had been under a necessity of concealing himself from the caliph's resentment. Notwithstanding his rescue, the insult he had received in his capital induced him to build a new city on the banks of the Tigris, and there to

to fix his residence. This circumstance gave occasion to his building the city of Bagdad, A. D. 762. In the preceding year he received information that a design had been formed to dethrone him; but the plot being discovered, all who were directly or indirectly concerned in it were severely punished; and most of them were by cruel treatment put to death. His uncle Abdallah shared the fate of other rebels; for having been allured to his court by assurances of pardon and protection, he placed him in a building, which was so constructed, that it fell and crushed him in its ruins. Soon after Almanfor had fixed his residence at Bagdad, A. D. 768, he was cured of a dangerous disorder by the advice of a famous Christian physician, whose name was George ebn Bahtishua Al Jondisaburi. The caliph, as a recompence, presented him with three beautiful Greek girls, and a considerable sum of money; but the girls were sent back, with a declaration on the part of George, who was married to a wife old and infirm, of which Almanfor was previously apprised, that it was not lawful for a Christian to have more than one wife at a time. The physician's conduct on this occasion, whilst it surprised the caliph, raised him in his esteem, and was followed by a profusion of favours. Almanfor in his succeeding military transactions was generally victorious. Towards his Christian subjects he exercised much severity. In the year 744 he set out on a pilgrimage to Mecca; and being seized on his journey with a disease which threatened danger, he sent for his son and intended successor, Al Mohdi, and gave him salutary advice. "I command you," said he, "to treat publicly your relations with the greatest marks of distinction, since this conduct will reflect no small degree of honour and glory upon yourself. Increase the number of your freedmen, and treat them all with kindness, as they will be of great service to you in your adversity: but neither this, nor the other injunction will you fulfil. Enlarge not that part of your capital erected on the eastern bank of the Tigris, as you will never be able to finish it; but this work I know you will attempt. Never permit any of your women to intermeddle in affairs of state, nor to have too much influence over your counsels; but this advice I know you will not take. These are my last commands; or, if you please, my dying advice; and to God I now recommend you." They then parted, and were both in tears. He pursued his journey to Bir-Maimun, *i. e.* the well of Maimun, where he expired, in the 63d year of his age and 20th of his reign. His remains were interred at Mecca. The character of Almanfor seems to have been formed of very heterogeneous and even contradictory qualities. In private his temper was mild, and conciliated affection and attachment; but in public, his aspect and demeanour inspired terror. He was prudent and brave, engaging in discourse, conversant in all the acts of government, and addicted to study and literature, and particularly to philosophy and astronomy; but he was extremely covetous, perfidious, cruel and implacable. *Mod. Un. Hist.* vol. ii. p. 100—135.

ALMANSOR, in *Geography*, a town of Africa, in the kingdom of Fez, situate on the river Guir.

ALMANSPACH, a small town of the circle of Suabia, between the lake of Zell and that of Constance.

ALMANZA, a small town of Spain, in New Castile, on the frontiers of Valencia, situate in N. lat. 38° 54'. W. long. 1° 21'. In the plain adjoining to this town marshal Berwick defeated the allies in 1707, under the marquis de los Minas and the earl of Galway.

ALMARAZ, a town of Spain, in the province of Estremadura, situate in a fine plain, on the north side of the Tagus, eight leagues east-south-east of Coria.

ALMARIA, or ARMARIA, in our *Antient Records*, denote the archives of a church, or library.

ALMARIA, in *Geography*. See VILLA RICA.

ALMAS, or ALMASCH, a small town of Hungary, in Transylvania, with a district dependent on Claufenbourg. The district lies between Burgles and Claufenbourg, and consists of mountains, in which are found many caverns. Almas is a small place, giving name to the adjacent country in the bannate of Temesvar, and also a river upon which is situated the fortress of Sigeth.

ALMAZAN, a small town or village of Spain, in Old Castile, at the foot of the frontier mountains of the province of Aragon, where is shewn a relic, which is the object of devotion, as the head of the proto-martyr Stephen, and near which was settled the treaty of peace between Henry, king of Castile, and Peter IV., king of Aragon, in 1375. N. lat. 41° 30'. W. long. 2° 16'.

ALME, a river of Germany, which runs into the Lippe, near Elfen, in the bishopric of Paderborn.

ALMÈ, in *Modern History*, singing or dancing girls in Egypt, who, like the *Improvisatori* of Italy, can occasionally chant unpremeditated verse. They are thus called, because they have received a better education than other women, and they form a celebrated society in this country. The qualifications for admission are a good voice, a knowledge of the language and of the rules of poetry, and an ability to compose and sing couplets on the spot, adapted to the circumstances. The almè know by heart all the new songs, and their memory is furnished with the most beautiful *mets*, *i. e.* elegiac hymns, bewailing the death of a hero or the misfortunes incident to love, and the prettiest tales. They attend every festival, and, placed in a rostrum, sing during the repast; and then descending into the saloon, dance a kind of pantomime ballets, that represent the ordinary occurrences of life, and the mysteries of love. Their bodies are surprisingly supple, and their features so flexible, that they can exhibit at pleasure the different characters they assume. The indecency of their attitudes and of their dress is often carried to excess; their steps are regulated by the sound of the flute, of castanets, the tambour de basque and cymbals, which accelerates or retards the measure; and they are also animated by words adapted to the scenes. They appear in a state of intoxication, and are the bacchantes in a delirium. These almè are sent for into all the harems, where they teach the women the new airs, amuse them with amorous tales, and recite poems, rendered interesting by furnishing a lively picture of their manners. By these they are initiated into the mysteries of their art, and taught lascivious dances. As their understandings are cultivated, their conversation is agreeable. They also speak the language with purity; and habituated to poetry, the softest and most generous expressions are familiar to them. They repeat with much grace, follow nature in singing, and excel in the pathetic. Even the Turks pass whole nights in hearing them. When two sing together, it is always with the same voice; and in the orchestra, all the instruments playing in unison execute the same part. These almè assist at the marriage ceremonies, and march before the bride playing on instruments; and they attend funerals, accompanying the procession and singing sorrowful airs. They are paid at a high rate, and seldom appear except among the grandes and rich men. However, the common people have also their almè, who are girls of an inferior class, and strive to imitate the former, without their knowledge, elegance and graces. The public places and walks about Grand Cairo abound with them: nor will decency

every allow an account of their licentious gestures and attitudes. *Seneca's Letters*, vol. 6. p. 170—184.

ALMUDJKA, in *Geography*, a town of Africa, in the country of Morocco, between Azamor and Safie, on the edge of Mount Atlas. It was once rich and populous, but now is a ruin.

ALMEDESSOS, in *Antient Geography*, a city of Thrace. *Pliny*, vi. 18.

ALMEHRAB, among *Mahometans*, denotes a niche in their mosques, which directs to the kebla, that is, to the temple of Mecca, to which they are obliged to bow their faces in praying.

ALMEIDA, or **ALMEDA**, in *Geography*, a fortified town of Portugal, in the province of Beira, on the river Coa, on the frontiers of the kingdom of Leon. It is seven leagues from Ciudad Rodrigo, and four south-east of Pírsnel. N. lat. $40^{\circ} 5'$. W. long. $6^{\circ} 24'$.

ALMEISAR, a celebrated game among the ancient Arabs, performed by a kind of casting of lots, with arrows, strictly forbidden by the law of Mahomet, on account of the frequent quarrels occasioned by it.

The manner of the game was thus: a young camel being brought and killed was divided into a number of parts. The adventurers, to the number of seven, being met, eleven arrows were provided without heads or feathers; seven of which were marked, the first with one notch, the second with two, the third with three, &c. the other four had no marks. These arrows were put promiscuously into a bag, and thus drawn by an indifferent person. Those to whom the marked arrows fell, won shares in proportion to their lot; the rest to whom the blanks fell were entitled to no part of the camel, but obliged to pay the whole price of it. Even the winners tasted not of the flesh themselves, more than the losers; but the whole was distributed to the poor.

ALMELILETU is used, by Avicenna, for a preternatural kind of heat, a degree more remis than that of a fever, and which sometimes remains after a fever is gone.

ALMELOO, in *Geography*, a town of the United Netherlands, in the country of Overyssel, situate on the Vecht, not far from the Regge, eight leagues east-north-east of Deventer. N. lat. $52^{\circ} 25'$. E. long. $6^{\circ} 22'$.

ALMELOVEEN, **THEODORE JANSEN**, in *Biography*, born in the year 1657 in the province of Utrecht, was originally intended for the church; but disgusted, we are told, at the disputes among the clergy, which at that time ran very high, he applied himself to the study of medicine, in which he was made doctor in the year 1681, and in 1697 professor of the Greek language, of history, and of physic, at Harderwick. He became more known, however, from some excellent works he published, as editor or author, than from his practice of medicine, which does not appear to have been ever extensive. The principal of his works are, "De vitis Stephanorum," first printed at Amsterdam in 1683, 12mo. "Onomasticon rerum inventarum," Catalogue of Inventions in 1694, 12mo. "Bibliotheca promissa et latens," The promised and concealed Library, in 1692, 12mo. "Amenitates theologico-philologicæ," in 1694, 8vo. "Fasti Consulares," Amst. 1740, 8vo. "Plagiarorum Syllabus," List of Plagiarists. He also published editions of the Aphorisms of Hippocrates, of the works of Celsus, and of Cælius Aurelianus, which are held in very high estimation. He died in the year 1712, not 1742, as stated by mistake in the Biographical Dictionary, and in the General Biography now publishing, as may be seen by referring to a later edition of Celsus, published by Vulpian, at Padua, in the year 1722, founded on that edited by Almelooven. As he had no children, he left his collection of the different editions of Quintilian to

the University at Utrecht. His library, which was extensive, was sold the following year at Amsterdam. See Haller's Bib. Med. et Anat. Eloy Dict. Histor.

ALMEN, in *Geography*, a town of the United Netherlands, in the country of Zutphen, situate on the Berckel, two leagues east of Zutphen.

ALMENAR, **JOHN**, M. D. in *Biography*, a Spaniard, published in 1512, "Libellum de Morbo Gallico, septem capitibus absolutum," which has since passed through several editions, and is included in the collection of treatises on the subject by Luifinus. He is the first Spanish author who wrote on the disease, in which he appears to have had considerable experience. He depended, for the cure, on warm bathing and mercurial frictions, interposing, on the days the frictions were not used, an alterative syrup. The disease might be occasioned, he says, either by the influence of a contaminated and corrupted atmosphere, to which cause we ought to attribute it, when it affected persons dedicated to the church, (Aphrodis. Luifin, p. 361,) or by contact; in either case, however, the same process is recommended in the cure. When salivation arises from the use of the mercurial frictions, he directs it to be checked and moderated by the exhibition of glysters and purgatives. *Vide* Aphrodis. five de Morbo Gallico, Luifino, p. 360. Astruc de Morbis Gallicis, p. 614. Haller, Bib. Med. &c.

ALMENARA, in *Geography*, a small town of Spain, in the province of Valencia, near the river Polencia, and not far from the sea. N. lat. $39^{\circ} 41'$. W. long. $0^{\circ} 16'$.

ALMENDRA, a small place of Portugal, in Beira, containing about 750 inhabitants.

ALMENDRO, a town of Spain, in Seville, six leagues north-north-east of Ayamonte.

ALMENDROLEJO, a town of Spain, in the province of Estremadura, four leagues south of Merida.

ALMENE, a name given, by some of the Arabian writers, to the prickly *lotus* of Africa, called by some of the ancients *lotus acanthos*, and by Virgil *acanthus* only.

ALMENE, in *Commerce*, a weight of two pounds, used for weighing saffron in several parts of the continent of the East Indies.

ALMENHAUSEN, in *Geography*, a town of Prussia, in the province of Natangen, five leagues south-south-east of Königsberg.

ALMERIA, a sea-port town of Spain, in the province of Granada, agreeably situated on a spacious bay, sometimes called Helena Bay, at the mouth of the river Almeria, in the Mediterranean, the see of a bishop, suffragan of Granada. N. lat. $36^{\circ} 51'$. W. long. $2^{\circ} 15'$. The country about it is fertile, particularly in fruits and oil, and near it the land projects eastward into the sea, forming a cape called by the ancients Charidame, and by the moderns Cabo de Gates. Almeria is supposed to have risen upon the ruins of the ancient **ABDERA**, and was formerly a place of great importance. It was taken from the Moors by the emperor Don Alonso, in 1147, with the assistance of the French, Genoese, and Pisans. At that time it was the strongest place belonging to the Moors in Spain; and its privateers, which were numerous, not only troubled the coasts inhabited by their Christian neighbours, but gave equal disturbance to the maritime provinces of France, Italy, and the adjacent islands. When the place, which was strongly fortified and garrisoned, was taken by storm, the best part of the plunder was distributed among the allies, and all the inhabitants, who were found in arms, were put to the sword. The Genoese particularly acquired here that emerald vessel which still remains in their treasury, and is deemed invaluable. After its reduction by the Christians, Almeria became a bishopric; and though frequent

frequent mention of it occurs in the history of Spain, it gradually sunk in consequence, and retains few traces of its ancient greatness. Its situation and climate, and the various vegetable and mineral productions of its environs, have been highly extolled by ancient and modern travellers.

ALMERICANS, in *Eccelesiastical History*, were the followers of Almeric, or Amauri, in the thirteenth century. They maintained that every Christian was obliged to believe himself a member of Jesus Christ, and attached some extravagant and fanatical ideas to this opinion; and also that the power of the Father continued no longer than the Messianic dispensation; that the empire of the Son extended only to the thirteenth century; and that then the reign of the Holy Ghost commenced, when all sacraments and external worship were to be abolished, and the salvation of Christians was to be accomplished merely by internal acts of illuminating grace. Their morals were as infamous as their doctrine was absurd; and under the name of charity they comprehended and committed the most criminal acts of impurity and licentiousness. Their tenets were reprobated by a public decree of the council of Paris, in the year 1209, when many persons of this sect were condemned, and afterwards burnt by the order of king Philip. Dupin 13th Cent. vol. v. p. 144. Moshi. Eccl. Hist. vol. iii. p. 157.

ALMERY. See **AMERY**.

ALMEYDA, DON FRANCIS, in *Biography and History*, Count d'Abrantes, having served king Ferdinand of Castile with great reputation, was nominated by king Emanuel of Portugal, first viceroy and governor-general of the newly conquered countries in the East Indies; and had assigned him guards for his person, a number of chaplains, and every other appendage to his office, which was thought necessary to give it dignity and influence. He set sail with a fleet from Lisbon in March 1505-6, touched at the Cape Verd islands, doubled the Cape at a considerable distance to the south, and arrived safely at Guiloa. From thence he proceeded to Mombaza, a small, well fortified city in an island, which he reduced; he proceeded to the Angedive islands, not far from Goa, where he built a fort; he also erected and garrisoned another fort at Cannanor; and, arriving at Cochin, secured it in the interest of Portugal. At this time the island of Madagascar was discovered; and, during his government, his son Don Lorenzo Almeyda surveyed the Maldive islands, and discovered the great island of Ceylon, the chief monarch of which he compelled to submit to the protection of Portugal. This young warrior, after returning from this expedition, was employed in the fleet destined against Calicut, but lost his life in a naval engagement against the Samorin, on which occasion the viceroy behaved with great heroism, acquiescing in the distressing event with this reflection; "All men must die, and Lorenzo could not die better than in the service of his country." Almeyda, however, manifested an unbecoming jealousy on the arrival of Alphonso Albuquerque, who was appointed as his successor, and confined him in the citadel of Cannanor, under pretence of misconduct. Before he surrendered his command he engaged the whole power of the Mahometans at sea, and gained a complete victory, by which he contributed in a great measure to break that formidable league, from which the Samorin was in hopes of compelling the Portuguese to abandon their Indian conquests, and to facilitate the enterprises of ALBUQUERQUE, his successor. In his return home with the wealth he had acquired, he touched at Saldanha point, on the coast of Africa, in order to procure some fresh provisions; and some of his sailors, quarrelling with the natives, occasioned a fray, in which Almeyda was induced imprudently to interfere. When his officers urged him to go ashore on this hazardous

expedition, "What do you carry me 60 years?" said Almeyda, on stepping into his boat. The natives assembled in a very numerous body, and Almeyda, with 57 of the 150 men who accompanied him, fell victims to this rash and unjust attempt. Mod. Un. Hist. vol. viii. p. 40-43.

ALMEYRIM, or **ALMERIN**, in *Geography*, a town of Portugal, in the province of Estremadura, one league south-east of Santarem.

ALMIA, in *Ancient Geography*, a town placed by Ptolemy in Asiatic Sarmatia.

ALMIGGIM, or **ALMUGGIM** wood, a word used in the Scriptures to signify a beautiful and light sort of wood. It has been conjectured to be several sorts of woods now in use; others think it has been lost long since. Meibomius infers, from the accounts of Josephus, that it was the wood of the Indian pine-tree, or fir-tree. But it has been alledged, that as this tree was common in Judea, it could not have been searched for as far as Ophir. The Vulgate renders it *lignum thyinum*; and, according to Theophrastus, the thyon-tree grows in Africa near the temple of Jupiter Ammon, and resembles the cypress. It was much esteemed among the Heathens for doors and images, because it would not rot. Dr. Shaw (Travels, p. 422.) supposes that the almug was the cypress, and he observes, that the wood of this tree is still used in Italy, and in other places, for violins, harpichords, and other stringed instruments. Hiller, in his Hierophyticon, considers almuggim as a general name for the wood of the gum-bearing trees, and for the trees themselves. But as the cedar and fir-trees are joined with the almug-trees, it is more probable that some particular species, rather than the whole genus, was here intended. This wood was excellent for its whiteness, as well as remarkably light, and therefore was used in musical instruments.

ALMINA, in *Ancient Geography*, a country of Epirus, according to Ptolemy, between Thesprotia to the west, and Dolopia to the north.

ALMINIA, **AMISSA**, the same with Peguntium. See **ALMISSA**.

ALMIRA, a town of Phœnicia of Libanus.

ALMIRÆ, or **ALMYRÆ**, a district of Africa, in the Marœotis, according to Ptolemy.

ALMIRANTE islands, in *Geography*, are a groupe of small islands in the South Indian ocean, off the coast of Zanguebar in Africa, extending from west-south-west to east-north-east, from S. lat. 5° 45' to 5° 30', and from E. long. 51° 40' to 52° 50'.

ALMIRON, a town of European Turkey, in the isle of Candy, six miles north-west of Retimo.

ALMISSA, **ALMINIUM**, the ancient *Peguntium*, an episcopal city of Dalmatia, is situated in the duchy of Chulm, on a rock betwixt two high mountains, at the mouth of the Tettina, and was formerly notorious for its piracy. It has been reduced by the Venetians. It is 20 miles east of Spalatro, and called by the Turks Omisc. E. long. 18° 14'. N. lat. 43° 50'.

ALMO, or **ALMON**, in *Ancient Geography*, a river of Latium, which rising near Bovillæ, took a northern direction, and discharged itself into the Tiber, to the south-west of Rome. The Latin poets, personifying this river, gave it a daughter named Lar, who, divulging the amours of Jupiter with the naiad Juturna, was condemned to eternal silence, and dismissed to the infernal regions. In her way thither she attached the affection of Mercury, and became the mother of two children, under the appellation of the *Dii Lares*, and the mother was called the goddess *Muetta*, or *Muta*. This river is now Dachia and Il rio d'Appio, as it runs from the Appian way into the Tiber, or from a corrup-

tion of Aquataccio, or Aqua d'Acio. On the place where this river crossed the Appian way, the priests of Cybele performed the annual ceremony of washing the statue of the goddess, and their implements of sacrifice. Ovid describes this ceremony; *Fasts* iv. 327.

“Et locus, in Tiberin quæ lubricus infuit Almon,
Ita nomen magno pendit in arce minor,
Illic purpurei cunæ cum velle sacerdos
Almonus dominam, sacraque lavit aquis.”

ALMOPARIN, a small town of Spain, in New Castile, north-north-east of Merida, and south-east of Alcantara. N. lat. 37° 10'. W. long. 14° 46'.

ALMODAVAR, or ALMUDEVAR, a small town of Spain, in Aragon, three leagues south-west from Huesca. The adjacent country abounds with grain, wine, and saffron.

ALMODAVAR *del Campo*, a town of Spain, in New Castile, situate in a pleasant valley at the foot of Mount Morena, and defended by a castle, six leagues south of Ciudad Real.

ALMODAVAR, a town of Portugal, in Alentejo, containing within its district five parishes.

ALMOENA, in *Ancient Geography*, a town of Africa, placed by Ptolemy in Bizacium, ten leagues to the east-south-east of Tichusa. Almoena is now Telemcen, and Tichusa, Tegewfe. *Shaw's Travels*, p. 126.

ALMÖGIZA, among *Arabian Writers*, denotes the limb or circumference of the ASTROLABE.

ALMOHARRAM, in *Ancient Chronology*, was the first month of the Arab year. On some occasions the observance of this month was put off to the following month Safar.

ALMOHEDES, in *History*, the name of an African dynasty which succeeded that of the ALMORAVIDES in Barbary, in the commencement of the 12th century. It took its rise in the 25th year of the reign of Al Abraham, or Brahem, who succeeded his father Ali, A. D. 1115; and derived its name from an obscure founder, called Al Mohedi, or Al Mohedes. This person was a Berber, of the tribe of Muzamada, named Abdallah, and was a famous preacher among those of his tribe, who were seated along Mount Atlas. In order to secure success to the design he had conceived, he assumed the title of Mohdi, or Mohedi, and set up for the head or leader of the Orthodox, or Unitarians, who were now become so numerous by his preaching, that he presumed to bid defiance even to his sovereign. Brahem was too much immersed in pleasure to regard the revolt, and too confident of his own security to apprehend any danger from the insurrection of a party composed of persons whom he looked upon with contempt. But their unexpected increase alarmed him, and he prepared for subduing them. His force, however, was insufficient for the purpose, and in his first engagement he was totally defeated. Abdallah was wary, and secured the capital; so that Brahem, pursued as a fugitive by Abdolmumen, one of the party, was obliged to seek refuge in the city of Fez. But the gates of the city were not only shut against him, but opened to receive his pursuers. The next place to which he repaired was Auran, or Oran, but the city was soon invested by Abdolmumen, and threatened with fire and sword. The magistrates, unable to defend themselves, and dreading the consequences of an hostile attack, urged him to leave the town. Under the shelter of a dark night he, with his favourite wife on horseback behind him, set out from Oran, but they were discovered and pursued; and fearing to fall into the hands of their enemies, he spurred his horse in a fit of despair, and leaped down a precipice, where he and his wife were dashed to pieces. Such was the

fatal end of this prince, whose death put a final period to the empire of the Almoravides. As soon as Abdolmumen, vulgarly called Abdulman, was apprized of Brahem's death, he traversed the kingdom of Tremecen in his way to Morocco, where, Abdallah being dead, he was declared his successor by the chiefs of the party, and proclaimed king of the Almohedes, under the title of Al Emir Al Mumin Abdallah Mohammed Abdal Mumen Ebn Abdallah Ibni Ali, *i. e.* chief or emperor of the true believers of the house of Mohammed Abdal Mumen, the son of Abdal Mumen, the son of Abdallah of the lineage of Ali. Abdallah's reign was long enough to allow his enacting some prudential regulations for the establishment of his sect and his new kingdom, which he left behind in his will. He appointed a council of 40 disciples of his sect, all of whom were preachers; some of these were commissioned to regulate all public affairs, and at proper seasons to be itinerant preachers in the country, for the diffusion of their doctrine; and others of them, to the number of 16, were to act as secretaries. From the former of these two classes the successors to the regal and pontifical throne were to be elected, for both these dignities and titles were to be united in the same person. The disciples of this sect were denominated Mohameddin, or Al Mohaddin; but by the Arabian writers they are styled only preachers, and by the Spanish, Al Mohedes; and the descendants and successors of that tribe continued to retain the appellation of Emir Al Mumenin, or chiefs of the faithful or true believers, as long as their dynasty lasted; and they became very powerful both in Africa and Spain. As to their religious tenets, if we except their specious pretence to orthodoxy, and strict adherence to the doctrine of the unity of God, which they zealously inculcated, they had little or nothing peculiar to themselves; but they were loud in their reproaches against the tyranny of the Almoravides, and in their clamours for liberty; and thus they allured the greatest part of the kingdom to revolt, and to embrace their sect and doctrine.

The new sovereign, on his accession to power, extinguished the Almoravidic line by strangling Isaac, the son of Brahem, and extirpated all the unhappy remains and adherents of this race. During the progress of this revolution, several of the Almoravide governors, availing themselves of the distraction and tumult that prevailed, erected their governments into independent principalities and petty kingdoms; and those who inhabited the mountainous parts established a variety of lordships under their own cheyks. The Nubians and Libyans took the lead, and others followed their example; particularly the states of Barbary, Tripoli, Kairwan, Tunis, Algiers, Tremecen and Bugeia, each of which had its own sovereign. Abdolmumen, however, pursued his conquests with success, and in a few years reduced the Numidians and Galatians in the west, and the kingdoms of Tunis, Tremecen, and the greatest part of Mauritania and Tingitana, under his subjection. He likewise dispossessed the Christians of Mohedia, the chief city of Africa, and some others on the same coast, and made other conquests both in Spain and Portugal. He died in the seventh year of his reign, and was succeeded, A. D. 1156, by his son Yusef, or Joseph. Yusef was a valiant and martial prince; and having established the kings of Tunis and Bugeia in their respective kingdoms as his tributaries and vassals, he prepared to embark for Spain to assist the Moorish princes, who solicited his protection and succour. Yusef was succeeded by Yakub, or Jacob, surnamed Al Mansur, or the conqueror, who, after securing himself against both the revolted and the plundering Arabs, pursued his conquests with such speed and success, that in a little time he became master of the whole country lying

lying between Numidia inclusive, and the entire length of the Barbary coasts from Tripoli to the kingdom of Morocco, comprehending also those of Fez, Tremecen, Tunis, and Tripoli, and extending above 1200 leagues in length, and in depth from the Mediterranean to the sandy deserts of Libya, above 480, exclusively of his Spanish dominions, where he was acknowledged as sovereign by most of the Arabian Moorish princes. The close of this prince's history is wrapped up in obscurity; for about the year 1206, having quelled a revolt in Morocco, and violated his faith with the governor of the capital which he reduced, and his adherents, in the most perfidious and cruel manner, he disappeared; and, as it is said, touched with remorse in the recollection of his conduct, wandered about obscure and unknown, and at last died a poor despised baker at Alexandria. He was succeeded in the kingdom by his son Mohammed, surnamed Al Naker, who, on his accession to the crown, passed over into Spain with a very large army, consisting of more than 120,000 horse, and 300,000 foot, and engaged the whole force of the Christians on the plains of Tholosa, where he was totally defeated with the loss of above 150,000 foot, 30,000 horse, and 50,000 prisoners. This famous battle was fought, according to some Arabic writers, in the year of the Hegira 609, A. D. 1212; but, according to the Spanish and other historians, in 617, A. D. 1220. After this defeat he returned to Africa, where he was received with coldness and disgust, and soon died of vexation, having appointed his grandson Zeyed Arrax to succeed him. Al Zeyed was soon assassinated by order of Gamarazan Ebn Zeyen, of the tribe of the Zeneti, a descendant of the Abdolwates, ancient monarchs of the kingdom, but at this time vassals to the Almohedes; and with him terminated the dynasty or government of the Almohedes, after having held it for about 170 years; which was succeeded by that of the Benimerini, another branch of the Zeneti. These last, having held the government during the space of 117 years, enlarged their conquests, and enriched themselves by frequent incursions not only into all the neighbouring kingdoms; but even Nubia, Libya, and Numidia were at length swallowed up by the general inundation of Mohammedism. Mod. Un. Hist. vol. xiv. p. 301—316.

ALMOI, in *Geography*, a town of Prussia, in the province of Natangen, eight leagues south-west of Rastenburg.

ALMOIN, in *Law*. See *FRANK Almoim*.

ALMON, in *Ancient Geography*, a town of Judæa, in the tribe of Benjamin, assigned by Joshua to the Levites of this tribe who were of the family of Aaron.

ALMON, a town of Greece, in Bœotia; and also a town or district of Thessaly.

ALMONACID, in *Geography*, a town of Spain, in Old Castile, three leagues south-east of Toledo.

ALMOND, *African*, in *Botany*. See *BRABEUM*.

ALMOND, *Dwarf and Tree*. See *AMYGDALUS*.

ALMOND, in the *Materia Medica*, is a kind of fruit which is the produce of the almond-tree, or *Amygdalus Communis*. There are two principal varieties of this tree, distinguished by the quality of the fruit; and hence we obtain two kinds of almonds, *viz.* the sweet and the bitter. Neither the kernels themselves, nor the trees that produce them, allowing for some difference in the size of the flowers and fruit, are distinguishable by the eye; and it is said that the same trees, which in a wild state bore bitter almonds, have, when cultivated, afforded the sweet kind; and that the sweet, for want of culture, have degenerated into bitter. The almonds which we receive from Barbary, where the tree is indigenous,

are bitter; and those of Europe and of other parts, where it is cultivated, are in general sweet. In the choice of these kernels, particularly those of the sweet sort, care should be taken, as they are very apt, on account of the oil with which they abound, to become rancid in keeping, and to be preyed upon by an insect, which eats out the internal part, and leaves the almond apparently entire.

Sweet almonds are, for most purposes of medicine and diet, blanched, or freed from the outer, thin, acrid skin, by steeping them in hot water till it is sufficiently softened to be peeled off. Sweet almonds are more used as food than as medicine, and like others of the *nucis oleose*, or oily nuts, they are considerably nutritious; but they are said to be of difficult digestion, unless they are extremely well comminuted. Dr. Cullen suggests, that this inconvenience, noticed by Dr. Lewis, may be in a great measure obviated by a very diligent triture, uniting very intimately the farinaceous and the oily part. As medicines, they contribute, by their soft unctuous quality, to blunt acrimonious humours in the first passages, and thus sometimes give present relief in heart-burns and similar complaints. Their medicinal qualities depend upon the oil which is blended with the farinaceous matter, and which they yield, on expression, nearly in the proportion of half their weight. Murray says, that 5½ pounds of unpeeled almonds have yielded, by cold expression, one pound six ounces of oil; and afterwards, on heating the almonds, three quarters of a pound. This oil is more agreeable to the palate than most other expressed oils, and is therefore preferred for internal use, in order to obtund acrid juices, and to soften and relax the solids, in tickling coughs, hoarseness, costiveness, nephritic pains, &c. and externally in tension and rigidity of particular parts. The milky solution of almonds in watery liquors, usually called emulsions, possess in a degree the emollient qualities of the oil, and are prescribed with the same intention, particularly in heat of urine and stranguries; and they are also given as diluents in acute diseases, and for supplying the place of animal milk, to which they bear a great analogy. These emulsions are formed of a due consistence, with the proportion of an ounce of almonds to a quart of water, which should be gradually poured in after the almonds have been first thoroughly pounded; and the London College directs the addition of gum arabic, which renders it a still more useful demulcent in catarrhal affections, stranguries, &c. But if the water is heated for hastening the solution of the gum, it should stand to grow cold before it is poured on the almonds, otherwise the emulsion will be imperfect. Sugar, or some other grateful material, is commonly added, in order to make the liquor more palatable. The oil, after being exposed for a few days in a heat equal to that of the human body, becomes rancid and acrimonious. Emulsions, on standing for some hours, throw up a white cream on the surface, and the whey-like liquor underneath grows not rancid but sour. The latter are therefore preferred in inflammatory distempers, because they are not subject to become acrid and irritating by the heat of the body, but tend rather to a state in which they may serve to abate inflammation. Acids, mixed with emulsions, separate the oily and serous parts, and produce a thick curd, much after the same manner as they do in milk. A more permanent emulsion may be formed by triturating the pure oil with a thick mucilage of gum-arabic, from which the oil will not separate on standing for some days, nor on the addition of acids, though it may be speedily disengaged by alkalies, both fixed and volatile. One part of gum, made into a mucilage with an equal quantity of water, is sufficient for four parts of the oil. The

white or yolk of an egg, and a mixture of syrup, with a small quantity of volatile spirit, will render the oil in some degree soluble in water. Several substances, not miscible of themselves with water, may, by saturation with almonds in the proportion of about six times their quantity, be mixed with it, and thus fitted for medicinal use, as camphor, and various resins, and mucous substances. Some reckon two kinds of sweet almonds. 1. Jordan, which are the larger, longer, and dearer kind, chiefly sold to be eat with raisins. 2. Valencian and Barbary almonds, or those from which the oil is produced. *Honghton Collect. N° 474. tom. ii.*

Bitter almonds yield a large quantity of oil similar to that of sweet almonds, and they are alike miscible with water into an emulsion. The oil has no bitterness, and that of either sort is used indifferently for medicinal purposes; but the matter remaining, after the expression of the oil, is more powerfully bitter than the almond itself. Great part of this bitter matter dissolves by the assistance of heat, both in water and in rectified spirit, and a part also arises with both menstrua in distillation. These almonds, and emulsions of them, have been recommended as aperients, resolvents, diuretics, and anthelmintics; but though they may in these respects be of some use, they are remedies of too dangerous a kind for common practice. When taken freely in substance, they occasion sickness and vomiting; and they have been long known to be poisonous to various brute animals, as wolves, foxes, dogs, cats, and several sorts of birds; and from the sudden effects which this poison produces, and the convulsions and spasms that follow the exhibition of it, there can be no doubt of its acting directly on the nervous energy. Some authors have alledged, that they are also deleterious to the human species. However this be, as their noxious quality seems to reside in that matter from which they derive their bitterness and flavour, it is probable that when this is separated from the farinaceous substance by distillation, and taken in a sufficiently concentrated state, it may prove a poison to man, as is the case with the common laurel, to which it appears very analogous. One small drop of this essential oil convulsed, and in two minutes killed a sparrow. These almonds were formerly eaten to prevent the intoxicating effects of wine; and Plutarch (*Sympos. lib. i. apud op. tom. ii. p. 624.*) relates, that the physician of Drusus, the son of Tiberius, took five or six bitter almonds for this purpose. John Bauhin, from experiments made on purpose, denies their having this power; and from twelve of them, we are told, that Lorry (*De Venenis, p. 17.*) experienced the sense of inebriation. They are highly commended by Thebesius (*Nov. Act. Nat. Cur. tom. i. p. 181.*) for the cure of hydrophobia from the bite of a mad animal, who found them effectual in 12 cases, in which some were eaten every morning for one or two weeks. Bergius says, (*Mat. Med. p. 433.*) that bitter almonds, in the form of emulsion, cured obstinate intermittents, after the bark had failed. Having diffused two drams of soluble tartar, and an ounce and a half of honey in a pound of water, he made an emulsion with this water, and one ounce of bitter almonds. Of this emulsion he gave, during the intermission, a pound or two every day, and says, that by this remedy, the recurrence of the fits was prevented. In cases where this failed, and in which he had recourse to the bark, he mixed with the decoction of the bark the bitter emulsion; and he adds, that he had seen intermittent fevers frequently recurring, and which had entirely resisted the bark, at length totally cured by the bitter emulsion alone. This is a remedy, however, which should be used with great caution. Lewis, Cullen, Murray, and Woodville.

The kernels of bitter almonds give much the same relish in

distillation as the kernel of the cherry; on which account some have used them in making a counterfeit cherry brandy. They are also frequently used instead of apricot kernels in ratafia.

Almonds give the denomination to a great number of preparations in confectionary, cookery, &c. of which they are the basis; as almond-cakes, almond-cream, crisped-almonds, almond-milk, almond-paste and powder, almond-snow, &c. Almond-milk is an emulsion or mixture made of one and a half ounce of sweet almonds, half an ounce of double refined sugar, and two pints of distilled water. The almonds are beaten with the sugar, then rubbing them well together, add the water by degrees, and strain the liquor. There is a preparation also called almond-butter, made of cream and whites of eggs boiled, to which are afterwards added blanched almonds, and the whole is set over a slow fire till it becomes thick.

ALMOND, in *Geography*, a river of Scotland which runs into the Frith of Forth, five miles west from Leith.

ALMOND, in *Commerce*, a measure by which oil is sold in Portugal, 26 almonds making a butt or pipe.

ALMOND is also a fruit which serves instead of small money, in several parts of the East Indies; particularly where the *cowries*, those small shells which come from the Maldives, are not current.

ALMONDS, *amygdalæ*, in *Anatomy*, denote two mucous glands, in size, shape, and inequality of surface, not unlike a small almond. They are situated in the posterior aperture of the fauces, or the opening by which the cavity of the mouth communicates with the bag of the pharynx. They are more commonly called tonsils, to which title we refer for further information.

ALMOND, or ALMAN-furnace, *fourneau d'Allemagne*, the common melting furnace of the German refiners. See FURNACE.

ALMONDS, *amandes*. Thus the French lapidaries and looking-glass makers call those pieces of rock crystal, or cast crystal, which they cut with a wheel, giving them a figure something like that fruit. They are used to adorn branch-candlesticks, and other furniture made of glass or crystal.

ALMONDBURY, in *Geography*, a village of the West Riding of Yorkshire, 10 miles from Halifax, and 185 from London.

ALMONDSBURY, a village in Gloucestershire, where Alemond, father of Egbert, the first sole monarch of England, is said to have been buried. It has a Saxon fortification, with a double ditch, which commands an extensive view of the Severn. It is eight miles from Bristol.

ALMONER, anciently also written AMNER, an officer in a king's, prince's, or prelate's household, whose business is to distribute alms to the poor.

The *lord almoner*, or *lord high almoner*, of England, is an ecclesiastical officer, usually a bishop; who is to visit and relieve the sick, poor widows, prisoners, and others in necessity, for which purpose he has the forfeiture of all deadlands, and the goods of *felos de se*, which he is to dispose of to the poor.

He has likewise, by an ancient custom, a privilege to give the first dish, from the royal table, to whatsoever poor person he pleases; or, instead thereof, an alms in money.

He also distributes to twenty-four poor men, nominated by the parishioners of the parish adjacent to the king's palace of residence, to each four pence a day in money, and an alms of bread and small beer; each person first repeating the Creed, and the Lord's prayer, in presence of one of the king's

king's chaplains, deputed by the lord almoner to be his sub-almoner, who is also to scatter new-coined two-pences in the towns and places through which the king passes in his progress. See *MAUNDY Thursday*.

He has also the charge of several poor pensioners to the crown below stairs; consisting of such as have spent their youth, and become superannuated, in the king's service; or the widows of such household servants as died poor, and were not able to provide for their wives and children, whom he duly pays. Chamberlayne's *State of Great Britain*, p. 98.

Under the lord almoner, besides the sub-almoner, there is a yeoman, and two grooms of the almonry, chosen by his lordship.

The French kings used to have their great almoners, first almoners, ordinary or quarterly almoners, &c.

Great almoner, *grand almoner*, was the highest ecclesiastical dignity in that kingdom. To him belonged the superintendency of all hospitals, and houses of lepers. The king received the sacrament from his hand. He said mass before the king, in all grand ceremonies and solemnities.

ALMONER is also applied, in *Ecclesiastical Writers*, to the DEACONS of churches.

ALMONER is also used, in *Historians of the Middle Age*, for him appointed by a person to distribute his alms to the poor. In this sense, almoner amounts to much the same with what has been since denominated executor.

ALMONER is also sometimes used for a person who left alms to the poor, by his last will.

ALMONER is also sometimes used for a legatee.

In this sense, it is the rule, that the same person could not both be almoner and heir.

ALMONER is also a more fashionable title given, by some writers, to chaplains. In this sense we meet with almoner of a ship, almoner of a regiment.

ALMONRY, or AUMBRY, the office or lodgings of the almoner; also the place where the alms are given. See *AMBRY*.

ALMONTE, a neat town of Spain, in the country of Seville, environed with a forest of olives; 13 miles south-east of Moguer.

ALMONTE, a river of Spain, which runs into the Tagus, not far from Truxillo.

ALMOPHA, in *Ancient Geography*, a country of Macedonia, inhabited by the Almopians, in which stood the cities of Europus, Albanopolis, and Apalus. Thucydides mentions Almopia, and Pliny the Almopii; and it is said to have derived its name from Almops, son of Neptune and Hellè, the daughter of Athamas.

ALMORA, in *Geography*, a country of Asia, between the mountains of Thibet and Hindostan, north of the province of Rohileund. The principal towns are Rampour and Cossipour.

ALMORAVIDES, in *History*, a name given by the Spanish historians to an Arab tribe, which took possession of a district of Africa in order to live at their ease, and in a state of retirement, as they pretended to follow the dictates of the Koran more closely than others of their sect, from whence they took the name of Morabites, which the Spaniards changed into that of Almoravides. The first prince or chief of this nation was Abuteker Ben Omar, who is commonly called by Spanish authors Abu Texien or Texifian. This prince founded the dynasty of the Almoravides in Barbary, A.D. 1051, by the aid of a powerful army of malecontents in the provinces of Numidia and Libya, assembled by the influence of the Marabouts or Morabites, whence

the appellation was derived. Texefian, as we have shewn in the history of ALGIERS, was succeeded by his son Yusef, or Joseph, who, after having extended his conquests in Africa, and reduced the kingdoms of Tremecen, Fez, and Tunis, to a state of tributary vassalage, took advantage of the intestine wars in Spain, and passed over, with a view of enlarging his conquests, into that country. Here he repulsed the Christians with great vigour; and though the Moorish princes did not afford him the assistance which he expected, he reduced the greatest parts of the kingdoms of Murcia, Granada, Cordova, Juen, and some few places in Valencia; and then returned into Africa, leaving his conquered dominions under the government of his nephew Mohammed, with a considerable part of his army. As soon as he arrived in Africa, he published a general gazie, or religious war, and with a fresh and numerous army embarked at Ceuta for his Spanish conquests, and soon rejoined his nephew in Andalusia, which they ravaged with fire and sword. In 1107, five years after their assault, he made another descent, penetrated into Portugal, and reduced the city of Lisbon, with a great part of the kingdom, but lost the cities of Algazir and Gibraltar, which he had taken before. Having been defeated at sea in his way to Barbary, he proposed a truce, which was agreed to on condition that he should submit to become the tributary of the Spanish monarch. Yusef, the Almoravide prince, was so exasperated that he vowed never to desist until he had utterly extirpated Christianity in Spain. Accordingly he prepared for a fresh descent; and landing at Malaga, led his army into the enemy's country with great fury and little prudence. The consequence of this hasty measure was a battle, famous in history, called the Battle of the Seven Counts, in which, though after great slaughter he gained a victory, he lost so great a number of his own men, that he was obliged to return to Africa, where he died soon after, at his capital of Morocco, leaving the sovereignty to his son Ali, A.D. 1110. This prince, less warlike than his father, employed his thoughts in erecting sumptuous buildings, and in particular the great mosque of Morocco, whilst he neglected his Spanish conquests. Alphonso, king of Aragon, was daily recovering some considerable cities from him; and he was at last reduced to the necessity of passing over to Spain, for the succour of the Moorish princes. But he was unsuccessful in several expeditions; and in his last enterprise, though he had the vigorous concurrence of the Moorish chiefs, he was defeated and slain by king Alphonso, with the loss of 30,000 men, in the sixth year of his reign. He was succeeded by his son Al Abraham, or Braham, who pursued his pleasures, and oppressed his subjects with taxes, which occasioned dissatisfaction and complaint, and soon terminated in a revolution, by which the government was transferred from the tribe of the Almoravides to the ALMOHEDES, in the 25th year of his reign. *Mod. Un. Hist.* vol. xiv. p. 296—301.

ALMOUT, in *Geography*, a town of Persia, in the province of Taberistan, 32 leagues south-west of Ferebad.

ALMS, *elemosyna*, something given out of charity or pity to the poor.

The ecclesiastics anciently subsisted wholly on alms.—The alms of the primitive Christians were divided into three parts; one whereof belonged to the bishops, another to the priests, and a third to the deacons and sub-deacons.—Sometimes they divided them into four; the last of which went to the poor, and to the repairing of churches.

The Romanists extend the term alms to that which is given to the church, or to other pious uses.—Hence, what the church holds on this footing is called *tenure in alms*.

Alms are of divers kinds.

ALMS, paschal, elemosyna paschales, were those distributed at the solemnity of Easter, attended, in some places, with other acts of humility, as washing of feet, &c.

ALMS, reasonable, elemosyna rationalis, a certain portion of the effects of persons dying intestate, set apart for the use of the church and the poor.

ALMS of plough-lands, elemosyna carucarum, or elemosyna pro aratriis, was a tax anciently paid for the benefit of the poor, at the rate of a penny for each plough-land.

ALMS of the king, denote what was otherwise called *Peter-pence*.

These were sometimes also called alms of St. Peter.

ALMS are divided by *MAHOMETANS* into *voluntary* and *legal*.

ALMS, voluntary, are those left to every man's discretion, to give more or less, as he sees fit.

The voluntary alms are properly denominated by the Arabs *sadakat*, because they are a proof of a man's sincerity in the worship of God.

No religious system is more frequent or warm in its exhortations to alms-giving than the Mahometan. The Koran represents alms as a necessary means to make prayer be heard; for which reason the Caliph Omar Ebn Abd'alaziz used to say, "that prayer carries us half way to God, fasting brings us to the door of his palace, and alms procure for us admission." The Mahometans esteem alms-deeds to be highly meritorious, and many of them have been illustrious examples of it. Hasan, the son of Ali, and grandson of Mahomet, in particular, is related to have thrice in his life divided his substance equally between himself and the poor, and twice to have given away all he had; and the generality are so addicted to the doing of good, that they extend their charity even to brutes. Alms, according to the prescription of the Mahometan law, are to be given of five things, *viz.* cattle, *i. e.* camels, kine, and sheep; money; corn; fruits, *i. e.* dates and raisins; and wares sold. Of each of these a certain portion is to be given in alms; and that portion was usually one part in 40, or $2\frac{1}{2}$ per cent. of the value. But no alms are due for them, unless they amount to a certain quantity or number, nor till they have been in possession 11 months; nor are alms due for cattle employed in tilling the ground, or in carrying of burthens. However, at the end of the feast of Ramadan, every Moslem is obliged to give in alms, for himself and every one of his family, a measure of wheat, barley, dates, raisins, rice, or other provisions commonly eaten.

ALMS, legal, are those of indispensable obligation, as being commanded by the law, which directs and determines both the portion to be given, and the kind of things of which it is to be given.

The *legal alms* are properly called by the Mahometans *zatat*, either on account of their increasing a man's store, or of their purifying the remaining part of his substance.

Some writers have given these the denomination of tithes, but improperly; since, in some cases, they fall short, and in others exceed the proportion of a tenth. These legal alms were first collected by Mahomet himself, and employed, as he thought fit, in relieving his poor relations and followers, but chiefly in maintaining those who served in his wars, and fought, as he termed it, in the way of God. His successors continued to do the same, till, in process of time, other taxes and tributes being imposed for the support of the government, they seem to have been weary of acting as almoners to their subjects, and to have left the payment of them to their own consciences. In the Mahometan rules and practice with regard to alms, we may discover obvious traces of

the resemblance of their system to that of the Jews. Sale's Koran, preface, p. 110.

ALMS, charter of, charta elemosynaria, that whereby a thing is given to the church.

ALMS, aumone, among the French, is also used for a compulsory payment, imposed by way of punishment, to be converted to pious or charitable uses.

In all adjudications to the king's right, there is an *alms* reserved. This amounts to what among us is usually called *forfeiture to the poor*.

ALMS-box, or chest, a small chest, or coffer, wherein anciently the alms were collected, both at church and at private houses. This is also in common use in several places.

The alms-chest, in churches, is a strong box, with a hole in the upper part, having three keys, one to be kept by the parson, or curate, the other two by the church-wardens.

The erecting of such alms-chest in every church was introduced by an act in 27 Hen. VIII.; and it is enjoined by the Book of Canons, as also the manner of distributing what is thus collected among the poor of the parish.

ALMSFECH, or ALMESFECH, among our Saxon ancestors, *alms-money*; that is, *PETER-PENCE*, anciently paid in England on the first of August; called also *romesche, romescheot*, and *hearth-pening*.

ALMSHADEN, in *Geography*, a town of Arabia, 80 miles north-east of Hagiab.

ALMS-HOUSE, a petty hospital; or an edifice built by a person in a private capacity, and endowed with a revenue, for the maintenance of a certain number of poor, aged, or disabled people.

ALMSTAD, in *Geography*, a town of Sweden, in the province of Smaland, three miles from the Baltic, and four east from Christianstad.

ALMUCANTARS, or ALMICANTARS, formed of the Arabic *almocantharat*, in *Astronomy*, are circles parallel to the horizon, imagined to pass through all the degrees of the meridian.

As the meridians pass through the several degrees of the equator, the almucantars pass through those of the meridian of any place, and they are the same with regard to the azimuths and horizon, that the parallels are with regard to the meridians and horizon.

They serve to shew the height of the sun and stars; and are described on many quadrants, &c. being also called *PARALLELS of altitude*.

ALMUCANTARS staff, an instrument usually made of pear-tree or box, having an arch of fifteen degrees; formerly used to take observations of the sun, about the time of its rising and setting, in order to find the amplitude, and consequently the variation of the compass.

ALMUCIUM, or ALMUTIUM, in *Middle-Age Writers*, denotes a kind of cover of the head, part of it pendant over the neck and shoulders, worn chiefly by the ancient canons and monks.

The word is also written *almucia, aumucia, almucella, armutia, and amecia*.

The almucium appears to have been much the same with what is otherwise denominated *caputium*. The almucium, though proper only to religious, was sometimes also assumed by laymen, princes, and even women of quality.

The part which covered the head was of a square form, making, as it were, four horns, as may be seen from the ancient pictures of canons. Hence appears the origin of the square caps, bonnets, &c. still retained in cathedrals and universities, which are no other than the upper part of the almucium, without the lower.

ALMUCIA is also used, in some *Ancient Writers*, for the furs

furs or skins worn by the canons, on their left arms, in the manner of muffs.

ALMUDIEBIS, in the Arabian *Astrology*, a kind of dignity, or pre-eminence, accruing to a planet in some place, either from its disposition or benign aspect.

ALMUG-tree, a kind of wood mentioned in Scripture, imported by Solomon from Ophir, and used in the making of rails, or pillars of the temple. 1 Kings, ch. x. ver. 11, 12. 2 Chron. ch. ii. ver. 8. See ALMIGGIM.

ALMUGEA, in *Astrology*, denotes a certain configuration of the planets, in respect to the sun and moon, correspondent to that which is between the hours of those planets, and the sun's and moon's hours.

Thus Saturn would be in the *almugea* of the sun, when distant from him the space of five signs in succession, or in the *almugea* of the moon, when he is at the same distance, only contrary to the succession of the signs.

ALMUGNA, in *Geography*, a large handsome village of Aragon, in Spain, situate at the junction of the Grio with the Xalon.

ALMUGNECAR, a sea-port town of Spain, in the province of Granada, situate on the Mediterranean, with a good harbour and strong citadel, eight leagues south of Alhama, and 18 east of Malaga. N. lat. $36^{\circ} 50'$. W. long. $3^{\circ} 45'$.

ALMUM, in *Ancient Geography*, a district of Mæsia, upon the Danube.

ALMUS. See ALMA.

ALMUTAZAPHUS, a magistrate of Aragon, whose office is to search houses for stolen goods, weigh the bread, measure the wine, &c.

ALMUTHEN, in the Arabian *Astrology*, the planet which has the disposal of a place, that is, surpasses the rest in the number and efficacy of dignities, regard being had to the essential points, viz. *exaltation, terms, trigons, and phases*. This is otherwise called *almusteili*.

ALNABATI, in the *Materia Medica*, a name given, by Avicenna and Serapion, to the *SILQUA dulcis*, or carob-tree. They called both this and the ACACIA by the common name *charnub*, or *charub*; but they sufficiently distinguish this, not only by this appellation, but by telling us it was a gentle purge, whereas the other was astringent.

ALNAGE, or AULNAGE, French, formed of *aune*, or *alne*, an ell, q. d. ell-measure; the measuring of woollen manufactures with an ell, and the other functions of the ALNAGER.

All the attempts which our forefathers made for regulating manufactures, when left to the execution of any particular officer, in a short time resolved into a tax on the commodity without respect to the goodness thereof.—As is most notorious in the case of aulnage, which was intended for a proof of the goodness of the commodity; and to that purpose a seal was invented, as a signal that the commodity was made according to their statute; which seals, it is said, may now be bought by thousands, and put on what the buyers please. Sir Jos. Child's Disc. on Trade.

It is probable that the abuses here mentioned by Sir Josiah Child did, among other reasons, give occasion to the clause 11 and 12 Will. III. cap. 20. by which aulnage duties are wholly taken away.

ALNAGER, ALNEGER, or AULNIGER, q. d. *measurer by the ell*, signifies a sworn public officer, who, by himself or deputy, is to look to the affize of woollen cloth made throughout the land, i. e. the length, width, and work thereof; and to the seals for that purpose ordained. The office of king's aulnager seems to have been derived from the

statute of Richard I. A. D. 1197, which ordained, that there should be only one weight, and one measure, throughout the kingdom; and that the custom of the affize, or standard of weights and measures, should be committed to certain persons in every city and borough. This office is first mentioned in the statute-book, A. D. 1328; but it appears to have existed under this appellation, and to have been ordained by letters patent as far back as the 15th year of king Edw. II. A. D. 1322. His business was, for a certain fee, to measure all cloths made for sale, till the office was abolished by the statute 11 and 12 Will. III. cap. 20. In more modern times, instead of the aulnager, they have in every clothing town and parish proper persons called *searchers*, appointed by the clothiers themselves, who examine the qualities and dimensions of the several kinds of cloth, agreeably to the statute of the 5th and 6th year of king Edward V. cap. 6. Anderson's Com. vol. i. p. 181. fol.

ALNAPEST, in *Geography*, a mountain of Ireland, in the county of Donegal, 19 miles north-north-east of Ballyshannon.

ALNASI, in the *Mahometan Law*, the transferring the observation of a sacred month to a profane month.

ALNE, in *Geography*, a river of England, which runs into the Stour in Warwickshire, on the borders of Worcestershire, four miles north-east of Evesham.

ALNE is also a river which runs into the north sea at Alnmouth.

ALNEMOUTH, or ALEMOUTH, a sea-port town of England, for small vessels, in the county of Northumberland, which carries on a considerable trade with Holland, four miles south-east of Alnwick, and 15 north of Morpeth. N. lat. $55^{\circ} 25'$. W. long. $10^{\circ} 35'$.

ALNEY, an English island, in the river Severn and county of Gloucester, near the city of Gloucester, remarkable for an interview between Canute the Dane and Edmund Ironside.

ALNIDENA, in *Ancient Geography*, a town of Caria, mentioned in the council of Chalcedon.

ALNI EFFIGIE, in *Botany*. See CRATÆGUS and MESPIUS.

ALNIFOLIA. See CLETHRA.

ALNI FRUCTU. See CONOCARPUS and THEOBROMA.

ALNUS, the *alder*. See BETULA and CONOCARPUS.

ALNUS nigra et baccifera. See RHAMNUS.

ALNUS also denotes a part in the ancient theatres, at the greatest distance from the stage.

ALNWICK, in *Geography*, a market town of England and county town of Northumberland, situate on the side of a hill near the river Alne. The town is populous, and in general well built: it has a large town-house, where the quarter-sessions and county-courts are held, and members of parliament are elected. Its principal ornament is an old Gothic castle, belonging to the Percy family. It stands on the brow of a hill above the river Alne, fronting the north, and having the town immediately behind it. The late Duke of Northumberland, after his marriage with the heiress of this noble family, rescued this castle from its decay, and restored it to more than its former splendour. He repaired the surrounding towers, and supplied those that were wanting in all the several courts that encircle the mansion. He rebuilt the citadel in its original form, and converted it into a very superb palace, observing the Gothic exterior in every compartment, and uniting it with all the magnificence of the modern. The approach is extremely grand, through three gateways and two spacious courts, environed by the out-works, into a third court, which appears immured within the

of the hotel. A light and elegant staircase, spreading in the middle of a hall, introduces to the grand range of apartments, which are admirably contrived. The dining-room, drawing-room, saloon, and library, are very noble rooms; and these are fitted up in a style which admirably corresponds with the structure. The richly ornamented chapel forms a splendid appendage to the castle. The ground in front of this building is well disposed, on each side of the Alue, which is crossed in flight by two handsome bridges, and the neighbouring hills are clothed with woods of the Duke's creation. On one of the highest eminences he has erected a lofty tower, commanding an extensive prospect over a bleak country towards the Cheviot hills on one side, and the coast on the other. Hulne Abbey hangs beautifully over the river, and several neat apartments are intermixed, with judgment and taste, among the ruins. This town has been noted for a singular custom, which those who take up their freedom are said to be under a necessity of observing, which is that of jumping into a muddy well, called Freeman's Well; and this ceremony is conducted in a manner as singular. The freemen, on their return from this whimsical excursion, are received into the town by a procession of women dressed in ribbons, with bells and garlands, singing and dancing. This ceremony is said to be established by king John, who was mired in this well, as a punishment for their not keeping the roads in good order, and made a part of their charter. In this town Malcolm, king of Scotland, in his incursion into Northumberland, was killed, together with Edward his son, when his army was defeated by Robert Mowbray, earl of this county, A. D. 1092, and William, king of Scotland, when he invaded England in 1174 with an army of 80,000 men, was routed in this place, and made prisoner. The weekly market is on Saturday. The distance of Alnwick from London is 308 miles, from Morpeth 19, and from Berwick 30 miles. N. lat. 55° 24', E. long. 1° 10'.

ALŌ, a place situate, according to Ptolemy, in the Marmarica.

ALŌA, in *Antiquity*, a Grecian feast, celebrated in the month Posidæon by the Athenian husbandmen, in honour of Ceres, as inventress and protectress of corn and tillage, or in honour of Ceres and Bacchus, by whose blessing the husbandmen received the recompence of their labour. Their oblation was the fruits of the earth. Some say it was in commemoration of the primitive Greeks, who lived *ἐν τοῖς ἀλῶσι*, in their corn fields and vineyards. Harwood's *Grecian Ant.* p. 217.

The word is *ἀλῶς*, and formed of *ἀλῶς*, grange, or barn; it being in these places that much of the solemnity passed.

Authors are not agreed as to the time or occasion of the celebration of the aloa. Some suppose it to have been before the beginning of harvest; others will have it to have been a rejoicing after harvest, not unlike our *harvest-home*.

ALOCIVÆ INSULÆ, in *Geography*, islands placed by Ptolemy to the north of the Cimbric Chersonesus, or Jutland.

ALŌE, a town of India on this side of the Ganges.

ALŌE, in *Botany*, a genus of the *hexandria monogynia* class and order, of the natural order of *Lilia* or *Liliaceæ*, *Cuscutaria* of Linn. and *Asphodeli* of Juskieu. Its characters are, that it has no calyx; the corolla is one-petalled, erect, sessid and oblong, tube gibbous, border spreading and small, nectareous at the bottom; the stamina have awl-shaped filaments, as long as the corolla or longer, inserted into the receptacle, the anthers oblong and incumbent; the pistillum is an ovate germ, the style simple, of the length of the stamina, the stigma obtuse and trifid; the pericarpium is an oblong capsule, three-furrowed, three-

celled, and three-valved; the seeds are several and angular. Martyn enumerates 14 species with several varieties, Gmelin 16, and Willdenow 17. They are as follow, viz. 1. *A. dichotoma*, smooth-stem'd tree aloe, with branches dichotomous, and leaves sword-shaped, and serrate, paniculated flowers, and stamina longer than the ovate corolla. The trunk is round, upright, very stiff, ash-coloured and smooth, two fathoms in height, and of the thickness of a man's thigh. This is a native of the Cape of Good Hope on the mountain called Bockland, and was introduced into Kew Garden in 1780, by Mr. William Forlyth. 2. *A. perfoliata*, perfoliate A. with stem-leaves toothed, embracing, sheathing, flowers in corymbs, drooping, peduncled, and subcylindric: of this species there are the following varieties; viz. α. *A. arborescens* of Miller, with leaves embracing, reflex, toothed, flowers cylindrical and stem shrubby. This grows to the height of 10 or 12 feet, with a strong naked stem, embraced by the leaves which grow at the top, and are of a sea-green colour, and very succulent. The flowers are in pyramidal spikes, of a bright red colour, and are in beauty in November and December. β. *A. Africana* of Miller, broad-leaved sword A. with leaves broader, embracing, thorny on the edge and back, flowers in spikes, and stem shrubby. γ. *A. Barbadenfis*, Barbadoes A. with leaves toothed, upright, succulent, and subulate, flowers yellow, hanging down in a thyse. The leaves are about four inches broad at their base, and near two inches thick, of a sea green colour, and when young, spotted with white. The flower stem rises near three feet in height, and the flowers form a slender loose spike, and are of a bright yellow colour. This, though generally known in the shops by the name of Barbadoes aloe, is very common in the other islands of America, where the plants are propagated on the poorest land for obtaining the Hepatic aloes. δ. *A. succotrina*, A. vera of Miller, with leaves very long and narrow, thorny at the edge, and flowers in spikes. This is the true succotrine aloe, which yields the best sort of aloes used in medicine. It grows in India, and particularly in the island of Socotora, in the Straits of Babelmandel. Its leaves are long, narrow, and succulent, and form large heads, about eighteen inches long, and an inch and a half at their base; the stalks rise to the height of three or four feet, and have two, three, and sometimes four of these heads branching out from them; the flowers grow in long spikes upon stalks about two feet high; they are of a bright red colour, tipped with green, and generally appear in the winter season. ε. *A. purpurascens*, white spined glaucous A. with leaves purplish beneath, with small roundish spots, at bottom. ζ. *A. glauca* of Miller, red-spined glaucous A. with stem short, leaves embracing, standing two ways, spines on the edges erect, and flowers growing in a head. η. *A. lineata*, red-spined striped A. θ. *A. ferox*, great hedge-hog A. with leaves embracing, very dark green, beset with spines on every side. La Marck makes this a distinct species. It rises to the height of eight or ten feet, with a strong stem; the leaves grow on the top, and closely embrace the stalk; four inches broad at the base, and diminishing gradually till they terminate in a spine; they are of a dark green colour, and beset with spines, which are red or purple. This plant grows naturally in Africa, but has not flowered in England, and as it does not put out suckers, it does not admit easily of increase. ι. *A. japonaria*, great soap A. seldom rises above two feet high; the leaves are broad at their base, closely embracing the stalk, and gradually decreasing to a point; their edges are beset with spines; the under leaves are horizontal, of a dark green colour, spotted on the side, resembling

sembling the colour of soft soap; the flowers are of a beautiful red colour, and appear in August and September. *α. A. obfcura*, common soap A. with leaves, broader, spotted, thorny at the edge, and flowers in spikes. This has broader leaves of a lighter green, with the edges and spines copper-coloured, &c. *λ. A. ferrulata*, hollow-leaved perfoliate A. with leaves spotted, finely serrated at the edge and the tip of the keel. *μ. A. suberecta*, upright perfoliate A. with leaves flat almost upright, thorny at the edge, and on the lower surface. *ν. A. depressa*, short-leaved perfoliate A. with leaves embracing, thorny on both sides, and flowers in spikes. This seldom rises more than a foot high, and the leaves grow near the ground; they are of a sea-green colour, with some white spots; their edges are beset with sharp spines: and the flowers grow in loose spikes, the tubulous part being red, and the brim of a light green colour. *ξ. A. humilis*, dwarf hedge-hog A. with leaves upright, subulate, radicate, with weak spines all round. This plant is low, and never rises into stem; the leaves terminate triangularly, and are beset on their edges and surfaces with soft spines, whence the name of hedge-hog aloe. The flowers are seldom a foot high, below of a fine red colour, and of a pale green above. Willdenow makes a distinct species of this; stemless, with leaves trigonous, subulate, and aculeate, and flowers racemous, reflex and cylindric; and he makes two varieties. *ο. A. mitraformis*, great mitre A. grows to the height of five or six feet; the leaves converge towards the top in the form of a mitre, are succulent, of a dark green colour, and have spines on their edges, with a few on the upper surface: the flower stem rises about three feet high, and the flowers form a globular spike at the top, which becomes cylindrical: they have long peduncles, and the flowers hang downwards; they are cut to the bottom into six unequal segments; three of the stamens are as long as the tube of the corolla, the other three are shorter: the tube is of a fine red colour, and the brim of a pale green. *π. A. brevifolia*, small mitre A.

3. *A. arachnoides*, cobweb A. stemless, leaves three-cornered, cusped, ciliate, flowers in a sort of spike, upright, cylindrical. The varieties are; *α. A. arachn. communis*, *A. pumila*, *δ. of Linn.* sp. pl. 460, common cobweb A. with leaves short, plane, fleshy, triangular at the end, and borders set with soft spines. This never rises from the ground, but the leaves spread flat on the surface; the flower stem rises about a foot high, and has three or four small distant herbaceous flowers. *β. A. arachn. pumila*, *A. herbacea* of Miller, *A. pumila*, *ε. of Linn.* 460, with leaves ovate-lanceolate, fleshy, triangular at the end, with numerous soft spines. This plant grows near the ground, the leaves are almost cylindrical at their base, and angular near their ends, of a darker green colour than those of the former; and produces many suckers on every side. From the seed of this Mr. Martyn has raised a variety, which has shorter, whiter, and smoother leaves.

4. *A. margaritifera*, A. pearl, *A. pumila*, *α, β, γ, of Linn.* 460, stemless, with leaves three-cornered cusped papillose, and flowers in racemes drooping and cylindrical. The varieties are, *α. A. marg. major*, great pearl A. *β. marg. minor*, and *γ. A. marg. minima*, least pearl A. The pearl aloe is of humble growth; the leaves come out near the ground, and they are closely fludded with white protuberances, whence the name. These plants flower in several seasons of the year. 5. *A. verrucosa*, *A. disticha*, *β of Linn.* 159, warted or pearl-tongue A. stemless, with leaves sword-shaped, acute, papillose and distich, and flowers in racemes reflex or club-shaped. This species has long narrow tongue-shaped leaves, hollowed above, and keel-shaped

below, closely fludded with white protuberances; the flowers form loose spikes, and are of a beautiful red colour, tipped with green. It flowers at different seasons, and produces plenty of off-sets. 6. *A. carinata*, *A. disticha γ of Linn.* 459, stemless, with leaves acinaciform, papillose, and flowers in racemes, drooping, curved. The leaves are broader and thicker, not so concave, and with less protuberances than the last; the flowers are of a paler colour, and the leaves shorter. 7. *A. maculata*, spotted A. almost stemless, with leaves acinaciform, smooth, painted, and flowers in racemes drooping, curved. There are two varieties. *α. A. mac. pulchra*, narrow-leaved, spotted A., with leaves sharp, and *β. A. mac. obliqua*, broad-leaved spotted A. with leaves blunt with a point. This species varies, with large, oblong, white confluent spots, and with small ones. It is a native of the Cape of Good Hope, and flowers in August. 8. *A. lingua*, or *linguaformis*, tongue A. almost stemless, with leaves tongue-shaped, tooth-letted, smooth, distich, and flowers in racemes, upright and cylindrical. There are two varieties: *α. A. lingua angustifolia*, *A. disticha*, *α Linn.* 459, common tongue A. with leaves narrower longer; and *β. A. lingua crassifolia*, thick-leaved tongue A. This grows with its leaves, which are about six inches in length, near the ground. The flowers are red below, and green above. It is a native of the Cape of Good Hope. There is a variety, with leaves much more spotted. 9. *A. plicatilis*, *A. disticha*, *ε. plicatilis of Linn.* 459, *Kumara disticha* Medic. Theod. fan A. almost stemless, with leaves tongue-shaped, even, distich, and flowers in racemes, pendulous and cylindrical. It grows to the height of six or seven feet, with a strong stem, on the upper part of which are produced, two, three, or four heads composed of long, compressed, pliable leaves of a sea green colour, which are placed in a double row: the flowers are red, and appear at different times of the year. 10. *A. variegata*, partridge-breast A. almost stemless, with leaves in three ranks, painted, channelled, angles cartilaginous, and flowers in racemes, cylindrical. This is a low plant, seldom rising above eight inches in height: the leaves are triangular and reflex at their extremity, fleshy, with their edges slightly serrated, curiously veined and spotted, like the breast of the partridge, whence the name. The flowers which grow on stalks about one foot high, are of a fine red colour, tipped with green. A variety of this was raised by Martyn, from seeds received from the Cape of Good Hope, with broader leaves, and not so beautifully spotted, with the flower stalks much taller. It is found in the clayey grounds of Ethiopia. 11. *A. viscosa*, upright triangular A. sub-caulescent, with leaves imbricate, in three ranks, ovate, and flowers in racemes, drooping, and cylindrical. It grows near a foot high, with triangular leaves from the ground upward, of a dark green colour, and the flowers are of an herbaceous colour, with their upper part reflex. It is a native of the fields of the Cape of Good Hope. 12. *A. spiralis*, spiral A. sub-caulescent, with leaves imbricate, in eight ranks, ovate, and flowers in racemes curved back. There are two varieties; *α. A. spir. imbricata*, imbricated spiral A. and *β. A. spir. pentagona*, five-sided spiral A. This grows like the 11th, with rounder leaves, ending in sharp points, and the flowers grow upon taller stems; a variety of this has been raised from seeds, much larger, with thicker leaves and taller stem. It is a native of the fields of Africa. 13. *A. retusa*, cushion A. stemless, with leaves in five ranks deltoid. These are short, thick and succulent, and compressed above like a cushion, whence the name. It grows close to the ground, and puts out suckers on every side; the flowers are of an herbaceous colour, and much resemble those of

the fourth species. It grows in the clayey soil of Africa. 14. *A. spinosa*, spined *A.* with flowers in spikes horizontal, bell-shaped, and leaves flat, embracing, and toothed. This much resembles the second species, but is very different in the spike and figure of the flowers. The flower is full of a purple honey juice. The best and purest hepatic aloes is obtained from this species. It is found in the interior regions of the Cape of Good Hope. 15. *A. picta*, painted *A.* caulescent, with leaves sword-shaped, toothed, painted and patent, and flowers in racemes, reflex, and cylindrical. There are two varieties; α . *A. major*, *A. perfoliata*, β and γ Linn. 458. β . *A. minor*, *A. perfoliata*, μ , Linn. 458. *A. perfoliata*, ν , Japponaria Aiton, Kew. 1. 467. It is a native of the Cape of Good Hope. 16. *A. sinuata*, caulescent, with leaves sword-shaped, sinuate-ferrated and reflex, and flowers in racemes, erect and cylindrical. This is the *A. perfoliata* ξ of Linn. 458, and it is suggested by Willdenow that it is the *A. perfoliata* η , *barbadensis* of Aiton, Kew. 1. p. 466, and the narrow-leaved spinose, *A. succotrina* of Commel. Hort. i. p. 91, and the *A. Americana*, with the reddish flowers of Aiton, of Puknet. It is a native of Barbadoes and the Cape of Good Hope. Martyn's Miller, Gmelin's Linnæus, Willdenow.

La Marcq. enumerates 31 species, viz. *A. purpurea*, or *A.* of Bourbon, originally brought from that island: when the leaves are cut, they yield a juice of a fetid smell. 2. *A. succotrina*. 3. *A. vulgaris*, Kadanaku or Cavadala of Rheed, growing in the sandy stony soil of Malabar, and many parts of India, and also in several provinces of America, as Mexico, New Spain, Brasil and Barbadoes; and yielding, by its purified juice, hepatic aloes, and from its dregs a less pure extract, called Caballine aloes. 4. *A. vera*, growing in India, of which the *A. vacillans* of Forsk. Egypt. 74, n° 34. is a variety. 5. *A. Abyssinica*, brought from Africa by Bruce, and larger and more refinous than the preceding species. 6. *A. fruticosa*, or *arabica* of Miller. 7. *A. ferax*. 8. *A. mitraformis*, of which there is a variety, *A. mitraformis angustior*. 9. *A. maculosa*, or the *A. picta* above mentioned. 10. *A. tenuifolia*. 11. *A. perfoliata*, of which are reckoned two varieties, one commonly called *A.* with red spines, and the other artichoke *A.* 12. *A. humilis*, or *A.* with soft spines. 13. *A. arachnoidea*, with a variety commonly called the least aloes, growing in the fields and uncultivated parts of Ethiopia. 14. *A. margaritifera*. 15. *A. retusa*. 16. *A. venosa*. 17. *A. marginata*. These are the *A. africana*, *humilis*, &c. of Comm. Præl. The former yields an aqueous insipid juice. They are natives of Africa. 18. *A. triangularis*, or *A. viscosa* of Linnæus, a native of Ethiopia. 20. *A. variegata* of Linn; the most beautiful of the genus, a native of Ethiopia. 21. *A. acuminata*, or *A. verrucosa* above-mentioned. 22. *A. carinata*. 23. *A. linguiformis*, or *A. lingua*. 24. *A. plicatilis*. 25. *A. longifolia*, or *ALETRIS uvaria* of Linnæus, which La Marcq. thinks is erroneously referred to that genus, of which it has no character. 26. *A. spicata*. 27. *A. racemosa*, which is a shrub five or six feet high, observed at the Cape of Good Hope, by Thunberg, and which, as La Marcq. suggests, may be the same with the 24th species. 28. *A. dichotoma*. 29. *A. Arabica*, or *A. variegata*, called in Arabia Bessil or Bessilil. 30. *A. perfoliata*, found by Boissier in Arabia. Gmelin queries whether this be a distinct species. 31. *A. inermis*, found by Forsk. in Arabia, but akin to the 17th species. Encycl. Method. Bot. tom. i.

All the aloes are natives of hot climates; and the place of growth of most of them is the Cape of Good Hope. The Hottentots hollow out the trunk of the first species, or

A. dichotoma, to make quivers for their arrows; and several of them are used for hedges. Among the Mahometans, and particularly in Egypt, the aloes is a kind of symbolic plant, and dedicated to the offices of religion: for pilgrims, on their return from Mecca, suspend it over their doors as an evidence of their having performed that holy journey. The superstitious Egyptians imagine, that it has the virtue of keeping off apparitions and evil spirits from their houses, and it is hung over the doors of Christians and Jews in Cairo for this purpose. They also distil from it a water, which is sold in the shops, and recommended in coughs, asthma, and hysterics. Hasselquist mentions a person who was cured of the jaundice in four days by taking four tea-cupfuls of it. The Arabians call it *sabbara*. The negroes, as we are informed by Adanson, in his voyage to Senegal, make very good ropes of the leaves of the Guinea aloes, which are not apt to rot in water. M. Fabroni, as we learn from the Annales de Chimie (vol. xxv.) procured from the leaves of the *aloe succotrina angustifolia* a violet dye, which resists the action of oxygen, acids, and alkalies. This juice, he says, produces a superb transparent colour, which is highly proper for works in miniature, and which, when dissolved in water, may serve either cold or warm, for dying silk from the lightest to the darkest shade: and he reckons it one of the most durable colours known in nature. Aloes was used among the ancients, in embalming, to preserve bodies from putrefaction. Of this aloes, interpreters understand that to have been which Nicodemus brought to embalm the body of Christ. John, xix. 3.

Aloes, whose resinous part is not soluble in water, has been used as a preservative to ships' bottoms against the worms, to which those that trade to the East and West Indies are particularly subject. One ounce of aloes is sufficient for two superficial feet of plank; about 12 lb. for a vessel of 50 tons burthen, and 300 lb. for a first rate man of war. It may be incorporated with six pounds of pitch, one of Spanish brown, or whiting, and a quart of oil; or with the same proportion of turpentine, Spanish brown, and tallow. Such a coat, it has been said, will preserve a ship's bottom eight months, and the expence for a first rate ship, will be about 18*l*. The same composition may be used in hot countries for preserving rafters, &c. from the wood-ant. The efficacy of aloes, as a defence against worms, has been controverted. See ALOES, *infra*.

Propagation and Culture.—The soil in which these plants thrive best, is one half fresh, light earth, from a common; and if the turf is taken with it, and rotted, it is much better; the rest should be white sea-sand, and sifted lime-rubbish, each of these two, a fourth part; mix these together six or eight months at least before it is used, observing to turn it over often in this time. The middle of July is a very proper season to shift the plants; at which time you may take them out of the pots, and with your fingers open the roots, and shake out as much of the earth as possible, taking off all dead or mouldy roots, without wounding the young fresh ones: then fill the pot about three parts full of the above mentioned earth, putting a few stones at the bottom of the pot to drain off the moisture; and after disposing the roots in such a manner as to prevent their interfering too much with each other, put in as much of the same earth, as to fill the pot almost to the brim, shaking the plant so as to let the earth in between the roots, and settling it close to the roots with your hand to place it steady in the pot; then water them gently, and set them abroad in a shady place, where they may remain for three weeks, giving them gentle waterings, if the weather be hot and dry.

Toward the latter end of September, in a dry day, remove them into the house again, observing to give them as much free open air as possible, while the weather continues warm: but if the nights are cool, you must shut up the glasses, and give them air only in the day; and as the cold increases, you must discontinue opening the glasses, only giving them gentle waterings till the middle of October, when you must abate them according to the heat of the house in which they are kept. For those plants which are placed in a stove will require to be watered at least once a week, most part of the Winter, whereas those which are kept in a green-house, without artificial heat, should not be watered in the Winter oftener than once in a month, and in Summer they should not receive too much moisture.

The tender sorts, as the viscosa, ferox, and cobweb aloes, should constantly remain in the stove, or be removed in the Summer to an airy glass-case, where they may have free air in warm weather, but be protected from the rain and cold. With this management the plants will thrive and increase; and such of them as usually bear flowers, may be expected to produce them in beauty at their seasons.

Most of these aloes are increased by off-sets, taken from the parent plant when they are shifted, and planted in small spots filled with the earth prepared for the old plants; and these suckers should be quite dry when they are planted, otherwise they will rot. After remaining in the shade for a fortnight, the tender kinds should be removed to a very moderate hot-bed, shading the glasses in the day, and giving them much air. Towards the middle of August, the young plants may be hardened by taking off the glasses in good weather, and admitting the air; and they should be removed into the house towards the end of September, and managed like the old plants. The African aloes generally afford plenty of suckers for increase: most of the others may be propagated by taking off some of the under leaves, laying them to dry for ten days or a fortnight, and then planting them in the soil already mentioned, by putting that part of the leaf which adhered to the old plant, about an inch or an inch and a half, into the earth, and settling the earth about them with a little water: the pot should then be plunged into a moderate hot-bed, preserved from the sun, and refreshed with water once a week. The best season for this operation is June. The method of cultivating the aloe in the island of Barbadoes, described in the Medical Journal, (vol. viii. art. 8. p. 422.) is as follows. The stony and shallow soil, which is in the vicinity of the sea, and subject to drought, and in which the sugar canes will not thrive, best suits the aloe plant. When the stones have been picked up, and laid around the field as a fence, or piled in heaps upon the most barren spots; the land is lightly ploughed and cleared from weeds; then lined in rows at the distance of a foot from one another, and the young plants are set like cabbages, about five or six inches apart from each other. By being thus set, they are easily kept free from weeds, which would obstruct the produce. They may be planted even in the driest season; as they need little or no rain; but the usual time is from April to June.

ALOE, *African*. See CRASSULA.

ALOE, *American*. See AGAVE.

ALOE, *Byssard*. See ALETRIS.

ALOE, *Purpurea*. See DRACÆNA.

ALOE, *Uvaria*. See ALETRIS.

ALOE, *Water*. See STRATHOTES.

ALOE, *Yucca foliis*. See YUCCA.

ALOES, in *Medicine* and *Pharmacy*, the inspissated juice of various species of the *Aloe* above described. Of this there have been usually reckoned three kinds, viz. the *socotorine*, *hepatic*, and *calicut*. The *socotorine* is collected from the island Socotora, from which it was first brought, though it was probably imported from the Cape by the Dutch East India Company, is obtained from a variety of the *A. perfoliata* of Linnæus. This sort is the purest and most transparent: it comes to us wrapped in skins, and is of a bright fuscous, and in some degree pellucid; in the lump of a yellowish red colour, with a purplish cast; when reduced into powder of a golden colour. It is hard and brittle in the Winter, somewhat pliable in the Summer, and softens between the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable; the smell is not very unpleasant, and somewhat resembles that of myrrh.

2. *Hepatic*, *Barbadoes*, or *common aloes*, is obtained from another variety of the same species, viz. *A. vera*, *vulgaris*, *foliis spinosis confertis dentatis virginianibus planis maculatis*, called by Rheed *kadamatu* or *calicut*, and reckoned by La Marek a distinct species, and is usually brought to us from Barbadoes; that of the best sort in large, gourd shells, an inferior kind in pots, and a still worse in casks. It is of a darker colour than the former, and not so clear or bright; generally drier and more compact; of a stronger and more disagreeable smell, and of an intensely bitter taste, with little or nothing of the aromatic flavour of the other. A tract of mountains about 50 miles from the Cape of Good Hope is wholly covered with the aloes plants, which renders it unnecessary to plant them there; but they are now cultivated in Jamaica and Barbadoes, having been first brought to the former of these islands from Bermuda. They require two or three years standing before they yield their juice in perfection: and it is procured, says Dr. Browne, (Jamaic. p. 198.) in the following manner. The labourers go into the field with tubs and knives, and cut off the largest and most succulent leaves close to the stalk: these they put into the tubs in an upright position, that the loose liquor may be drained from the wound. When this is almost wholly discharged, the leaves are taken out singly, and cleared of any juice that may adhere to them; and the liquor is put into shallow flat-bottomed vessels, and dried gradually in the sun, till it acquires a proper consistence. What is obtained in this manner is called *socotorine aloes*, and is the clearest and most transparent, as well as the highest in esteem and value. In the island of Barbadoes, according to the account of Mr. Millington (Med. Journ. vol. viii. p. 422.) after a sufficient quantity is drained from the leaves to make it an object for the boiling-house, and the juice with this view may be preserved for some weeks, without injury, three boilers of iron or copper are placed by one fire, though some have two and others only one; these are filled with juice, and as it is gradually inspissated by a regular fire, it is ladled from boiler to boiler, and fresh juice is added to that which is farthest from the fire, till the juice in that which is nearest to the fire, the smallest of the three, and called tatch, becomes of a proper consistence to be shipped or ladled out into gourds, or other small vessels, placed for receiving it. The proper time for lading it out of the tatch is when it is arrived at a resin height, as it is termed, or when it cuts freely, or in thin flakes from the edges of a small wooden slice, that is dipped from time to time into the tatch for that purpose. A little lime-water is used by some aloe-boilers during the process, when the ebullition is too great. This author adds, as to the sun-

dried aloes, which is most approved for medicinal purposes, very little is made in Barba loes. The process, however, is very simple, though very tedious. The raw juice is either put into bladders, left quite open at top, and suspended in the sun, or in broad shallow trays of wood, pewter, or tin, exposed alo to the sun every dry day, until all the fluid parts are exhaled, and a perfect resin formed, which is then packed up for use, or for exportation.

Dr. Wright (Med. Journ. vol. viii. p. 219.) gives the following account, somewhat different from the former, of the method of preparing *hepatic aloes* in Jamaica. The plant is pulled up by the roots, and carefully cleansed from earth or other impurities. It is then sliced and cut in pieces into small hand-baskets or nets. These nets or baskets are put into large iron boilers with water, and boiled for ten minutes, when they are taken out, and fresh parcels supplied till the liquor is strong and black. At this period the liquor is thrown through a strainer into a deep vat, narrow at the bottom, to cool, and to deposit its feculent parts. Next day the clear liquor is drawn off by a cock, and again committed to the large iron vessels. At first it is boiled briskly, but towards the end the evaporation is slow, and requires constant stirring to prevent its burning. When it becomes of the consistence of honey, it is poured into gourds or calabashes for sale. The *focotorine aloes*, he says, may be prepared in the same manner.

3. *Caballine*, or *horse aloes*, obtained, as some say, from the fæces of the hepatic aloes, and according to others from a distinct variety of the *aloe perfoliata*, denominated *A. guineensis*, *caballina vulgari similis sed tota maculata*, is easily distinguished from the two former by its strong rank smell. In other respects it agrees pretty much with the hepatic, and is not unfrequently sold for it. Sometimes it is prepared so pure and bright as scarcely to be distinguishable by the eye, even from the focotorine, but its offensive smell soon betrays it; and if even this should be dissipated by art, its wanting the aromatic flavour of the finer aloes will be a sufficient criterion. Some say, that its colour is also much darker, indicating a mixture of fordes and sand, and that it is of course much more compact and heavy. This aloes is not admitted into the *Materia Medica*, and is employed chiefly by Farriers. From the observations of Professor Murray it appears probable, that different species as well as varieties of aloes would furnish the various kinds of this drug, and that Linnæus by referring these sorts to those plants, the recent juice of which seemed to correspond respectively the nearest to them in taste, might easily be misled; for Murray, upon tasting the fresh juice of many different species of aloes, sometimes found it bitter, and at other times totally devoid of bitterness. This author found the bitterest species to be the following, *viz.* 1. *Aloe elongata*, floribus spicatis tubuloso-triquetris subringentibus oblique dependentibus, foliis aggregatis dentato-spinosis; and he queries whether this is not the variety π of the *A. perfoliata* of Linn. Spec. p. 458, and the aloes mentioned by Hughes and Browne. 2. *A. spicata*, which is said to afford the best hepatic aloes. 3. *A. linguiformis*, which in the interior parts of the Cape is selected by some as producing the best and purest aloes. M. Jussieu, who saw the three varieties of aloes prepared at Morviedro, in Spain, assures us (says Chaptal, Elem. Chern. vol. iii. p. 86), that they are all obtained from the aloes vulgaris. The first variety, or focotorine aloes, is obtained by making incisions in the leaves. Time is allowed for its impurities to subside perfectly. The fluid is then decanted from the dregs, and left to become thick; after which it is put into leathern sacks for sale, under the name of focotorine

aloes. A juice of the same nature is obtained by expression from the same leaves, which, when clarified in the same manner, forms the hepatic aloes; and the caballine aloes is obtained by a stronger pressure.

Aloes is mentioned neither by Hippocrates nor Theophrastus; Dioscorides mentions two kinds, and Avicenna tells us, that of the different kinds, without naming them, the focotorine is the best. Celsus, who frequently mentions aloes, and recommends it to be mixed with all cathartics, does not distinguish it by any epithets. If, indeed, the account of J. Bauhin (Hist. Plants, tom. iii. p. 697.) be true, that the juice of the leaves forms itself spontaneously into three strata, the upper being the focotorine, the middle the hepatic, and the lowest or fæces the caballine; there may be some reason for the distinction of the three names, that have been uniformly appropriated to them.

All the kinds of aloes agree in this, that they consist of a resinous matter, and a large proportion of a substance called gum; and that they dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water, the impurities only being left; and in boiling water they also dissolve, but when the liquor becomes cold, the resinous parts subside. The quantity of resin in hepatic aloes appeared in experiments of Dr. Lewis to be $\frac{1}{3}$ d, in focotorine aloes $\frac{1}{4}$ th, and in the caballine $\frac{1}{5}$ th. According to Boulduc, the focotorine aloes contains no more than $\frac{1}{5}$ th of resin, and the hepatic aloes contains half its weight; and therefore the hepatic aloes contains more resin and less gum than the focotorine, and this than the caballine. The resins of all the sorts, purified by solution in spirit of wine, have little smell; that of the focotorine has scarcely any perceptible taste; that of the hepatic a slight bitterish relish; and that of the caballine a little more of the aloetic flavour. The gummy extracts are less disagreeable than the crude aloes; that of the focotorine aloes has very little smell, and its taste is scarcely unpleasant; the smell of the extract of the hepatic is somewhat stronger, but its taste more agreeable than that of the focotorine; the gum of the caballine retains a considerable share of the rank smell of this sort of aloes, but its taste is not more unpleasant than that of the extracts of the other kinds.

Aloes is a well known purgative; and it acts not only when taken internally, but when externally applied; and its cathartic quality resides chiefly in the gummy part, for the pure resin has little or no purgative virtue. Boerhaave declares it to be an effectual and safe cathartic; nevertheless in large doses it produces much heat and irritation, particularly about the rectum, from which it sometimes occasions a bloody discharge. To those, therefore, who are subject to piles, or of an hæmorrhagic diathesis, the plethoric and bilious, or even in a state of pregnancy, the exhibition of it has done much harm; but it is particularly adapted, by its stimulating quality, to persons of a phlegmatic temperament and sedentary life, to cachectic indisposition, and oppressions of the stomach by viscid crudities contracted from irregularity. Although in purging doses, of half a dram or two scruples, it produces irritation about the anus and sometimes a discharge of blood, yet in smaller doses of 10 or 12 grains, repeated once or twice a day, it not only unloads the first passages, but attenuates and dissolves viscid humours in the remoter parts, warms the habit, quickens the circulation, and promotes the menstrual and hæmorrhoidal fluxes; and its continued use renders the blood sensibly more fluid. This, says Dr. Cullen, (*ubi infra*), appears to me improbable. We have frequently seen the blood drawn from persons using a good deal of aloes, and never could discover any change of its

its consistence; and if the experiments of Schwenke may be trusted, aloes added to the blood drawn out of the veins seems to coagulate rather than to dissolve it: besides the quantity of aloes taken in can hardly have any sensible effect upon the whole mass of blood. It has been urged, however, that by its dissolving power it proves an emmenagogue, and is hurtful in all morbid hæmorrhages. Dr. Cullen observes, that he has seldom found the emmenagogue powers of this substance. If ever there be any appearance of such a power, it is probably to be ascribed, in his opinion, rather to its operation on the rectum, communicating a stimulus to the vessels of the uterus, than to its action on the mass of blood. When aloes is not designed to act as a purgative, it has an action upon the stomach; and it has frequently been found an antispasmodic, in relieving pains of this organ. It is also useful in habitual costiveness, when taken in small doses. With respect to its ordinary operation, Dr. Lewis acknowledges, that its effects are more permanent than those of any other purgative; this Dr. Cullen (Mat. Med. vol. ii. p. 525.) does not admit; for we commonly find, he says, that notwithstanding the use of aloes, the state of costiveness will return at its usual period, and that it is often necessary to anticipate this by the use of the aloetic. This bitter juice has been accounted destructive to worms, or to the matter which favours their production, either taken internally or applied in plasters to the umbilical region; and from its imagined efficacy in this respect, it has been used to preserve ships against the attacks of worms. But its anthelmintic virtue has been disputed by Murray, who says that worms have lived for 20 hours in the bitterest solution of fœcotorine aloes, and for many days afterwards in earth mixed with powder of aloes. In another experiment four worms were not destroyed on the fourth day. It is powerfully antiseptic; and commonly makes an ingredient in tinctures and balsams for cleaning and healing wounds or putrid sores. As to the choice of the different kinds of aloes, it may be observed, that the fœcotorine, which contains more gummy matter than the hepatic, purges with more certainty and greater irritation, and is therefore most proper where a stimulus is required, or for promoting the uterine discharge; but the hepatic is better calculated for the purpose of a common purgative; and as it contains more resin, answers better as a vulnerary, for external application. Aloes is seldom given alone. Aloes, says Dr. Cullen, acts as readily in substance as in any solution; and therefore this is never to be practised but for the sake of more convenient exhibition; and it has been found to operate in substance in a smaller dose than in the vinum aloeticum. Aloes hardly receives improvement by any addition; and the vulgar find as much effect from the aloes alone as from the pilulæ aloeticæ. Some benefit, however, is obtained by some division of the aloes before it is taken into the body, and the extract of gentian is properly enough employed; but Dr. Cullen is persuaded, that the Edinburgh college have not done right in withdrawing the whole of the sal polychrestum from the aloetic pill. In the pilulæ rufi the myrrh may be useful in dividing the aloes; but the addition of the saffron is insignificant. Rhubarb added to aloes can answer no good purpose. In the pilulæ stomachicæ Ph. Ed. and in the elixir sacrum, the rhubarb, says Dr. Cullen, is an useless addition. The aloes, continues this author, is never properly joined with the drastic purgatives, as in the pilulæ colocynthidis cum aloes, and in the extractum colocynthidis compositum; for if such a medicine is intended to produce a liquid evacuation the aloes is superfluous; and if it is intended only to open the belly, the drastics are unnecessary. In the elixir

propriætatis, the saffron is an insignificant ingredient: and on account of the menstruum employed by the Edinburgh college, Dr. Cullen says, he has never employed it as an evacuant, but he often used it with success in curing spasmodic pains of the stomach; and for suiting it better to this purpose, the Edinburgh college have improved it much, by the menstruum they have employed in their elixir aloes vitriolicum. Several preparations of it are directed in the pharmacopœias, for which see ELIXIR, EXTRACT, HIERAPICRA, PILLS, POWDER, TINCTURE, and WINE. Lewis. Murray. Woodville.

ALOE resina, is a preparation of the fœcotorine aloes, made by dissolving it in juice of damask roses, and evaporating it to the consistence of a paste. Then more juice is added, and the evaporation repeated, again and again.—This has been held a gentler and safer cathartic than the aloes alone. If this be dissolved in a good quantity of the fresh juices of roses, violets, borage, and bugloss, mixed in equal proportions, and afterwards reduced by evaporation to its former consistence, the extract, thus prepared, is called *aloe infusata*, and with the addition of one third its weight of cream of tartar, *aloe infusata tartarizata*.

ALOE violata, is prepared by means of the expressed juice of violet flowers; and mixed with half its weight of cream of tartar, it is called *aloe violata tartarea*. But preparations of this kind are obsolete.

ALOE is applied by some writers, to a kind of mineral juice produced in Judea.

This is called fossil, mineral, or metalline aloes.—Some dispute the existence of any such aloes. Others suppose it to be no other than the ASPHALTUS.

ALOE, lignum. This wood, by the Indians and Portuguese, is called *calamba*, or *calambar*, being the same with what is otherwise called by medical writers *xyloaloes*, and *agallochum*.

This wood is referred by Loureiro, as we have observed under the article AGALLOCHUM to a distinct genus called *aloexylum*, belonging to the order of decandria; but it approaches so nearly to that of the EXCOECARIA *agalloscha* of Linnæus, that the latter has been sold for it. The tree grows in Cochinchina, the Molucca islands, and several other parts of the East Indies; and was formerly held in very high estimation, on account of its fragrant odour, as a perfume, for which purpose it was applied to cloaths and apartments, and as a cordial medicine in fainting fits, and in cases of paralytic affection. It is said also to be effectual in destroying the tinea and ascarides in children. By the Chinese and Heathen Moors it was used as incense in their sacrifices; and employed for setting the most precious jewels that are wrought in the East Indies. It was formerly deemed in that part of the world of greater value than gold itself; and various fables have been invented as to the origin of the tree that yields it. Some have feigned, that it grew in Paradise, and that it was conveyed from thence by the rivers, which overflowed their banks and swept off the trees in their way. Others pretend, that it grows on inaccessible mountains, where it is guarded by wild beasts, &c. The Siamese ambassadors brought a present of this wood from their emperor to the court of France in 1686; and thus it became known. Bauhin and many others reckon three sorts of it; viz. two kinds of CALAMBAC and the aloes-wood, the agallochum of the shops, the tehmbiang of the Chinese, thimbio of Camelli, pao de aguila of the Portuguese, and frequently called eagle-wood. This is oily, resinous, compact, heavy, of a brown reddish colour, marked with grey veins, and often pierced with small holes, as if it were worm eaten.

eaten. This wood is not so dear as the *calambac*, and is more commonly found in the shops. It is brought from Cochinchina, and is said to be the produce of the same tree. The tree has a greater resemblance to the *agallochum* from India, than of *Alouphus*, the Indian of Sonnerat, and the *calambac* of Sonnerat; and is denominated *apellaria*, *apellaria*, and *apellaria* of Malacca. The wood of the branches of this tree is white, inclining to yellow; and the bark is of a greyish-brown colour, and its surface is roughish and hairy. The leaves are alternate, ovate-lanceolate, entire, much acuminate, about $3\frac{1}{2}$ inches long and two wide, with a smooth and green surface, and appearing like fawn; each of them is supported by a petiole about two French lines long, and have their borders garnished with short hair; the young leaves are hairy and almost white before they are unfolded. The flowers, according to Sonnerat, are small and have no calyx; the corolla consists of one piece, and half-divided into five oval parts, pointed and star-like; and at the interior base of each division of the corolla are two small scales, which are there inserted, and form at the commencement of the flower a crown, composed of 10 nectaria, as Sonnerat describes them. The stamina are 10, short and attached to the corolla between the sections of the nectaria. The pistil is formed by a superior ovary, which is oval, without a style, and crowned by a simple, very small stigma. This ovary changes into a pyriform capsule, about an inch long, and opening naturally into two partitions, and within it has two cells, each containing a black, oval, pointed, small seed, one of which is almost always abortive. At the bottom of each seed is found a spongy substance, which seems to occupy the place of another abortive seed. Whether this tree be of the same genus with the *calambac* or *agallochum* of the ancients, it is not easy positively to ascertain; but it agrees with the description given of it by Kämpfer and by Cunningham, in Geoffroy's *Materia Medica*. If this be the case, it must be of a different genus and family from the *agallochum* of Amboina, which belongs to the *euphorbiæ*. Encycl. Method. tom. i. p. 49. See *AGALLOCHUM*, *CALAMBAC*, and *EXCOECARIA*.

Grew describes a piece of *lignum aloes*, with its own gum growing on it in the repository of the Royal Society. See Grew, Mus. Reg. Soc. p. ii. c. i. p. 179.

ALOEDARY, *aloedarium*, *aloedary*, denotes a purging medicine, wherein *aloes* is an ingredient.

This amounts to the same with what we otherwise call an *ALOETIC*.

ALOEDARY is also used for a history of the class of plants, under the denomination of *ALOES*.

ALOEPHANGINA, in the *Materia Medica*, denote medicines formed by a combination of *aloes* and aromatics.

ALOETICS, medicines wherein *aloes* is the chief, or fundamental ingredient.

Aloetics open the orifices of the vessels, and are on this account found hurtful in cases of hæmorrhages, particularly at the nose; also in the *tensismus*, *hemicranium*, &c. The immoderate use of *aloetics* tends to produce hæmorrhoids, hypochondriac pains, and inflations.

ALOEU, in *Entomology*, a species of scarabæus, or beetle, with a three-horned thorax, the intermediate longer and simple, the head submuticous, and the elytræ unistriated; found in America.

ALOFT, a sea-term, synonymous with up in the tops, at the mast-heads, or any where about the higher rigging.

ALOGIANS, *ALOGI*, or *ALOGIANI*, compounded of the privative *α*, and *λογος*, *q. d.* without *Logos*, or *Word*, in

Eccelesiastical History, a sect who denied that Jesus Christ was the *Logos*, or eternal Word; and on this ground also rejected the Gospel of St. John as spurious, and also the Revelation.

Some ascribe the origin of the name, as well as of the sect of *Alogians*, to Theodore of Byzantium, by trade a currier; who, having apostatized under the persecution of the emperor Severus, to defend himself against those who reproached him therewith, said, that it was not God he denied, but only man. Whence his followers were called in Greek *αλογοι*, because they rejected the Word. But others, with more probability, suppose the name to have been first given them by Epiphanius in the way of reproach. They made their appearance towards the close of the second century.

Philaster has also mentioned a heresy that rejected John's gospel and revelation, and ascribed both to Cerinthus. Dr. Lardner is of opinion that this is a fictitious heresy; and that there never were any Christians who rejected John's gospel and first epistle, and yet received the other gospels, and the other books of the New Testament. No notice is taken of such by Irenæus, Eusebius, or any other ancient writer, before Philaster and Epiphanius; nor has Theodore given any account of this heresy. This heresy, says this indefatigable inquirer and impartial reporter, was, as he conceives, invented upon the occasion of the controversy of Caius and Dionysius, and others, with the Millenarians in the third century; some of whom disputed or denied the genuineness of the book of Revelation, and ascribed it to Cerinthus. Hence some said that those enemies of the Millennium might as well reject also St. John's Gospel, and others said, that they actually did so, though they did not. In Philaster's catalogue this heresy follows next after the Millenarians, or Chilionetites, as he calls them, and the order in Epiphanius leads us to the same time. Lardner's Works, vol. ix. p. 515.

ALOGONIA, in *Ancient Geography*, a town of Messenia, south-east of Gerenia: north-east of which were a temple of Bacchus and another of Minerva.

ALOGOTROPHIA, among *Physicians*, an irregular nutrition of some part, attended with a vicious figure or conformation thereof, as in the rickets.

If the bones of the vertebræ of the back receive too much nutriment on one side, as sometimes happens in children, an incurvation necessarily ensues, which, as Charleton expresses it, is produced by an *alogotrophia*.

ALOIDES, in *Botany*, a name used by some for the *aloe palustris*, or fresh water *ALOE*, called in some parts of England, *water-soldier*; and by Linnæus, *stratiotes*.

ALOIUM, in *Ancient Geography*, a town of Thessaly, near the valley of Tempè, and founded, says Steph. Byz. by the *Aloades*.

ALOMAYO, in *Geography*, a town of South America, in the country of Peru, and jurisdiction of Guamalies.

ALON, in *Biography*, a celebrated personage whose memory is preserved in the Triads of the Welsh Bards; and who flourished among the first colonies of this island, if not among the Cymry before their arrival here. This Alon, with Plennydz and Goron, are recorded as the three who combined the institutes and privileges of the bards, druids, and oviates, into a regular system, under the sanction of a national law. This event is said to have taken place in the time of Prydain, who is mentioned in the same Triads, as the first who digested a national constitution for the Cymry or Britons. Be this as it may, there is great reason to conclude,

clude, that Alon is the same person who is called Olen, Olenus, Ailinus, or Linus, among the different people of Greece and the adjoining countries, and even in Egypt; for it is remarkable that similar attributes are ascribed to him by those ancient nations, as in our Triads: according to Pausanias, Olen the hyperborean is said to have been the first prophet of Delphi: Bero the female hierophant is made to sing of Olen, as the inventor of verse, and the most ancient priest of Phœbus; and, indeed, all Greece chaunted the song of Olen; and this more particularly occurred in celebrating the completion of the vintage; for thus it is said by Homer, (Il. lib. xviii. v. 570, &c.) in the description of the shield of Achilles:—

“In the procession of the vintagers were groupes of young damsels and youths, carrying baskets curiously entwined, filled with presents of the most delicious fruits. In the midst of these was seen a young man striking from his lyre harmonious sounds; he sang the song of Linus, with a voice most sweet; and the company joined with chaunts and shouts of joy, beating the earth in cadence with lively steps.”

ALON, in *Ancient Geography*, a river of Cilicia, near Sebaste or Eleusa, a small island.

ALONA, or ALONE, a town on the eastern side of Spain, south of the mouth of the Tuder.

ALONE, or HALONE, one of the Æolian islands.

ALONE, or HALONE, a small island of the Propontis, south of the island of Proconessus, and north-west of Cyzicum. The name was given to it, says Steph. Byz. because its inhabitants had found out the art of making salt. This author says, that it was also called Neuris and Procona; but Pliny distinguishes the last of these two islands.

ALONE, a town placed by some writers in Paphlagonia.

ALONG-SIDE, in *Sea-language*, expresses side-by-side, or joined to a ship, wharf, &c.

ALONG-SHORE, a nautical phrase expressing along the coast, or a course which is in sight of the shore, and nearly parallel to it.

ALONG, *Lying*, denotes the state of a ship that is pressed down sideways by the weight of sail.

ALONI, in *Ancient Geography*, a town of Assyria, situate on the eastern banks of the river Zabab, near its entrance into the Tigris.

ALONI, a people joined by Pliny to the Gordians, and placed near the Tigris.

ALONIS, a town and island of Gaul, which Martin imagines to have been the town and island of Magdelona, formed by the retrenchment of the first Celtic syllable *Mag*.

ALONIUM, a place of the island Crete, in the territory of Gortyna.

ALONSO, in *Biography and History*. See ALPHONSO.

ALONTA, a river placed by Ptolemy in Asiatic Sarmatia.

ALONTIGICELLI, a people of Bœtica, near the river Menabaz.

ALONTIUM, ALUNTUM, or HALUNTUM, a town of Sicily.

ALOOF, in *Sea-Language*, denotes at a distance. See LUFF.

ALOPE, in *Entomology*, a species of the SPHINX, with dentated brown wings, the posterior being yellow and black at the apex, black abdomen, and interrupted pale-coloured bands, found in India.

ALOPE, or ALOPA, in *Ancient Geography*, a name given to several towns. *Alope* was a town of Thessaly. Homer mentions a town of this name, supposed to be the same place, as he names it after *Alos*, a town of Phthiotis: it is supposed to have been so called after Alope, the daughter

of Cereyon, or of Aëtor. Alope was also a town of Attica, and also of Pontus, between Mysia, Caria, and Lycia; another in Phœcis, and another among the Locrians.

ALOPECE, an island near the coast of Asia Minor, not far from Smyrna.

ALOPECE, or ALOPECÆ, was also a district of Attica, near Cynosarges, and distant about 11 or 12 stadia from Athens. The Lacedæmonian general Anchimolius, who, by the suggestion of the oracle of Delphos, had been sent to drive the Pisistratides from Athens, died and was buried in this place; and Herodotus (lib. v. § 3.) says, that his tomb was near the temple of Hercules. This was also the birth-place of Aristides and of Socrates. *Alopecia* was also an island placed by Strabo in the Palus-Mæotis, and by M. d'Anville, near the mouth of the Tanais.

ALOPECIA, in *Surgery*, baldness in any part of the body, arising from disease, or from a natural defect of growth in the hair. This deficiency is sometimes produced by excessive venery, and has been known to be remedied by a person becoming chaste in his habits; but more frequently it is not connected with any evident external cause, and only indicates a faulty state of the fluids at the roots of the hair, or a want of due nourishment and moisture. Alopecia was formerly a common symptom of the *lues venerea*, but is now very rarely observed to occur in such cases.

Oil and gently stimulating applications to the head, with repeated shaving, are proper against the defect in question.

ALOPECIA is also used by Galen for the change of the hair to another colour.

ALOPECIAS, in *Ichthyology*, a name of the *vulpes marina*, or sea-fox.

ALOPECONESUS, in *Ancient Geography*, a town of the Thracian Chersonesus, north of and near the gulf of Melanos. It was peopled by the Æolians, and taken by Philip, king of Macedon.

ALOPECOPITHECOS, in *Zoology*, a name derived from the Greek, and given by Aldrovand and others to the OPOSSUM.

ALOPECOS, in *Ancient Geography*, a hill of Bœotia, in Greece, called also Orchalis.

ALOPECURO-VERONICA, in *Botany*. See MENTHA.

ALOPECUROS. See BETONICA.

ALOPECURUS, *ἄλωπεκος ουρα*, fox-tail; a genus of the triandria digynia class and order, and of the natural order of graminæ, or grasses: its characters are, that the calyx is a glume one-flowered, two-valved; the valves ovate-lanceolate, concave, compressed, equal, connate at the base; the corolla one-valved, valve ovate, lanceolate, concave, with the edges united at the base, a little shorter than the calyx, awn twice as long, with a bent joint, inserted into the back of the valve near the base, no nectary; the stamina have three filaments, capillary, flattish at the base, longer than the calyx, anthers forked at each end; the pistillum is a roundish germ, the styles are two, capillary, united at the base, longer than the calyx, and stigmata villous; no pericarpium, the corolla investing the seed; the seed ovate and covered. Martyn and Willdenow enumerate eight, and Gmelin 12 species. 1. *A. indicus*, panicum indicum of Miller, panicum alopecuroides of Linnæus, Spec. pl. 82. Indian fox-tail grass, with cylindrical spikes, involucre setaceous, fasciculate, two-flowered, and villous peduncles, a native of the East Indies. 2. *A. bulbosus*, *A. geniculatus* β. Hudson, gramen-myosuroides nodosum of Dillenius, bulbous fox-tail g. with culm erect, spike cylindrical, (very simple, attenuated, smooth, glumes of the calyx distinct and villous, Smith) and root bulbous. The bulbous cespitose root emits fibres from its lower part, and has a brown, striated, tunicated membrane. The culm is foliary,

lary, scarcely a foot long, very simple, erect, a little decumbent at the base, foliose, binodial, striated, and smooth; the leaves smooth; the radical few and short; the cauline almost linear, patent, and of the length of the sheaths; the stipula short and striated; the spike sesquialteral, somewhat erect, very simple, slender, acute, and many-flowered; the glumes of the calyx a little unequal, acute, awnless, altogether separate at the base, villous in the nerves, and undilated carina; the glume of the corolla emarginated and awned at the base. This species is very different from the *A. geniculatus*, and has florets, says Dr. Stokes, longer, narrower, and much less hairy; and Dr. Smith observes, that in its spike, and the structure of the flowers, it is more nearly allied to the *A. agrestis*. It is found rarely in salt marshes; in those near Yarmouth, in the marshes of Cardiff in Glamorganshire, and near the Aust passage, and in the vicinity of Northfleet, in Kent. It is perennial, and flowers in July. 3. *A. jratensis*, meadow fox-tail g. with the culm erect and smooth, spike sublobated, and the glumes of the calyx villous and connate at the base. The root is fibrous; the culm two feet high, erect, foliose, smooth; the leaves somewhat smooth and glaucous, with a short, subpubescent stipula; the spike somewhat simple, scarcely paniculated, dense, erect, about two inches long, soft, and many-flowered; all the glumes are equal, lanceolate, compressed, white, marked on both sides with two green longitudinal lines; those of the calyx, especially near the keel, silky-villous and awnless; the glume of the corolla smooth, except toward the apex of the keel, awned at the base, the awn geniculated, twice longer than the flower, and naked. This is a native of most parts of Europe, from Italy through France, Germany, Holland, Great Britain, to Denmark, Norway, Sweden, and Russia; and also in Siberia. It is found with us very common in pastures and meadows. It is perennial, and flowers in May. This is the best grass to be sown in low meadow grounds, or in boggy places which have been drained. Sheep, horses, and goats eat it. Cows and swine are not fond of it; but Dr. Pulteney says, this is the most grateful of all the grasses to cattle. It possesses, says Professor Martyn, the three great requisites of quantity, quality, and earliness, in a degree superior to any other, and is therefore highly deserving of cultivation in lands that are proper for it. The seed may be easily collected, as it does not quit the chaff, and the spikes are very prolific. But the larvæ of a species of *musca*, which are themselves the prey of the *cimex campestris*, devour the seed so much, that in many spikes you will scarcely find one perfect. Lewis Majendie, Esq. at Hedingham, has cultivated it on a considerable scale, and found it to be an excellent grass. 4. *A. Agrestis*, field or slender fox-tail g. with culm erect, roughish, spike very simple and attenuated, glumes naked, connate at the base, and dilated at the keel. The root is fibrous and small; the culm half a foot long, erect, foliose, naked at the apex, and roughish; the leaves rough above, the stipula lanceolate and pubescent; the spike almost three inches long, erect, slender, acute, many-flowered, and of a purplish colour; the glumes subequal, larger than the preceding, and less pubescent, varied with white and green, and nerves prominent; those of the calyx villous at the base, connate, with a dilated subpubescent keel, and awnless, the glume of the corolla smooth, awned at the base; the awn geniculated, twice longer than the flower, rough and recurved in drying. This grass is a troublesome weed in cultivated ground; and among wheat it is execrated by the farmers, under the name of *black bent*; it is also common by way-sides as well as in corn-fields, and in pastures in the Isle of Wight. It has acquired the name of mouse-tail grass in English, and *Myosuroides* in Latin, from the great length and slenderness of the

spike, which resembles the tail of a mouse. It is annual, flowers in July, continues flowering till Autumn, and comes into bloom very soon after being sown. There is a variety, with a shorter spike, and recurved awns. It is small and brown, on account of its barren and sunny situation. 5. *A. geniculatus*, gramin fluviatile spicatum of Gerard, g. aquaticum spicatum of Parkinson, and g. alopec. flav. genicul. procumbens of Morison, floating fox-tail g. with culm ascending and geniculated or knee-jointed, spike sublobate and cylindric, and glumes blunted and hairy. The root consists of very long and simple fibres; the culms natant, very long, geniculated, radicating in the inferior geniculi, assurgent in the apex, foliose, ramous, and smooth, the leaves smoothish, the stipula whitish and very slender, the spike cylindric, short, somewhat obtuse, divisible in lobes, many-flowered, purplish, and in the variety β whitish; the glumes twice less than the preceding, subequal, and very obtuse, those of the calyx longer, hairy; those of the corolla crenated, smooth, awned toward the base, the awn geniculated, and of various length; the root in dry places is bulbous, with a culm somewhat erect; and this variety Hudson has confounded with the *A. bulbosus*. Dr. Smith mentions two varieties, viz. β . g. fluviatile album of Dillenius, and γ . with a bulbous root of Hudson and Withering. This species is easily known in its common state, by pools and in wet meadows, by the frequent joints of the culm or stem changing their direction, and appearing broken. It often puts out roots under water from the joints, and thus spreads itself; the leaves floating on the surface. From the deep colour of the spikes, it is called in some places *black-grass*. It sometimes occurs in dry pastures, and then, according to Mr. Curtis, grows more upright; the spike is much more slender, and the base of the stalk swells out into a kind of bulb. It is perennial, and flowers in July. Cattle eat it, but it is not esteemed a profitable grass. The variety γ is found in walls and a dry sterile soil. Dr. Withering mentions four varieties; one of which, with awns, very fine and soft, not longer than the calyx, fruit little, stalks branched, a fibrous root, and found in a marshy place near the Stews, in Edgbaston park, he suspects to be a distinct species. 6. *A. Hordeiformis*, barley-like fox-tail g. with simple raceme, and flowers intrenched with awns. This is an Indian grass, and resembles *hordeum murinum*, or barley-grass. 7. *A. Monspeliensis*, *A. Aristatus* of Hudson, &c. phleum crinatum of Schreber, bearded fox-tail g. with panicle subspiked, rugged calyces, and awned corollas. This resembles *A. panicus*, but is three times as large; the calyx has a tubercle at the bottom; the corolla, which has two valves, is shorter than the awn, the culm and leaves are stiff, the glumes rough, but smooth at the edge, both valves are awned, and the awns of the corolla are much shorter than those of the calyx. It grows wild in marshes and wet pastures, at Purfleet in Essex, and at Drayton, about two miles from Portsmouth, is annual, and flowers in June and July. See AGROSTIS. 8. *A. panicus*, hairy fox-tail g. with panicle subspiked, villous glumes, and awned corollas, very much resembles the last species, but the whole plant is soft, and only five or six inches high; the glumes downy, woolly at the edges; the awns of the corolla shorter than those of the calyx; the corolla has two valves, as short again as the calyx, hollow and smooth; the outer three times as broad as the other, roundish-ovate, blunt, with four teeth, with awn longer than the valve issuing from below the point; inner valve ovate-lanceolate, pointed, with two teeth; the calyx ending at the base in a hard tubercle. This species grows on dry soils, is annual, and flowers in July. See AGROSTIS.

Gmelin refers to this genus the following species, besides those above enumerated, viz. *A. ciliatus*, with a culm spiked

spiked and erect, and ciliated glumes. *A. carolinianus*, with radiating culm, subsipated panicle, smooth glumes, and awned corollæ. *A. typhoides*, with simple raceme, and awnless flosculi. *A. canadensis*, with spiked caudated panicle, and flosculi intrenched with awns. *A. Ovatus*, with panicle ovated, contracted, resembling a spike, and exterior petal awned before the apex. Willdenow, besides the *A. indicus*, *A. bulbosus*, *A. pratensis*, *A. agrestis*, and *A. geniculatus*, describes the following species, viz. *A. capensis*, with cylindrical spike, and smooth awnless glumes, a native of the Cape of Good Hope. *A. antarcticus*, with erect culm, ovated spike, hairy glumes and awned corollæ, the awns being longer than the calyx; brought from the Straits of Magellan. *A. echinatus*, with spiked, ovated panicle, punctated, ciliated glumes, and geniculated culm, a native of the Cape of Good Hope. For the propagation and culture of this genus, see GRASS. Martyn's Miller, Gmelin's Linnæus, Withering, Arrang. vol. ii. p. 419. Smith's Flor. Brit. vol. i. 72. Willdenow's Linn. tom. i. p. 356.

ALOPES, in *Ancient Geography*, one of the ancient names of Ephesus.

ALOPEX, in *Entomology*, a species of the *SCARABÆUS Melolontha*, with yellow hair, the clypeus reflex and emarginated, and the elytræ smooth and black; found at the Cape of Good Hope.

ALOPEX, in *Zoology*, a species of the *CANIS*, with a tail straight and black at the tip. This is less than the common fox, and has a thicker and darker fur, though it is sometimes brighter and redder than that of the fox. A Pennsylvanian brant-fox, described by Mr. Pennant, was scarcely half the size of the common fox; with the nose black and sharper, the space round the eyes ferruginous, the forehead and upper parts of the body black, mixed with red, ash-colour, and black, and by the predominance of the ash-colour, appearing hoary, the belly yellowish, the tail black above, red beneath, and on the sides ash-coloured. The British variety of the fox with a black tip on the tail, says Mr. Pennant, is unknown in America; and therefore his brant-fox must be either a variety of the other, or a distinct species. This species is found in Europe, Asia, and America. The *alopex europæus*, or coal-fox, the charbonnier of Buffon, is reckoned another variety. It inhabits Burgundy, is of a silver-grey colour, and the tail tipped with white like the common fox; but from the remarkable blackness of its feet and legs, seeming to have been produced by charcoal-dust, it is called charbonnier, or coal-fox.

ALOR, in *Ancient Geography*, a river of Macedonia.

ALORITÆ, a people of Macedonia.

ALORUS, a town of Macedonia, north-west of the Thermaic gulf, placed by Ptolemy in Pæonia, and by M. d'Anville in Pieria.

ALOS, or **ALUS**, a town of the Phthiotis in Thessaly, east of the Pelasgic gulf, at the foot of Mount Othrys, upon the little river Amphryssus. It was built by Athamas, and so called in honour of one of his female domestics.

ALOS was also a town of Peloponnesus, in the Argolid.

ALOSA, in *Ichthyology*, a species of the *CLUPEA*, having the sides spotted with black, and the upper jaw bifid. It is the thrissa of Aristotle, Rondeletius, and Aldrovand, the alaufa of Gesner, the clupea of Willughby and Ray, and our SHAD.

ALOSANGA, in *Ancient Geography*, a town of India, beyond the Ganges, according to Ptolemy.

ALOST, in *Geography*, a town of Flanders, situate on the river Deuder, ten leagues south of Antwerp. This town contains a collegiate church, and several convents, in one of which, viz. that of Guillemins, is the tomb of Theodore

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Martin, who brought the art of printing out of Germany into the Low Countries. He was a friend of Erasmus, who wrote his epitaph.

This town, which is the capital of a county, was taken and dismantled by M. Turenne, in 1667; and abandoned to the allies in 1706, after the battle of Ramillies. N. lat. 49° 55'. E. long. 3° 56'.

ALOUATE, in *Zoology, a name given by Buffon to the *Simia Seniculus*, or long-tailed, bearded, red monkey, with prehensile tail, of the Linnæan system; the *arabata* of Gummila, Oronoko, tom. ii. p. 8. and the royal monkey of Penant. Some have considered this as a variety of the *Simia Beelzebul*, from which it differs by its very bright bay colour; but Dr. Shaw (Zool. vol. i. p. 71.) is of opinion, that it is a distinct species. From young animals in the Leveian Museum, he describes it as being about the size of a squirrel, and entirely of a very bright, ferruginous, or reddish chestnut colour, with the face naked and black, surrounded on the lower parts by a straggling beard of black hairs, and the tail strongly prehensile. This species is said to be rare in Brazil, but very common in Cayenne. Its voice and manners are the same with those of the *Simia Beelzebul*, which is common in Brazil, but not found in Guiana. By an account of a person who kept these animals at Cayenne, it appears that the alouates, or howlers, as they are called, inhabit the moist forests in the neighbourhood of waters or marshes. They are commonly found in the woody islets of large flooded savannahs, and never on the mountains of the interior of Guiana. They go in small numbers, often in pairs, and sometimes singly. Their cry or horrible scream may well inspire terror, for it seems as if the forests contained the united howlings of all its savage inhabitants together. This clamour is usually made in the morning and evening; but it is repeated in the course of the day, and sometimes in the night. The sound is so strong and varied, that one would imagine it to be produced by several animals at once, though it is emitted by only two or three, and sometimes one. In a state of captivity the animal loses its voice, or does not exert it in the same manner as he does when wild, and in this state he seldom lives long. The male is larger than the female, and the latter always carries her young on her back. In order to kill these animals it is necessary to fire several times; while any life remains, and after they are dead, they will remain clinging to the branches by the hands and tail. Their flesh, after all the trouble of possessing them, is not good; it is always tough, and never admitted to any tables but to those of indigent inhabitants and travellers, to supply the want of other food. This animal is said to be as large as a calf, and to live on the fruit of the banana-tree.*

ALOUCHI, a kind of sweet-scented gum which runs from the tree that produces white cinnamon.

ALOUETTE de Mer, in *Ornithology*, a name given by Buffon to the *TRINGA Hippoleucos*, or common SANDPIPER.

ALOUETTE, is also the name of the *ALAUDA Arvensis*.

ALOUS, in *Ancient Geography*, a town mentioned by Steph. Byz. and which belonged to Illyria.

ALP, in *Ornithology*, an English name used by some for the BULL-FINCH.

ALPAGE, *alpagium*, in *Ancient Writers*, denotes the privilege of feeding cattle on the ALPS or high mountains, or a sum paid for the purchase of such a right.

This is otherwise called *Alpaticum*.

ALPAGNA, in *Zoology*, the *CAMELUS Paco* of the Linnæan System, and the PACOS of Pennant.

ALPAM, in *Botany*. See *APAM*.

ALP ARSLAN, in *Biography and History*, second

founder of the dynasty of Seljuks, in June or Persia, the son of Daud or Jettar Beg, and great grandson of Tugluk, who founded the dynasty, was born in the year of the Hegira 421, A. D. 1030. He succeeded his uncle Togruk in A. D. 1063, and united in his person the two kingdoms of Khorezm and Irak, with their dependencies; so that, at the commencement of his reign, he was the monarch of all the countries lying between the rivers Jihun, or Amu, and the Tigris or Euphrates; that is, of all Iran, or Persia, in the compass of which he bore a considerable state. Before he embraced Mahometanism he was called Israel, and afterwards he assumed the name of Mohammed, or Abu Shajah Mohammed; and his surname was Alp Arslan, which signifies in Turkish, "the valiant lion." He was also distinguished, on account of his power and merit, by the appellation of Azzaddin, or Adhadoddin, denoting, "the protector of the religion." He began his reign by subduing several rebellions among his subjects; and he derived great assistance from his vizir Nadham al Molk, or Nezam el Mulk, who was reputed to be the greatest man of his time, and who administered the affairs of the kingdom, in the reign of this prince and his successor, with the greatest integrity. Having succeeded in his enterprises for the security of his own dominions, and in an assembly of the states declared his son Malek Shah his heir and successor, causing him to sit on a throne of gold prepared for the purpose, and exacting from all the officers of the empire an oath of fidelity to him, Alp Arslan crossed the Euphrates at the head of the Turkish cavalry, and entered Cæsarea, the metropolis of Cappadocia, to which he had been attracted by the wealth and fame of the temple of St. Basil. After plundering this city, he proceeded to the final conquest of Armenia and Georgia, A. D. 1065. In Armenia the title of a kingdom and the spirit of a nation were annihilated; and the artificial fortifications were yielded by the mercenaries of Constantinople; "by strangers without faith, veterans without pay or arms, and recruits without experience or discipline." But the woods and valleys of Mount Caucasus were more strenuously defended by the native Georgians, or Iberians, who were at length compelled to submit by the indefatigable exertions of the sultan and his son Malek; and who were punished for their obdurate resistance, by being obliged to wear at their ears iron horse-shoes as a badge of their slavery; many of whom, in order to avoid this ignominy, assumed the external profession of Mahometanism.

In 1068 Alp Arslan directed his arms against the Constantinopolitan empire, which was then governed by Eudocia. His progress alarmed the empress, and induced her to give her hand and her sceptre to Romanus Diogenes, a brave soldier, who was accordingly invested with the imperial purple. Although in the palace Diogenes was no more than the husband of Eudocia, yet in the camp he was the emperor of the Romans, and he sustained that character with feeble resources and invincible courage. By his spirit and success the soldiers were taught to act, the subjects to hope, and the enemies to fear. In three laborious campaigns the Turks were driven beyond the Euphrates; and in the fourth and last Romanus undertook the deliverance of Armenia. With an army of 100,000 men he marched to the siege of Malazkerd, an important fortress in the midway between the modern cities of Arzeroum and Van. Alp Arslan flew to the scene of action at the head of 40,000 horse, according to the statement of Elmacin, but reduced by Abulpharagius to 15,000, and by d'Herbelot to 12,000. The Greeks, though much superior in number, were distressed and dismayed by his rapid and skilful evolutions; nevertheless, their principal general Basilacius was defeated, Malazkerd was

reduced, and their forces were separated; in this moment of advantage he proposed peace to the emperor. The answer of Romanus was dictated in the tone of insult and defiance: "If the barbarian wishes for peace, let him evacuate the ground which he occupies for the encampment of the Romans, and surrender his city and palace of Rei as a pledge of his sincerity." Alp Arslan smiled at the vanity of the demand, but he wept in anticipating the death of so many faithful Moslems; and, after a devout prayer, proclaimed a free permission to all who were desirous of retiring from the field. With his own hands he tied up his horse's tail, exchanged his bow and arrow for a mace and scymitar, clothed himself in a white garment, perfumed his body with musk, and declared that if he was vanquished, that spot should be the place of his burial. In the decisive and bloody battle that ensued, the Greeks were totally routed, great numbers of them were killed; and Romanus, after valiantly maintaining his station, when he had been deserted by the body of his army, was at length recognized by a slave, taken prisoner, and presented to Alp Arslan. The successor of Constantine, in a plebeian habit, was led into the Turkish divan, and commanded to kiss the ground before the lord of Asia. He reluctantly obeyed; Alp Arslan, starting from his throne, is said to have planted his foot on the neck of the Roman emperor. This fact, however, is doubtful. He instantly raised the royal captive from the ground; and then clasping his hand with tender sympathy, assured him that his life and dignity should be inviolate in the hands of a prince who had learned to respect the majesty of his equals, and the vicissitudes of fortune. Romanus was treated with attention and respect; and in the familiar intercourse of eight days, not a word nor a look of insult escaped from the conqueror. During the negotiation he was asked by Alp Arslan what treatment he expected to receive? To which question Romanus, with calm indifference, replied: "If you are cruel, you will take my life; if you listen to pride, you will drag me at your chariot wheels; if you consult your interest, you will accept a ransom, and restore me to my country." But what," continued the sultan, "would have been your own behaviour had fortune smiled upon your arms?" "Had I vanquished," he fiercely said, "I would have inflicted on thy body many a stripe." The Turkish conqueror smiled at the insolence of his captive; observed, that the Christian law inculcated the love of enemies and forgiveness of injuries; and nobly declared that he would not imitate an example which he condemned. After mature deliberation, Alp Arslan dictated the terms of liberty and peace, a ransom of a million, an annual tribute of three thousand pieces of gold, the marriage of the royal children, and the deliverance of all the Moslems who were in the power of the Greeks. The treaty was subscribed by Romanus, and the sultan, after a courteous embrace, dismissed him with rich presents and a military guard; but his subjects having revolted, he was unable to collect and remit the stipulated price of his ransom. The generosity, or perhaps the ambition of the sultan, disposed him to espouse the cause of his ally; but the accomplishment of his design was prevented by the defeat, imprisonment, and death of Romanus Diogenes. After this treaty, A. D. 1071, Alp Arslan beheld the fairest part of Asia subject to his laws; 1200 princes, or the sons of princes, stood before his throne; and 200,000 soldiers marched under his banners. He disdained to pursue the fugitive Greeks; but he meditated the more glorious conquest of Turkestan, the original seat of the house of Seljuk. His progress on this expedition, A. D. 1072, was impeded by Joseph Cöthual, a Karasmanian, or Carizmian, the governor of Berzem, or Bazam, who, after vigorously defending his fortress, was taken prisoner;

prisoner; and being reproached by the sultan for his obstinate folly, by his insolent replies provoked a cruel sentence, that he should be fastened by his hands and feet to four stakes, and left to expire in that painful situation. The desperate Joseph, drawing a dagger, rushed towards the throne; the guards raised their battle-axes; but Alp Arslan, the most skilful archer of his age, checked their zeal, and drew his bow; however his foot slipped, and the arrow missed Joseph, who planted his dagger in the breast of the sultan, and was himself instantly cut in pieces. The wound was mortal, and the sultan expired, A. D. 1072, pronouncing an useful admonition to the pride of kings. "In my youth," said Alp Arslan, "I was advised by a sage to humble myself before God; to distrust my own strength; and never to despise the most contemptible foes. I have neglected these lessons, and my neglect has been deservedly punished. Yesterday, as from an eminence, I beheld the numbers, the discipline, and the spirit of my armies; the earth seemed to tremble under my feet; and I said in my heart, 'Surely thou art the king of the world, the greatest and most invincible of warriors.' Those armies are no longer mine; and, in the confidence of my personal strength, I now fall by the hand of an assassin." This prince reigned nine years and six months, and lived 44 years and three months; and his remains were deposited in the tomb of the Seljukian dynasty, at Maru, one of the four cities of Khorasan, with this inscription: "O ye who have seen the glory of Alp Arslan exalted to the heavens, repair to Maru, and you will behold it buried in the dust." The annihilation of the inscription, and of the tomb itself, says a popular historian, more forcibly proclaims the instability of human greatness. Alp Arslan commanded the respect of all who approached him by his stature, aspect and voice; his long whiskers shaded his face, and he wore a large turban in the form of a crown. His valour and liberality were equally renowned; and he was extolled for his piety and his attachment to the Mahometan faith and practice. He was succeeded by his son Malek Shah, who had been acknowledged during his life as the future sultan of the Turks; and who, by a triple victory over his uncle, cousin, and brother, each of whom disputed the inheritance, established his own reputation, and the right of primogeniture. Mod. Un. Hist. vol. iii. p. 394—401. Gibbon's Hist. vol. x. p. 352—363.

ALPEDRINHA, in *Geography*, a small place of Beira, in Portugal, containing about 950 inhabitants, and one church.

ALPEDRIZ, a small place of Estremadura, in Portugal, containing about 600 inhabitants.

ALPEN, a town of Germany, in the circle of the Lower Rhine, and electorate of Cologne; eight miles south-west of Wesel, and fifty north north-west of Cologne.

ALPENE, or **ALPENUS**, in *Ancient Geography*, the capital of the Locrians, on the south coast of Phœnix, east of Trachia, and above Thermopylæ and Anthela.

ALPESA, a town of Bætica, according to Pliny.

ALPHA, a river in the vicinity of Aquileia, near which Constantine was killed, and into which his body was thrown.

ALPHA BUCCELIS, a town ascribed by Ptolemy to the Marsi; probably the same with *ALBA Fucensis*.

ALPHA, the name of the first letter in the Greek alphabet; corresponding to our A.

The word is originally Hebrew, formed from *aleph*, the name of the first letter of the Hebrew alphabet.

Alpha, according to Plutarch, was placed at the head of all the letters, because, in the Phœnician language, it de-

notes an ox: which, with regard to use and service, is the first among beasts.

ALPHA, in *Composition*, denotes, sometimes, *privation*, in the same sense with *anti*; *reihout*; sometimes augmentation, as *alpha*, *much*; and sometimes union, as *alpha*, *together*. See *A*.

ALPHA is also used as a letter of order, to denote the *first*; and of a number, to signify *one*; but when it was a numerical letter, a little stroke, or an acute accent, was drawn above it thus, *Α'*, to distinguish it from the mere *A*, which was a letter of order.

ALPHA and *Omega*, in the *Divine Writings*, signify the beginning and the end, or the first and the last, (*viz.* before and after all things); and therefore the hieroglyphic of God is formed of these two letters *A* and *Ω*.

These two letters were made the symbol of Christianity, and were accordingly engraved on the tombs of the ancient Christians, to distinguish them from those of idolaters.

ALPHA is particularly used among *Ancient Writers*, to denote the chief, or first man of his class or rank.

In this sense, the word stands contradistinguished from *beta*, which denotes the *second* person.

Plato was called the *alpha* of the wits; Eratosthenes, keeper of the Alexandrian library, whom some called a second Plato, is frequently named *beta*.

Thus Martial, in imitation of the Greeks, who distinguished the rank of persons by letters, says;—

"Quod *alpha* dixi, Codre, penulatorum,
Te nuper, aliqua, cum joculari in charta:
Si forte bilem movit hic tibi versus,
Dicat licebit *beta* me togatorum."

Epig. l. 5. ep. 26.

ALPHA is also a title given by some ancient writers to the Jewish legislator Moses. The reason of the application is much controverted.

ALPHABET, the several letters of a language disposed in their natural or accustomed order.

The word is formed from the names of the two first letters of the Greek alphabet, *alpha*, *beta*: which were borrowed from those of the Hebrew, *aleph*, *beth*.

In the English alphabet we reckon 26 letters, *viz.* *a b c d e f g h i j k l m n o p q r s t u v w x y z*. See each under its proper article, *A*, *B*, *C*, &c.

But as there is a much greater number of different sounds in our language, it is not without reason that some grammarians maintain, that there ought to be a greater number of letters: as also, that the double letters, *x*, *y*, and *z*, and the superfluous ones, *k* and *g*, should be retrenched.

The French alphabet contains only 23 letters. Pasquier indeed maintains it to consist of 25, because he adds the two double letters *Et* for *et* and *us* for *us*; but those are only abbreviations. The Abbé d'Angeau, on better grounds, reckons 34 different sounds in the French tongue; and urges that the alphabet ought of consequence to consist of 34 different characters, setting aside the double letters *x* and *y*, and the superfluous one *q*.

The difference between languages with respect to the number of letters in their alphabet is very considerable: the Hebrew, Chaldee, Syriac, and Samaritan alphabets, have each 22; the Arabic 28; the Persian 31; the Turkish 33; the Georgian 36; the Coptic 32; the Muscovite, or Russian, 41, of which some are only notes of accent in pronunciation; the Greek 24; the Latin 22; the Slavonic 27;

the Dutch 26; the Spanish 27; the Italian 28; the Indians of Bengal 21; the Bramas 19.

The Ethiopians have no less than 202 letters in its alphabet, there being seven vowels, which they combine with each of their 26 consonants; to which they add 20 other aspirated syllables. The like is said of the Tartarian; each of their letters is a syllable, having one of their vowels joined to its consonant; as *ts, le, li, &c.*

The Chinese have no alphabet, properly speaking; except we call their whole language their alphabet; their letters are words, or rather hieroglyphics, and are in number about 80,000. See Phil. Trans. vol. lix. an. 1769, N° 66.

In effect, alphabets were not contrived with design, according to the just rules of reason and analogy; but have been successively framed, altered, &c. as occasion offered. And hence have arisen many grievous complaints as to their deficiencies; and divers attempts to establish new and more adequate ones in their places. Bishop Wilkins charges all the alphabets extant with great irregularities, with respect to the order, number, power, figure, &c. As to the order, it appears irrational, precarious, and confused; because the vowels and consonants are not reduced into classes, with such order of precedence and subsequence as their natures will bear. Even the Hebrew order is not free from this imperfection. As to number, they are both redundant and deficient; redundant, either by allotting several letters to the same power and sound; as in the Hebrew *ד* and *ז*, and the ordinary Latin *e* and *k*, *f* and *ph*; or by reckoning double letters among the simple elements of speech; as in the Hebrew *י*, the Greek *ξ* and *ζ*, the Latin *q*, *cu*, *x*, *cs*, and the *j* consonant, or jod—Deficient in divers respects, especially in regard of vowels, of which there are seven or eight kinds commonly used, though the Latin alphabet only takes notice of five; whereof two, *viz.* *i* and *u*, according to our English pronunciation, are not properly vowels, but diphthongs.

Add, that the difference among vowels, in respect of long and short, is not sufficiently provided for: the ancients, we know, used to express a long vowel by doubling its character; as *amamah, nata, rec, fecer, sanctissimis*; though the vowel *i*, instead of being doubled, was frequently prolonged, as *edilis, piso, vivus*. The ways used in English for lengthening and abbreviating vowels, *viz.* by adding *e* quiescent to the end of a word, for prolonging a syllable; and doubling the following consonants, for the shortening of a vowel, as *wane wann, ware warr, &c.* or else by inserting some other vowel, for the lengthening of it, as *meat met, read red, &c.* are all improper, because the sign ought ever to be where the sound is.

As to their powers, again, those are not always fixed to the same signification: the vowels, for instance, are generally acknowledged to have each of them several sounds; *vocales omnes plurifonae*, says Lipsius; and Vossius assures us, the ancients used their vowels in very different ways, *aliis modis longius exilisque, nunc crassius, nunc intermedio sono*. Thus the power of the vowel *i* is expressed in writing no less than in six several ways, *viz.* by *e*; as in *he, me, she, ye*; by *ai*, in *three, free, sea*; by *ie*, in *field, yield, shield, chief*; by *ea*, in *near, dear, bear*; by *ee* in *people*; by *i* in *privilege*. So is the power of the vowel *a*, as in *all, aul, aw, fault, caught*; which are only various ways of writing the same long vowel; besides the other distinct ways of expressing the same vowel when used short: again, the power of the vowel *o* is written five ways: *o*, as in *to, who, move*; *oe*, as in *die*; *oo*, in *jo, moon, noon*; *ou*, in *could, would*; *wo*, in *two*; and so of the rest.—Nor are the consonants of more

determinate powers; witness the different pronunciation of the same letter *c* in the same word *circo*, and *g* in *negligence*.—To say no more, the letters *c, f, t*, are used alike, to denote the same power, and the letter *f* is commonly used for *z*; and, which is yet worse, some letters of the same name and shape are used at one time for vowels, and at another for consonants; as *j, u, w, y*; which yet differ from one another, says Bishop Wilkins, *sicut corpus & anima*.

From this confusion in the power of letters, there arise divers irregularities; as, that some words are distinguished in writing, which are the same in pronunciation, *e. gr.* *cessio* and *sessio, &c.* and others are distinguished in pronunciation, which are the same in writing; as *get, acquire, and get, gagates, &c.* Hence also the Latin *male* is a disyllable, and the English *male* is a monosyllable.

The names also, in most alphabets, are very improperly expressed by words of divers syllables; *alpha, beta, &c.* in which respect, the Roman and our English alphabets, which only name the letters by their powers, have a great advantage over the rest.

Lastly, their figures are not well concerted; there being nothing in the characters of the vowels answerable to the different degrees of aperture; nor in the consonants, analogous to the agreements or disagreements thereof. Wilkin's Eff. towards a real character, &c. b. i. c. 4.

All these imperfections are obviated in the *universal alphabets*, or characters, of M. Lodwick, Bishop Wilkins, &c. See *Universal CHARACTERS*.

In the French king's library is an Arabic work, entitled *Sepbat Alacham*, containing divers sorts of imaginary alphabets, which the author distributes into *prophetical, mystical, philosophical, magical, talismanical, &c.*

Monsieur Leibnitz had in view to compose an *Alphabet of Human Thoughts*. Mem. de l'Acad. Roy. an. 1716.

It is no wonder that the number of letters in most languages should be so small, and that of the words so great, since, from a calculation made by Mr. Prefet, it appears, that, allowing only twenty-four letters to an alphabet, the different words or combinations that may be made out of these twenty-four letters, taking them first one by one, then two by two, three by three, &c. would amount to the following number, 1391,724288,887252,999425,128493402200. See COMBINATION.

It may be here observed, that every combination may make a word, even though that combination have not any vowel in it; because the *e* mute, or quiescent, insinuates itself imperceptibly between the consonants, or after the consonants, where they are but two, the latter of which would not be heard without it.—The use of this silent *e* is very remarkable in the Armenian, Welsh, and Dutch languages; wherein the generality of words have several consonants together.

Nor must it be omitted, that every single letter may make a word; which is very apparent, where the letter is a vowel; words of that kind being found in most languages. Thus, *a* and *o* make words in the Greek; *a, o*, in the Latin; *a, i, o*, in English; *a, o, y*, in French; *a, e, i, o*, in Italian; *a, y*, in Spanish; *a, o*, in the Portuguese; *o*, in most languages, and even in the Dutch and Swedish. Any consonant also becomes a word, by adding an *e* mute to it in pronunciation.

In fine, though a considerable number of the possible combinations of twenty-four letters were retrenched, yet the number remaining would still be immense, and vastly superior to that of the words in any language known.

Of all known languages, the Greek is looked upon as

one of the most copious, the radices only of which are esteemed about 3244, but then it abounds exceedingly in compounds and derivatives. Bishop Wilkins thinks these may be moderately computed at about ten thousand. Hermannus Hugo, indeed, asserts, that no language has so few as 100,000 words; and Varro is frequently quoted by learned men, as if he affirmed that there are in the Latin no less than 5,000,000; but upon inquiring into the scope of the passage, Bishop Wilkins observes, that this number is not intended by him to express the just number of words in the Latin, but the great variety made thereof by the inflection and composition of verbs.—To this purpose he lays it down, that there are above one thousand radical verbs in the Latin, and that each verb admits of five hundred several varieties. He farther supposes, that each of these may be compounded with nine prepositions; as, *cessit, recessit, accessit, decessit, praecessit, processit, successit*, &c. which amounts to five millions. See **WORD**.

Concerning the origin and progress and various kinds of alphabetical writing, see **LETTERS** and **WRITING**.

ALPHABET, in matters of *Polygraphy*, is a duplicate of the key or cypher, which each of the parties corresponding are to keep by them.

It is properly an alphabet of the usual letters disposed in their order; opposite, or underneath which, are the secret characters corresponding thereto, with the blank or useless letters, and the other signs or symbols serving to obscure and render it difficult to decipher. See **DECIPHERING**.

ALPHABET, among *Merchants* and *Traders*, is a kind of index, with the twenty-four letters in their natural order, in which are set down the names and surnames of those with whom open accounts are kept; and which refers to the folios of the ledger, where those accounts are written, in the form of debtor and creditor; serving to find easily, and without any trouble, such accounts as are necessary to be turned to.

ALPHABET, among the French, signifies also those punches or iron tools, which engravers upon metal use to engrave the several letters, or characters, which belong to their works, either for legends, or for other inscriptions. The book-binders have also small brass tools, which they call alphabets, and with which they put the titles, and the number of the volume, on the back of books.

ALPHABETICAL verses. See **ABCDARY**.

ALPHÆA, in *Entomology*, a species of the *PHALÆNA Bombyx*, with ferruginous wings, a white point in the middle, and a punctated brown streak, found in New Holland.

ALPHÆNIX, white barley-sugar, to which is given an extraordinary name, to render it more valuable. This sugar, which is thought good for colds, is made of common sugar, which is boiled until it becomes easy to crack, when they pour it upon a marble table, greased with oil of sweet almonds, and mould it into various figures with a brass crotchet. It is easily falsified with starch.

ALPHARABIUS. See **ALFARABIUS**.

ALPHARD. See **COR Lybra**.

ALPHERATZ, in *Astronomy*, a fixed star of the third magnitude in *AQUARIUS*. This is otherwise called *alpheratz*. Some also give the denomination *enif alpheratz*, and *archab alpheratz*, to two other stars in the right shoulder of *PIGASUS*.

ALPHERY, **MIKEPHER**, in *Biography*, an English divine of the 17th century, was born in Russia, of the imperial line, and on account of the commotions in Russia, which happened towards the close of the 16th century, was sent to England with his two brothers. They were confined to the

care of Mr. Joseph Bidell, a Russia merchant, and by him entered at Oxford, where two of them died of the small-pox. The survivor took orders in the English church, and was presented in 1618 to the rectory of Wooley, in Huntingdonshire. During his residence in this situation, he was invited to return to his native country by some zealous friends, who promised to exert their utmost efforts in restoring him to the throne of his ancestors; but he declined the proposal, and preferred continuing in the humble, but perhaps no less honourable and useful, station of a parish priest. At the time of the civil wars, he endured great hardships from the republican party, and was ejected from his living. After suffering much insult and oppression by the misguided zealots of that distracted period, he made a small purchase in the vicinity of his living, built a house, and resided in it for some years. The presbyterian minister by whom he was succeeded encouraged and protected him; paid him the fifth part of the annual income of his living, the allowance made by parliament to ejected ministers; treated him with kindness, and did him all the services in his power. After the Restoration, he was replaced in his rectory; but his advanced age of 80 years, and attendant infirmities, obliged him to transfer the duty to a curate, and to retire to the house of his eldest son at Hammersmith, where he died, much respected, and affording a singular example of the vicissitude of the world. *Biog. Brit.*

ALPHESERA, in *Botany*, a name by which the Arabian, and some other authors, express the white **BRYONY**.

ALPHESI, **ISAAC**, in *Biography*, a learned rabbi, who flourished in Spain in the 11th century, and who came over from the kingdom of Fez, in Africa, with the Morabites, or Almoravides. His epitaph, written in hexameters, was to this purport:—"Let it be engraved on the stone, that the light of this world is gone out, and that the foundation of wisdom is deposited within this tomb. Daughters of Sion, come and weep! the world is buried, and stricken with blindness. Weep and sigh, for the ark and tables of the law are broken in pieces with this doctor."

ALPHESTIS, in *Ichthyology*, the name of a fish called by others **CINADUS**, the **LABRUS CINADUS** of Gmelin's *Linnæus*.

ALPHETA, in *Astronomy*, a fixed star in the northern crown; otherwise called *lucida corone*.

ALPHEUS, in *Ancient Geography*, one of the names of Pisa in Etruria, supposed to have been founded by the Elzaps, who arrived thither from the banks of the Alpheus, in the territory of Elis.

ALPHEUS, a river of Elis, no less celebrated in mythology than recognized by geographers. The source of Alpheus was in the interior part of Peloponnesus, in the south-east of Arcadia. Its course was first to the north-west; and then turning to the east, it entered Elis, and passing by Pisa and Olympia, discharged itself into the sea. The mythologists, who are fond of animating all fountains and rivers, pretend that Alpheus, falling in love with Arethusa, pursued her to the sea, into which she plunged herself, and following the same course under the water, rejoined her at Syracuse, in the small island of Ortygia. Virgil. *Æn. lib. iii. v. 694*. Accordingly it is reported that this river passes under the sea, without mixing with the salt water, so as to pass quite into Sicily, where it mixes itself with the fountain Arethusa, near the city of Syracuse, inasmuch that any thing which is thrown into the river on the side of Elis is said to come out at this fountain. The geographical relation and the poetic fiction are so blended, that it is not easy to decide which of them gave occasion to the

the other; but they are both founded on a notion which prevailed among the ancients, that rivers passed under ground for a considerable distance from one place to another. The Olympic games were celebrated on the banks of this river; and Opheus was worshipped as a god at Olympia. Thus Pindar:—

“Alpheus, thy immortal flood,
On his lord's triumphant brows
The Olympic wreath bestow'd.”

Od. i. West's Pindar, vol. i. p. 7.

Pausanias (in Elid. c. 6.) informs us, that the Eleans had a law, which condemned to death any woman that should either appear at the Olympic games, or even cross this river, during that solemnity; and the Eleans add, that the only woman who transgressed it had disguised herself in the habit of a master or keeper of those games, and conducted her son thither; but when she saw him return victorious, her joy made her forget her disguise, so that her sex was discovered. She was, however, spared, on account of her father, husband, and son, who had gained the Olympic prize; but from that time an order was made that the keepers should appear there naked.

ALPHION lake was said to be at the source of the river Alpheus, and that it derived its name from the property which the waters had of curing the leprosy, *αλφειος* denoting a leper.

ALPHITIDON, in *Surgery*, a species of fracture, wherein the bone is broke into a great number of small parts, or particles. The word is formed of *αλφειον*, *farina*, *flour*; q. d. a bone ground to flour or powder.

ALPHITOMANTIA, in *Antiquity*. See ALURO-MANCY.

ALPHIUS, AVITUS, in *Biography*, a Roman biographer, who probably lived about the time of Alexander Severus, in the beginning of the third century. He wrote the History of the Carthaginian war. Voss. Hist. Lat. c. iii.

ALPHIUS mons, in *Ancient Geography*, a mountain of Asia, mentioned by Plutarch in his treatise of rivers, where he is speaking of Lycornas, a river of Ætolia.

ALPHON'SIN is the name of a surgical instrument which was formerly used for the purpose of extracting foreign bodies, especially bullets, from wounds. The alphon'sin derived its appellation from its inventor, *Alphonfus Ferrus*, a Neapolitan physician of the 16th century, and consists of three branches, which, by their elasticity, are separated from each other, but may be closely held together by means of a ring pushed forwards upon the branches. It is to be introduced to the bottom of the wound in its closed state; the ring is then drawn back, that the instrument may open and lay hold of the bullet; after which the operator replaces the ring, and withdraws the forceps, holding fast upon the extraneous body. See WOUNDS.

ALPHONSINE Tables. See ALPHONSO and TABLE.

ALPHONSO I. or DON ALONZO ENRIQUEZ, in *Biography and History*, the first king of Portugal, was the son of Henry of Burgundy, Count of Portugal, and grandson of Don Alonso, king of Leon and Castile, who granted to Henry part of Portugal, as the dowry of his wife Theresa. He was entrusted by his father to the care of Egas Munitz, who gave him an excellent education. But as his father died when he was entering into the third year of his age, A. D. 1112, his dominions were governed by his mother Theresa. As reports prevailed of his mother's familiarity with Don Ferdinand Perez, Count of Trastemara, and her intention to marry him, some of the Portuguese nobility, jealous

of his growing honour and power, advised Don Alonzo, at the age of 18, to assume the sovereign authority. The queen and her party resisted; but though they had recourse to arms, they were speedily defeated, and Theresa was lodged in prison, where she was confined during the remainder of her life. After several conflicts with the Moorish princes, who possessed part of Spain and Portugal, in which he was generally successful, his conquests were restrained by Don Alonso, King of Leon and Castile, who assumed the title of the Emperor of the Spains, by whose numerous army his country was laid waste. Having, however, given him a temporary check, he proposed a treaty of peace, to which the emperor acceded, A. D. 1137; and as the Pope's legate interfered by his interest and influence to effect this accommodation, the Count Don Alonso, under the impulse of gratitude and piety, declared himself tributary for all his dominions to the holy see, and promised to pay an annual sum of four ounces of gold. In 1139 the Moorish princes were reinforced by a powerful army from Barbary. The Count, though he had an opportunity of retiring, and was advised by his generals to adopt this measure of safety, determined to meet them in the plains of Ourique; and after an obstinate and bloody dispute, the Moors were totally routed. This glorious victory was gained on the 25th of July, and the anniversary of it has ever since been celebrated for preserving the memory of so signal a favour vouchsafed by Providence to the Christian arms. Immediately after this victory Don Alonso was proclaimed king on the plains of Ourique; but the form and constitution of the monarchy were not settled till the state, consisting of prelates, nobility, and commons, were assembled at Lamago, in the year 1145. This event was preceded by the conquest of Santaren; and it was sanctioned by the unanimous and cordial concurrence of the states. The king was crowned by the Archbishop of Braga, and it was declared that the regal dignity should descend to his heirs male. Eighteen statutes were framed with the advice of the prelates and nobility for the government of the kingdom, and they were assented to by the people. When the question was proposed, whether it was their pleasure that the king should go to Leon, do homage, and pay tribute to that prince, or to any other, every man, drawing his sword, loudly exclaimed, “We are free, and our king is free, and we owe our liberty to our courage; and if he shall at any time submit to such an act, he deserves death, and shall not reign either over us, or among us.” The king's coronation was next year followed by his marriage with Matilda, daughter of Amadeus, count of Maurienne and Savoy, and in 1147 by the recovery of Lisbon out of the hands of the Moors. In this conquest he was assisted by a number of adventurers, who were assembled from different countries at the mouth of the Tagus, in their progress to the Holy Land. The capture of Lisbon was followed by the accession of several other places to his dominions. By means of these acquisitions, Don Alonso became master of four of the six provinces that compose the kingdom of Portugal, and the reputation of his arms was raised to a very high degree. He was no less provident in peopling and improving than enterprising in the acquisition of territories; and in all his great and good designs he was seconded by Matilda, a princess equally celebrated for her exquisite beauty, distinguished capacity and singular piety. By her he had a numerous offspring, which enabled him to strengthen his interests by great alliances. The marriage of his second daughter did not prevent his having disputes with his son-in-law, Don Ferdinand, king of Leon; who once made him prisoner, but restored him to liberty on the humiliating condition of coming in person to Leon to do
homage

homage for his dominions. His son, Don Sancho, inherited his father's military disposition, took the lead on several occasions during the latter part of his reign, and in 1180 gained a glorious victory over Joseph, king of Morocco and emperor of the Almohedes, who had advanced with a very large army as far as Santaren. The consternation of the infidels, in consequence of this defeat, was so great, that they left the Portuguese at liberty to improve the interior part of the country, and to fortify their frontiers during the whole of next year. Alphonso needed repose and had retired to Coimbra, where, worn out with cares and fatigue, he departed this life on the sixth of December, 1185, after a reign of 57 years, in the 76th year of his age. His remains were deposited with great funeral solemnity in the church of the holy cross at Coimbra. His gigantic size and strength, as he was no less than seven feet high, and his martial ardour, have given occasion to many absurd and incredible stories concerning his military exploits, so that in the annals of chivalry, as well as in the record of martial achievements, he sustains a very conspicuous rank. He instituted two orders of knighthood, that of the Wings and that of Avis, which still flourishes in that kingdom with honour. He was succeeded by his son, Don Sancho, in the 31st year of his age. *Mod. Un. Hist. vol. xviii. p. 175—190.*

ALPHONSO, or ALONSO II. DON, surnamed the *Fat*, the third king of Portugal, succeeded his father Don Sancho I., at the age of 27, A.D. 1212. He began his reign with two very popular acts; he sent a body of infantry to the assistance of the king of Castile, who behaved with great reputation in the famous battle of Navas de Tolosa, and he gave the castle of Avis to the knights of that order; nevertheless the lustre of his reign was eclipsed in its dawn. His quarrels with his own family entailed upon him a variety of troubles, and subjected him to the interference, as well as the displeasure, of pope Innocent III. The pope, however, prevailed in producing a reconciliation with his sisters; but this calm was disturbed by the incursions of the Moors. However, an army of Germans and Flemings, destined for the holy land, seasonably arrived in the harbour of Lisbon, and enabled the king to take Alcaçar-do-Sal, where the Moors had a fortress on a rock that was deemed impregnable, A.D. 1217, and also to defeat the Moorish army. Towards the close of his reign he quarrelled with his clergy, who refused a contribution of troops and money for defending the kingdom against the infidels; upon which, in 1221, the pope excommunicated him, and put his dominions under an interdict. Whilst he was negotiating with his subjects on occasion of the confusion produced by the pope's sentence, he died on the 12th of March 1223, in the 12th year of his reign, and was buried with little ceremony, under a plain tomb, in the conventual church of Alcobaca. He was very brave and uncommonly strong; and is said to have been a great promoter of justice. *Mod. Un. Hist. vol. xviii. p. 193.*

ALPHONSO, or ALONSO III, DON, king of Portugal, succeeded his brother Don Sancho II, A.D. 1248, in the 38th year of his age. Soon after his accession to the throne, he entered into a war with the Moors, and took Faro in the province of Algarve, which was deemed the capital of the Moorish territories, and also Loula, which was carried by storm; and he thus added a considerable district to the dominions of Portugal. His domestic administration was conducted with great prudence, so that his power and popularity were much increased, and he maintained a friendly intercourse with pope Innocent IV. In consequence of his marriage with Donna Beatrix, the natural daughter of Don

Alonso the Wise, king of Castile and Leon, whilst his first wife was living, he incurred the displeasure of pope Alexander IV., who put his kingdom under an interdict. But upon the death of his first queen, A.D. 1262, pope Urban granted a dispensation, legitimated the children of Donna Beatrix, and removed the interdict. In order to prevent all future disputes with the crown of Castile, the two kings defined the boundaries between their respective dominions by means of commissioners, and recognized this settlement by a solemn act. The king, encouraged by the prosperous state of the country and by the happy issue of his enterprises, extended the authority of the crown, and obliged the clergy to contribute to the welfare of the state; but this measure revived old disputes, and the kingdom was again, A.D. 1268, put under an interdict. Such was his policy, that he contrived to obtain from Castile an exemption of all claims upon the crown of Portugal, and to procure a declaration that its monarchs were free from every kind of homage. Before his death, he made a full submission to the church, and was reconciled to the pope and clergy; and having received absolution, he died February 16th, 1279, in the 31st year of his reign, and 65th of his life; leaving the kingdom of Portugal complete to his successors. This prince was of tall stature and engaging aspect and manner; magnificent in times of peace, and frugal when his affairs required economy; the friend of the poor, for he pawned his crown to provide them with bread in a time of scarcity, respected by the nobles, and obeyed by the clergy. *Mod. Un. Hist. vol. xviii. p. 204.*

ALPHONSO, or ALONSO IV, king of Portugal, surnamed the *Brave*, was the son of king Denis, and succeeded his father in 1324. When he ascended the throne, hunting was his favourite diversion; and whilst he was giving a detail to his council of a month's sports, one of his courtiers had the resolution to remonstrate, and to threaten, that if the grievances of his subjects were not redressed, they must look out for another and a better king. Alonso was at first highly displeased; but upon reflection, "I perceive," said he, "the truth of what you say; he cannot long have subjects who will not be a king. Remember, that from this day you have nothing more to do with Alonso the sportsman, but with Alonso, king of Portugal." To this resolution he adhered; and he exercised the authority of a sovereign in a manner that awed his subjects, without conciliating their esteem. To his father's memory he shewed respect, and promoted those who had opposed himself with the greatest vehemence, regarding them, though enemies to him, as the true friends of the crown. He shewed much duty to his mother, and great affection for his consort queen Beatrix; and commenced his reign with forming designs for the establishment of his family and the security of his dominions. He proceeded, however, against his brother, Alonso Sanchez, as a proscribed traitor, and thus drove him into rebellion; but he was afterwards reconciled, and received him into favour. He engaged in a war with Alonso XI., king of Castile, which terminated in an alliance and in effectual assistance against the Moors. But no part of his conduct was more artful and cruel, and reflected greater disgrace on his character, than that which concerned Donna Agnes de Castro, the mistress and concealed wife of his son, Don Pedro. Instigated by his courtiers, who were jealous of the influence of this favourite, he issued orders for the murder of this princess, and afterwards avowed and approved this horrid deed. The son by this act was driven into a civil war, but it was soon concluded by his submission, and by tokens of peculiar favour on the part of the father. As

that religion of Al. his reign and life approached, he endeavoured to improve his subjects and his country, by a series of good laws, by abolishing the cruelties, of establishing the rights of justice, and by the use of wisdom and industry, to render his country more flourishing, the state, and to secure the memory of his reign the mild and injury which he had inflicted; at the same time he took measures for removing those out of the way, who were likely to become the sources of sedition after his death. Having accomplished all of the kind he died in May 1357, in the 32d year of his reign and the 67th year of his age, with the reputation of an universal son, unnatural brother, and cruel father; but in many respects, of a great man and great king, brave and fortunate in war, but artful and indolent in his political measures, attached to his subjects, strict in the administration of justice, attentive to the public welfare and zealous in encouraging industry and enriching his people. After all, he was rather revered for a right use of power, than relied on as a public parent; and though feared and even esteemed, he was not much honoured nor beloved. His device was an eagle on the wing, with this motto, "Altiora peto," i. e. my hopes fly high.

ALPHONSO, or ALONSO V., DON, king of Portugal, surnamed the *African*, on account of his heroic exploits, was born in 1432, and succeeded his father, king Edward, at the age of six years. During his minority his uncle Don Pedro was regent, and though he conducted the administration with reputation, and married his daughter to the young king, he was treated as a traitor at the expiration of his regency; and both he and several of his adherents were put to death. The king, who on this occasion was overpowered by the enemies of the regent, afterwards did justice to his memory. And he manifested his attachment to his queen, who died in 1455, not without strong suspicions of poison administered by her father's enemies, by renouncing all connections with the sex. Military glory was the chosen object of his pursuit. With this view he turned his arms against the Moors in Barbary, and in 1458 he passed over to Africa with a fleet of 200 sail, and an army of 20,000 men. He began his career with the capture of Alcaçer, which he strongly garrisoned; and prosecuted it, with various success, till the year 1470, when, after reducing Arzila and Tangier, he returned with great honour to his own country, and acquired the distinguishing appellation of *African*. He likewise added to those titles which had descended to him from his ancestors, that of lord of the coasts on both seas; and for perpetuating the memory of his exploits caused them to be elegantly wrought in tapestry. The war of Africa gave occasion to the establishment of the order called *KNIGHTS of the Sword*. Alonfo was engaged in another contest of less fortunate issue against Ferdinand and Isabella, of Castile, in support of the claim of his niece Donna Joanna to that crown. His failure of success induced him to take a journey into France, in order to obtain the assistance of Lewis XI.; but duped by this faithless monarch, he was so mortified that he formed a purpose of resigning his crown and making a pilgrimage to Jerusalem. During his absence, Portugal was governed, with great ability, by the prince Don Juan; and upon the king's return, he was received by his son with respect and joy, and reinstated on the throne. Alonfo, however, oppressed with melancholy, determined to withdraw into a monastery; but in his way thither, he was seized at Cintra with the plague, and died there on the 28th of August 1481, in the 49th year of his age, and the 43d of his reign. Alonfo was much honoured and beloved by his subjects, on account of his private character and public

conduct; his temper was condescending and affable, and he was so much distinguished by his benignity, bounty, and charity, which he particularly displayed in the ransom of prisoners, that he acquired the popular title of the *Redeemer of Captives*. He was eminently chaste and temperate, fond of letters, and a patron of learning, and the first Portuguese king who formed a library in his palace. Guinea was discovered in his reign, under the auspices of his uncle, the celebrated Don Henry; and a very lucrative trade was established by the Portuguese to that country, which Alonfo vindicated against the claims and hostile attempts of the Spaniards. Mod. Un. Hist. vol. xviii. p. 283—307.

ALPHONSO, or ALONSO DON, VI. king of Portugal, succeeded his father John IV. in 1656; and having been struck with the palsy whilst an infant, and neglected in his education, became of a fierce and untractable temper, so that he was deposed and succeeded by Don Pedro. He died suddenly in 1683, in the castle of Cintra, after having borne the title of king almost 27 years, living 40, and being a prisoner 15 years. Mod. Un. Hist. vol. xviii. p. 441, &c. vol. xix. p. 12.

ALPHONSO, or ALONSO III., surnamed the *Great*, king of Asturias, Leon, and Oviedo, was born in 849, and succeeded his father Don Ordogno in 865. The rebellion of Don Froila compelled him to retire from the kingdom, but upon the death of this usurper he returned with universal applause. He was an able and warlike prince, and in successive combats with the Moors he reduced several places. His attention to the lower classes of his subjects disgusted some of the haughty nobility, and occasioned disturbances which he repressed. In an interval of tranquillity A. D. 900, he held a general council of the clergy and state, which enacted some useful regulations, and he directed his attention to other objects, that contributed to the honour of his kingdom and the happiness of his subjects. Whilst he was employed in building and fortifying some of the towns, which he had taken from the Moors, he was interrupted by them, and reduced to the necessity of defending himself with a considerable army; which he did with such effect, that they were defeated with great loss. About the same time he was distressed by the rebellion of his son Don Garcias, who had formed the design of deposing his father and seating himself upon the throne; but this rebellion was soon suppressed. It was followed, however, by increasing discontents, occasioned by the confinement of Garcias and the oppression of taxes; in consequence of which Alonfo, A. D. 910, assembled the states and also the grandees of the country, and abdicating the crown, resigned it to Don Garcias, who was declared king; and to his other son Don Ordogno he assigned the province of Galicia. Soon after his resignation of the kingdom, his son assembled a numerous army in order to march against the Moors; and having gained considerable advantage in 911, he was preparing for another campaign. Alonfo aided him by his counsel, and took pains to convince him, that incursions and conquests were of little avail, if they were conducted with no other view beside that of enriching the soldiers and of gaining applause. His advice was regarded, and Alonfo himself offered to take the command of the army that was raised for new operations; and having made a glorious campaign in 912, he returned with his army, laden with spoil to Zamora. Here he was soon seized with a disorder, which terminated in his death, December 20th, in 912, two years after his abdication, 49 years from the time of his being associated with his father in the government, and when he was about 63, or as some say 65 years of age. He was deemed a prince

prince of great learning, and the patron of literature; and much respected for piety and virtue, and all princely qualities. It is said, that he composed a Chronicle of the Spanish affairs from the death of king Recesvinto to that of his own father Don Ordoño. This chronicle has been incorrectly published by Sandoz, and the later editions have been imperfect. This work was published to the world under the name of Sebastian, bishop of Orense, at whose request it was composed. Mod. Un. Hist. vol. xvi. p. 130, 141.

ALPHONSO, or ALONSO X., surnamed the *Wise*, king of Leon and Castile, succeeded his father, May 3rd, in the year 1252, with the general approbation of the people, who regarded him as a prince of great qualities and remarkable generosity; though the appellation with which he was honoured was more the result of his love and encouragement of science than of his talents and exploits. The prosperity of his reign was interrupted by the ill-concerted projects of his ambition. His first attempt was directed against Gales, to which he pretended a better right than Henry III. of England; but instead of succeeding in enforcing his claims, he consented to renounce them, on condition that Henry's son, afterwards king Edward I., should marry his sister Eleonora. He also prepared for an expedition against the Moors, in Barbary, at an expence which drained his treasures and obliged him to debase his coin; but he was diverted from prosecuting it by supporting claims, derived to him from his mother, to the duchy of Swabia. He was thus led into connection with the German princes, and became a competitor with Richard, earl of Cornwall, for the imperial crown, a titular honour which cost both these rivals immense sums of money. The conspiracies of several princes of the blood, as they were supported by the Moors, demanded his serious attention; and he was successful in restraining and defeating them. In 1268 he formed a romantic design of visiting Italy, against which the states remonstrated, and which, in deference to their opposition, he was under a necessity of relinquishing. This produced a formidable conspiracy among his subjects, and the number of malecontents became so considerable and so powerful, that a compromise and reconciliation were not effected without great reluctance on their part and condescension on that of the king. After the death of Richard, earl of Cornwall, and even when Rodolph of Hapsburg was actually elected emperor of Germany, Alphonso aspired to this honour; and, for the purpose of preventing the pope from confirming his election, he took a journey to Baucaire, in order to have an interview with him; although in the mean while the Moors, availing themselves of his absence, were ravaging his dominions. This journey, whilst it was attended with great expence, and productive of much confusion in his kingdom, proved ineffectual; the pope was not to be convinced of the justice of his claims; and he returned disappointed and mortified. In this interval his eldest son died; and the second, Don Sancho, claimed the crown against the children of his elder brother. An assembly of the states was convened at Segovia, and Sancho's claim was allowed; but the cause of the children was maintained by their uncle, Philip the Hardy, king of France; Alphonso was thus engaged in a war; and his own queen, Donna Violante, resented the indignity offered to her grandchildren, and retired to the court of her father, the king of Aragon. In addition to these domestic dissensions, Alphonso, engaged in a war with France, was compelled by the pope to renew the war with the Moors, which proved disastrous; and having concluded a truce with them, he was engaged in a contest with the

king of Grenada. By these various measures his finances were ruined, taxes were multiplied, and the affairs of the kingdom were reduced to such disorder, that an assembly of the states was held at Seville in 1281, in which the king proposed, and the states assented, to give a currency to copper money. Another assembly of the states was held at Valladolid, in consequence of the intrigues of Don Sancho, A.D. 1282, which deprived Alphonso of the regal dignity, and appointed Sancho regent. The king, reduced to almost insuperable difficulties, sought the assistance of the king of Morocco; solemnly cursed and disinherited his son; and by his last will in 1283 confirmed the act of exclusion, and appointed, for the succession, the infants de la Cerda, and upon the failure of their heirs, the kings of France. At the commencement of the next year, when Alphonso received information from Salamanca, that Sancho was dangerously ill, and professed the most sincere sorrow for his undutiful conduct to his father, he relented, pardoned his son, revoked his curses, and then died on the 4th of April 1284, in the 81st year of his age. He was buried in the cathedral of Seville, and left behind him the character of a learned man and a weak king. As a proficient in science and a patron of literature, he sustains a high and honourable rank. As a politician and legislator, he completed the code of laws which his father, Don Ferdinand, had begun, known by the title of "Las Partidas;" and he redressed the confusion in law proceedings, occasioned by intermixing Latin with the vulgar tongue, by obliging his subjects to use their own language. He also corrected many errors in the statutes of the university of Salamanca; and caused a general history of Spain to be composed in the Castilian language, which he took pains in polishing. But his favourite objects were astronomy; and to the improvement of this science his attention and labour were particularly directed. With this view he assembled at Toledo, during his father's life, a number of the most celebrated astronomers of his time, Christians, Jews, and Arabians, from all parts of Europe, for the purpose of examining the astronomical tables of Ptolemy and correcting their errors. They were employed in this business for four years, and in 1252, the first year of Alphonso's reign, they completed those tables which have been denominated *Alphonso's tables*, from the name of this prince, who encouraged the construction of them by his liberality. The sum, expended upon them, is immense; if we may believe the report of those who state it at 400,000 ducats, or even that of others who reduce it to 40,000. Some have ascribed the principal conduct of this work to the Jewish Rabbi Isaac Aben-Said, whilst others, professing to derive information from the MSS. of Alphonso, refer it to Alcabitus and Aben-Ragel. The other astronomers who were employed on this occasion were Aben-Musa, Mohammed, Joseph Ben-Ali, and Jacob Abueva, Arabians; Samuel and Jehuda El-Conezo, Jews; but the names of the Christians, if any such were actually engaged, are not known. The epoch of these tables was fixed to the 30th of May, 1252, which was the day of his accession to the throne. They were first printed at Venice in 1483; and there are other editions in 1492, 1521, 1545, &c. He is also said to have written a book, entitled, "The Treasure," containing treatises of rational philosophy, physics, and ethics; and to have been well acquainted with astrology and chemistry, in which last science, as report says, there are two volumes, compiled by him, still remaining in his Catholic Majesty's library, in cipher. But considering the state of this science at that period, they must be more curious than useful. Alphonso has been charged with irreligion and im-

piety, chiefly on account of a saying of his, that is very well known, and that has been often repeated to his dishonour; viz. that "if he had been of God's privy-council, when he created the world, he could have adised him better." If we admit the fact, that he used this expression, of which there is some reason for doubt, as it has been variously stated by different writers, it unquestionably indicates a degree of presumption and arrogance not very suitable to the character of a true philosopher. Candidly interpreted, it is to be considered as a kind of *jeu d'esprit*, or pleasant sarcasm on that perplexing variety of eccentric cycles and epicycles, with which the system of Ptolemy was embarrassed; but the reflexion might have been dictated in terms more decorous, and more consistent with that reverence of the Creator, which an enlarged contemplation of his works has a tendency to produce. "An indevout astronomer is mad." Young. *Modern Un. Hist.* vol. xvi. p. 343—365.

ALPHONSO, or ALONSO V., deservedly called the *Magnanimous*, king of Aragon and Naples, succeeded his father, Ferdinand the *Just*, as sovereign of Aragon, in the year 1416. The tranquillity of his reign was disturbed, soon after his accession, by the insolence of pope Benedict XIII., and by a conspiracy of several nobles among his own subjects against his life. The discovery of this treason was made just before its execution, and the king had an opportunity of exhibiting a signal display of magnanimity by tearing a paper in which the names of the conspirators were inscribed without reading it; declaring at the same time, "that he would at least force them to acknowledge that he had a greater regard for their lives than they had for his."

Having composed a disturbance in Sardinia, he was preparing to advance to Sicily, when Joan of Naples offered to adopt him for her son and heir, if he would assist her against the pope, the duke of Anjou, and the constable Sforza, who had formed a confederacy to depose her. The king accepted the proposal, raised the siege of Naples by his army, and was immediately installed, by proxy, heir apparent of her kingdom and duke of Calabria. The queen afterwards proving false to her engagement, she was expelled from Naples, which was taken possession of by Alphonso; but when the duke of Anjou made himself master of the greatest part of the kingdom, the queen renewed her application to the king of Aragon; and he prepared for a new expedition. In 1434 he again renewed his attempt for the conquest of Naples, and besieging Gaeta, he involved himself in a quarrel with the duke of Milan and republic of Genoa. In an engagement with the Genoese fleet, which was sent to relieve the place, Alphonso lost all his ships, and was himself taken prisoner. At Milan, whither he was conducted, he so far ingratiated himself with the duke, that he became his friend and ally; and whilst his own hereditary states were liberal in their supplies, his power was greater than ever. In 1443 he made himself complete master of Naples, and in an assembly of the states held first at Beneventum and transferred to Naples, his sovereignty was acknowledged, his son Don Ferdinand, whom he had created duke of Calabria, was recognized as successor to the crown, and he was esteemed the great arbiter of peace and war through all Italy. Alphonso continued in Naples till the close of his life and reign; but his declining years were disquieted by political intrigues and dissensions. Restless and uneasy, he was removed from one castle in Naples to another, and at length expired on the 22d of June, 1468; leaving to his natural son Ferdinand the kingdom of Naples, which he had acquired by arms, and to his brother Don Juan, king of Navarre, the crowns of Aragon, Valencia, Majorca, Sardinia,

and Sicily, and the principality of Catalonia, with all their dependencies. Alphonso was, without doubt, the greatest prince that ever sat on the throne of Aragon, and he was accounted the ablest statesman and the most renowned military commander of the age in which he lived. He was in an eminent degree the patron of learning, and afforded an asylum to the Greek literati when they were expelled from Constantinople; his device was a book opened, and it was his common saying, "that an unlettered prince was but a crowned ass." The perusal of Quintus Curtius cured him of a disorder with which he was attacked at Capua; he was brave and liberal, and in all his negotiations he disdained the mean artifices of intrigue and dissimulation. He lived in familiar intercourse with his subjects, whom he loved. "A father," he said, when walking unarmed and unaccompanied about his capital, "has nothing to fear in the midst of his children." When he was besieging Gaeta, he relieved and dismissed without injury the women and children that were turned out of the town, alledging, "that he had rather lose any city in his dominions than the reputation of humanity." When one of his galleys, with its whole crew and a number of soldiers, was ready to perish, he leaped into a shallop for its relief, saying, "I had rather share than witness their calamity." Upon hearing an officer, who saw his treasurer bringing him 10,000 ducats, exclaiming, "I should only wish that sum to make me happy:" "you shall be so," said Alphonso; and caused the money to be given to him. He expressed an extraordinary dislike of dancing, which he considered as a kind of insanity. His greatest failing was an attachment to women; and it was productive of several improprieties of conduct and pernicious consequences. Lucretia Alana was one of his mistresses, and his fondness for her in an advanced period of life very much sullied his reputation; and connections of this kind led him to neglect his wife, who was faithful and affectionate, and very zealous and active in his interests. *Mod. Un. Hist.* vol. xvii. p. 240—254.

ALPHONSO'S *Island*, in *Geography*, an island of the Indian Ocean, nearly south of the Almirante islands, lying in a tract of the sea, little traversed by European vessels. S. lat. 7° 30'. E. long. 52° 40'.

ST. ALPHONSO'S *Island*, is an island on the coast of Terra del Fuego, in the South Pacific Ocean. S. lat. 55° 51'. W. long. 69° 33'.

ALPHONSUS, PETRUS, in *Biography*, a Spanish Jew, was converted to Christianity, A.D. 1106, baptized at Huesca, and had Alphonso, king of Portugal, for his godfather. He composed a treatise by way of "Dialogue between a Jew and a Christian," concerning the truth of the Christian religion, in which the arguments of the author against the Jews are arranged methodically and urged with clearness and solidity of reasoning. This work was published at Cologne in 1536. Dupin, 12th century, vol. iv. p. 170.

ALPHONSUS TOSTATUS, a learned Spaniard and voluminous writer, flourished in the middle of the 15th century. He finished his studies in the university of Salamanca at the age of 22 years, and made great proficiency in those branches of knowledge that were in principal estimation at that period. He attended the council of Basil, became bishop of Avila, and was advanced to the chief offices in the kingdom of Spain. He died at the age of 40 years, A.D. 1454, and was interred in the church of Avila, with this epitaph:

"Hic stupor est mundi qui scibile discutit omne."

His works, written during his comparatively short life, amount

amount to 27 volumes in folio, of which 24 are commentaries on some of the books of scripture; the rest are chiefly theological; they were printed by the order of Cardinal Ximenes, at Venice, in 1530, at the same place in 1526, and at Cologn in 1612. His "Commentary upon the Chronicon of Eusebius," was printed separately at Salamanca in 1506; as were also several other books in literature and science, and ecclesiastical history. Dupin, 15th cent. p. 83.

ALPHOS, in *Medicine*, a distemper described by Celsus, under the name of *vittigo*; wherein the skin is rough, and becomes sprinkled as it were with drops of white; and thence denominated *leuce*. Where the spots are black, it is also called *nigra*; and *melane*. It bears the same relation to the *leuce*, as the *scabies* to the *lepra*; the first is superficial and cutaneous, the second sinks deeper into the flesh. The *alphos*, *melas*, and *leuce*, are but one and the same disorder, only differing in its degree of inveteracy.

ALPIEU. See BASSET.

ALPIGNAN, in *Geography*, a town of Italy, in the principality of Piedmont, on the Dora, five miles west of Turin.

ALPINE. See CISALPINE.

ALPINI, in *Ancient Geography*, a people of Spain, mentioned by Aulus Gellius and Varro, in whose country were excellent mines of iron and silver. They were situated near the Ebro.

ALPINIA, in *Botany*, so called after PROSPER ALPINUS, a genus of the *monandria monogynia* class and order, of the natural order of *sitamenae* and *canna* of Jussieu; the characters of which are, that the *calyx* is a perianthium one-leaved, tubulose, three-toothed, the leaflets equal, erect and acute; the *corolla* monopetalous, tubulose, tube cylindraceous and short, border three-parted, and parts nearly equal and oblong; the nectary connate with the tube of the corolla, two-parted, the lower part forming the lower lip is larger and longer than the parts of the corolla, broadish, spreading and often divided; the *filamina* have no proper filament; but along the upper division of the nectary, forming the upper lip, which is flattish and of the length of the corolla, grows a large anther, either deeply bifid or entire; the *filillum* has an inferior, oblong germ, style filiform, often inserted into the fissure of the anther, stigma incrassate and obtuse; the *pericarpium* is an oval capsule, three-celled, crowned with the permanent calyx; the *seeds* are ovate, angular, and covered with a sort of berried aril. This genus differs from the *amomum* and *costus* only in the habit and the inflorescence, which is racemed. Martyn reckons two, Willdenow four, and Gmelin five species. They are as follow: 1. *A. racemosa*, with raceme terminating, spiked, flowers alternate, lip of the nectary trifid, and leaves oblong and acuminate. This is the *A. jamaicensis* of Gartner, the *amomum pyramidale* of La Marck, the *amomum alpinia* of Rottboel, and the *zingiber sylvestre minus*, &c. of Sloane. It is a native of the West Indies. With us it must be preserved in a stove, and the pot plunged into a tub of water; the leaves decay every Winter, and are pushed out from the roots every Spring. It may be increased by parting the roots, when the leaves decay. Gmelin mentions two varieties, *A. seffilis* of Koenig, and *A. multicaulis* of Aublet. 2. *A. occidentalis*, with raceme radical, compound, erect, nectary emarginate at the apex, three-celled capsules, and leaves lanceolate-ovate and very smooth. This is the *amomum minus*, with clothed stalk and spiked flowers of Brown, Jamaica. It is a native of the woods of Jamaica and St. Domingo. 3. *A. spicata* of Gmelin, who queries whether it be of this genus. See *COSTUS*. 4. *A. langaus* of Gmelin,

with paniculated terminal flowers. He mentions two varieties, viz. *Langaus chinensis* and *L. aquaticum* of Koenig. 5. *A. jamaicensis*, made by Gmelin a distinct species. 6. *A. galanga* of Willdenow, having a terminal lax raceme, with alternate flowers, the lip of the nectary emarginate and lanceolate leaves. This is the *manata galanta*, with a simple culm of other writers, the *amomum galanga*, &c. of Loureiro, the *galanga* of Rumphius, and the *galanga* of the shops. It is a native of the East Indies. 7. *A. carnosa* of W. with a terminal tufted spike, bractes longer than the flower and coloured, and oblong-ovate pubescent leaves. The calyx is red; the corolla yellow; and the nectary yellow, truncated and quinque-dentated. It is found in Caraccas, in South America.

ALPINUS, PROSPER, OF PROSPERO ALPINI, in *Biography*, born at Marostica, in the states of Venice, in the year 1553, became celebrated for his skill in medicine and botany, which he cultivated with singular success. Having quitted the army, to which he was at first attached, he went to Padua, where he studied physic, and in 1578 was received doctor in medicine, and through the interest of his father, who was also a physician, was appointed in 1580 to attend the Venetian consul to Egypt. He remained there three years, during which time he applied himself with great industry to acquire a knowledge of the most remarkable plants, indigenous to that country, and of the practice of physic, or the methods used by the natives in curing diseases. These became the subjects of several learned and ingenious works, which he published on his return from Egypt. In 1586, he was appointed physician to Andrew Doria, at Genoa, whence, the reputation of his abilities increasing, he was called home by the states of Venice, and appointed professor of botany and curator of the physic garden at Padua, which office he retained to the time of his death, which happened in November 1616. He was succeeded in the professor's chair, by one of his sons, who had probably been his assistant, as he is said to have been very infirm, and to have laboured under a difficulty of hearing, during some of the latter years of his life. The principal of his works, which have passed through numerous editions, and are in many hands, are, "*De Medicina Aegyptiorum*," lib. iv. first published at Venice, in 1611, full of ingenious information as to the diseases, medicine, surgery, and modes of life of the modern Egyptians; "*De plantis Aegypti, liber*;" "*De Balsamo, dialogus*," a treatise on the famous balm of Gilead. "*De praefagienda vita et morte Aegrotantium*," published in 1601, and consisting chiefly of a collection and arrangement of the prefaces of Hippocrates; "*De medicina methodica*," being an attempt to elucidate and restore the ancient doctrine of the Methodistic sect in medicine, published in 1611; "*De Rhapontico disputatio inauguralis*;" "*De plantis exoticis*;" all in quarto. He is also said to have left other works in manuscript, that have not been published. Ample accounts of these several works, and of the editions they have passed through, may be found in Haller's *Bib. Med. Pract.* and his *Bib. Botanica*.

ALPISTE, or ALPIA, a sort of seed used to feed birds with, especially when they are to be nourished for breeding. The alpiite seed is of an oval figure, of a pale yellow, inclining to an isabel colour, bright and glossy. It is an article of the corn chandlers and seedmen's trade. See PHALARIS.

ALPS, ALPES, in *Geography*, was a name given to a chain of mountains, which extended from the sea of Liguria to Istria, and forming a kind of crescent, separated the northern part of Italy from Gaul and Germany. The name is Celtic, and denotes *highly elevated*; or, as the author of a German book, entitled, "*Rheinischer Antiquarius*,"

Alps, it signifies *mountain* *abounding in snow*. Festus is of opinion that the appellation was borrowed from *albus*, pronounced by the Romans *alpa*, and signifying *whiteness*, because these mountains were always covered with snow. Others, recurring to a fabulous relation, derive it from a person of the name of *Albin*, the son of Neptune, who is said to have been killed by Hercules, in disputing his passage over the mountains. But the first etymology, adopted by Isidore, (Orig. lib. iii.) and Servius, (in Virgil, *Æn.* lib. iii.) is the most probable. The word *alp* signified, among the ancient Saxons and Scandinavians, both a mountain and a mountain spirit; it being a persuasion among them, that mountains and rocks were inhabited by Demons. Accordingly the Edda of Iceland, (Myth. 15.) mentions good and evil Alps.

This chain of mountains, commencing in the Vada Sabatia or Savona, and terminating near the Sinus Flanaticus or Flanonicus, now the Golfo di Canaro or Carnero, in the bay of Venice, and the springs of the river Colapis or Kulpe, or reaching from the river Varus to the river Arfia, in Istria, has many irregular windings, so that its extent has not been accurately and uniformly ascertained; some of the ancient writers making it 800, and others no more than 250 miles. Its whole range may be more justly computed at about 550 British miles; and may be considered as extending in a kind of semicircular form, from the gulf of Genoa, through Switzerland, which contains its central and more lofty parts, and terminating in the Carnic Alps, on the north of the Adriatic sea. It has been divided, both by ancient and modern geographers, into different portions, and these have been distinguished by different appellations.

The *Maritime Alps*, *Alpes Maritima* or *Littoreæ* of Ptolemy, arise from the gulf of Genoa, and reach from Vada or Vado, in Nice, to the springs of the Var, or to those of the Po. Some reckon their commencement at Monaco, on the Mediterranean, and trace them in their progress from south to north, between ancient Gaul to the west, and Genoa to the east, through the eastern part of the country of Nice, and between that and the marquissate of Saluzzo to their termination at Mount Vifo between Dauphiné and Piedmont. Upon the summit of this ridge trophies were erected in honour of Augustus, at a place called *Tropeæ*, since called *Turbia*. The ancient capital of the Maritime Alps was Embrun, and the inhabitants of this district obtained from Nero, A.D. 63, the rights of Latium, that is, the rights and privileges which the Latins enjoyed when they were only allies and not citizens of Rome. The highest chain of these Alps, through which is the remarkable passage, called the Colde Tende, forms the exterior boundary of the country of Nice.

The next high ridge, called *Alpes Cottie* or *Cottane*, now Mont Genevre, in which is the spring of the river Durance, extends from the springs of the Var to the city of Suza, or from Mount Vifo to Mount Cenis, and separates Dauphiné from Piedmont; having the *Alpes Maritima* to the south, and the *Alpes Graie* to the north or northwest. In the time of the Romans a petty prince called Cultra possessed an independent territory in this part of the Alps; and in order to maintain his independence paid court to Augustus, and engaged his protection. With this view he traversed these mountains, and formed commodious passes for the Roman troops. The territory of Cottius, a prince who resided at Suza, and whose name was given to this ridge, consisted, according to Pliny, of two independent cantons. Hence the passage of the Alps, which led from Briançon to Suza, was particularly denominated in the Theodosian table *Cottia*. M. d'Anville, Holstenius, and others, are of opinion, that it

was by this part of the Alps Hannibal entered Italy. Some have thought that one part of his army passed over the Cottian, and another over the Graian Alps. It has been said that he cut a passage through the solid rock; and if Livy may be credited, he heated the rock by a fierce fire, and then poured a great quantity of vinegar upon it, which penetrating into the fissures, produced by the intense heat of the fire, calcined and softened it. But this relation, although Pliny (lib. xxiii. c. 1.) takes notice of this quality of vinegar, is rejected by many authors as fictitious. Polybius does not mention it. The capital of the Cottian Alps was Suza; and this territory was added by Nero, about the year of Christ 63, to the demesnes of the Roman empire.

To the north of the *Alpes Cottie* were the *Alpes Graie* of the ancients, so called by Pliny and Nepos, as it has been said, from the passage of Hercules in his return from Spain; which is rejected by Livy (lib. v. c. 33.) as fabulous: these are now denominated the Little St. Bernard, and commencing at Mount Cenis, where the Cottian end, and running between Savoy and the Tarentese to the west, and Piedmont and the duchy of Aosta to the east, terminate in Great St. Bernard.

The *Alpes Pennine* lay to the north-east of the Graie, between the Velagri to the north, and the Salassi to the south. Some have sought the etymology of the epithet in the name *Poeni*, Carthaginians, pretending that Hannibal passed into Italy by this mountain. But both the etymology and the fact are equally erroneous. The appellation *Pennine* formed from *pen*, head or high, signifies the height of these mountains; and the passage of Hannibal was probably over that part of the Alps, denominated Cottian. The *Alpes Pennine* consisted of the present Great St. Bernard, Mont Blanc, and the grand chain that extends on the south of the Rhone to the north of the modern Piedmont, and reached from west to east from St. Bernard to Adula or St. Gothard, separating between the Velese to the north, and the Milanesse to the south: and the eastern part of this ridge was denominated the Lepontine Alps, from the appellation of a people who inhabit the country where the rivers Rhone and Tesino originate. From the *Alpes Pennine* proceed the *Alpes Rhaica*, which extend through the Grisons and the Tyrol, to the springs of the river Piave, of which a part called *Alpes Tridentine* are situated to the north of Trent. With the Rhetice are connected the *Alpes Norice*, to the east of the former, situate about the source of the river Taja-mento; and joining to the *Alpes Carnice* or *Carniane*, extending to the springs of the Save; and moreover, these terminate in the *Alpes Julia*, which reach to the source of the Kulpe. These last derive their name from Julius Cæsar, who formed a design, executed after his death by Augustus, of opening a road over this mountain into Illyria, which is separated by it from Venice. This part of the Alps is also called *Alpes Veneta*, and *Alpes Pannonica*. Some authors have extended the Alps to the north of Dalmatia, and even through Macedonia into Romania, and as far as the coast of the Black Sea.

The principal passages of the Alps, of which the Romans availed themselves, when they were sole masters of Italy, as they are recounted by Martiniere, are the following: The first was through the maritime Alps along the sea coast; the second by the Grecian Alps, by which, according to Pliny, Hercules entered into Italy, and which, as Cælius Antipater, cited by Livy, says, was the track of Hannibal: the third by the Cottian Alps, by Embrun, Briançon and Suza, which, some say, was Hannibal's course: the fourth, more generally pursued by modern travellers, through the valley of Maurienne, by Suza and Turin: the fifth by the Pen-

pine Alps, which, according to Polybius and Pliny, was that of the Carthaginians, though Livy is of a different opinion; this route is divided into that of the valley of Peltina, which is the broadest, and that of the vallies of Aosta and Bardo, which is the longest: the sixth, through the Pennine Alps by Adula, or Mount St. Gothard, and Bellinza; the seventh, over the Rhaetian Alps, by the Lake Verbanus or Cossina, which was the route of Drusus and Tiberius, when they carried on the war in Rhaetia, and also of Stilicho: the eighth, by which the Cimbri entered into Italy: the ninth, by the Carnic Alps: and the tenth, by the Julian Alps, which was the usual track of the Roman troops into Pannonia and Illyria.

The central part of this chain of mountains, the most extensive and elevated of any in Europe, may be considered as composed of two ridges, which run almost parallel from the south-west to the north-east. The first ridge is that of the Helvetian Alps; and its most conspicuous summits are the Guemmi, or Twins, the Schelen horn, the Blumlis, the Geishorn, the Jungfrau or Virginhorn, the Eiger, the Schreckhorn, the Grimsel, the Furca, the Badur, the Glaciers to the north of the Rhine, and St. Gothard.

The highest mountain of the northern chain of the Alps seems to be Jungfrau; and the next in height are the Eiger, and the Schreckhorn, and the Finsteraar Horn. According to Mr. Kirwan (*Geo. Ess.* 213, 214.) the height of these mountains does not exceed 15,000 feet; and he observes, that they consist of granular, or primitive limestone. Saussure (*vol. vii. p. 193.*) says, that the Schreckhorn, and Finsteraar are about 13,218 feet high. Bourrit informs us (*vol. iii. p. 194.*) that the Schreckhorn is the highest of the Swiss Alps. The summits consist of granite; and on the sides appear red slate and calcareous masses. To the south are large defarts and glaciers, and on the north is the romantic lake of Kandel Steig, "whence (as we learn from a modern geographer) there is said to have been a passage to Lautebrun and its singular glaciers, sometimes resembling magical towns of ice, with pilasters, pyramids, columns, and obelisks, reflecting to the sun the most brilliant hues of the finest gems." The southern chain of the central Alps extends from Mont Blanc, and other eminences to the west, and bearing to the north-east comprehends the Great St. Bernard, Mount Maudit, Combin, Cervin, and Mount Rosa. It traverses northward the vicinity of the lakes Locarno and Como, under the various denominations of Vogelberg, St. Bernardine, Spluger, Albula, Bernini, &c. and stretching into the Tyrol, terminates in the Brunner, or Rhaetian Alps, on the south of the Inn, extending even to Saltzburg; and the first chain to the north of that river separates Bavaria from Tyrol. This chain of the Italian Alps, proceeding from Mount Rosa, through the country of the Grisons to the Glaciers of Tyrol, and terminating in the Salazin Alps, should form the boundary between Germany and Italy, as they pass through the centre of Tyrol, and as the Italian Alps to the north of the former Milanese and Venetian territories, are of comparatively small elevation. The highest of the Italian Alps belong to the country of Piedmont.

"It was reserved," says the modern geographer already cited (*p. 583.*), "for this age of enterprise to disclose the secret wonders of the Alps. The enormous ridges clothed with a depth of perpetual snow, often crowned with sharp obelisks of granite, stiled by the Swiss horns or needles; the dreadful chafms of some thousand feet in perpendicular height, over which the dauntless traveller sometimes stands on a shelf of frozen snow; the glaciers, or seas of ice, some-

times extending 30 or 40 miles in length; the sacred silence of the seas before unvisited, except by the charmers and goats of the rocks; the clouds, and sometimes the thunder storms, passing, at a great distance below; the extensive prospect, which reveals kingdoms, as it were, to a map; the pure elasticity of the air, exciting a kind of incorporated animation; are all novelties in the history of human adventure."

From Saussure we learn, that the highest summit of these mountains consist of "a large granular granite; the mixture being white opaque felspar, greyish, or white semi-transparent quartz, and mica, in small brilliant scales, forming what is called the white granite. The colours vary; and sometimes hornblende, schist, garnets, or pyrites are interspersed. The clouds on rocks to consist of flat pyramids of granite, standing vertically, disposed like the fruit of the artichoke; those of the centre being most upright, while the others bend towards them. These flat pyramids commonly stand, like the grand chains of the Alps, in a north-east and south-west direction. Beneath, and incumbent on the granite, especially towards the north, appear large masses of slate, which are followed by exterior chains of high calcareous mountains." For a further account of the Alps, see Coxe's *Switzerland*, Saussure, Bourrit, and the articles BLANC, GOTHARD, ROSA, &c. in this Dictionary.

ALPS, in *Geography*, beside its proper signification, by which it denotes a certain chain of mountains, which separate Italy from France and Germany, is sometimes used as an appellative to denote any mountains of extraordinary height. In this sense, Ausonius and others called the Pyrenean mountains, *Alps*; and Cælius, the Spanish *Alps*, *Alpini Hispani*. Sidonius gives the same appellation of *Alps* to Mount Athos. Other authors speak of Norman *Alps*, *Alpes Arvernæ*, *Alpes Astorienses*, *Alpes Deprimæ*, *Alpes Romanicæ*, *Alpes Basternicæ*. The Apennines are also called by Johannes Villereuf, *Alpi D'Apennini*. Thus also the British Alps denote the highest mountains in Britain; such are the GRAMPIAN hills, BEN NEVIS, and other mountains of the Highlands in Scotland; such are Snowden, &c. in Wales, *Wharfedale*, *Skiddaw*, and *Croftsfell*, in England. To the Asiatic Alps we may refer the ALTAY and WERTERIAN mountains; and to the American the ALLEGHANY and APALACHIAN of North America, and the ANDES of the South.

ALPS is also used to denote pastures on the mountains, whereon cattle are fed in the Summer time; or rather in the vallies, and spaces between the mountain tops. Some will have this to be the primary signification of the word *Alps*, which is supposed by these authors literally to denote the freights or apertures between hills.

ALPS, *Lower, Department of*, is one of the four composed out of the Ci-devant Provence, in France. It is bounded on the north by the department of the Upper Alps, on the east by Piedmont and the department of the Maritime Alps, on the south by the department of the Var, and the north-east extremity of that of the mouths of the Rhine, and on the west by the departments of Vaucluse and the Drome. Its chief town is Digne. Its superficies is about 1,459,699 square acres, or 745,007 hectares; its population comprehends 144,436 individuals; and it is divided into five communal districts.

ALPS, *Upper, Department of*, makes a part of Dauphiné, which contains three. It is bounded on the north by the departments of Mont Blanc and Here, on the east by Piedmont, on the south by the department of the Lower Alps, on the west by that of the Drome and part of that of Here.

Its chief town is Gap. Its superficies is about 1,084,614 square acres, or 552,569 hectares; its population comprehends 116,754 persons; and it is divided into three communal districts.

ALPS, *Maritime, department of*, is formed of the county of Nice. It is bounded on the north by the Apennines and the department of the Lower Alps, on the east by the republic of Genoa, on the south by the Mediterranean, and on the west by the department of the Var and Lower Alps. Its chief town is Nice. Its superficies is about 632,619 square acres, or 322,674 hectares; its population amounts to 93,366 persons; and it is divided into three communal districts.

ALPSEE, a lake of Switzerland, being a continuation of the lake of Lucern.

ALP-STEIN, the denomination of a chain of mountains in Switzerland, which separate the canton of Appenzel from Toggenbourg, the barony of Saxe and the Rhinthal. It was formerly the limit between the country of the Rhätians or Grisons, and the landgraviate of Turgovia.

ALPUERTE, a town and castle of Spain, in the kingdom of Valencia, to the west of Segorbia and the north-east of the river Guadalquivir. It is agreeably situated, and the territory is fertile. N. lat. $39^{\circ} 50'$. W. long. $1^{\circ} 6'$.

ALPUXARRAS, LAS, are high mountains of Spain, in the kingdom of Granada, on the coast of the Mediterranean; their summits are visible not only from Gibraltar, but from the coast of Africa, between Ceuta and Tangier, and they extend from Velez to Almeria, and are about 17 leagues in length from east to west, and 11 leagues in breadth from north to south. This canton is one of the most populous and best cultivated in Spain; it is interspersed with villages, and covered with vines and other trees. It produces corn, wine, fruits, and good pasture, and also silk. The air and weather in this district are temperate and healthy. The inhabitants were originally Moors, and they are distinguished from the other Spaniards by the simplicity of their manners, the rudeness of their language, and their diligence in labour.

ALQUIER, which is also called *cantar*, a liquid measure for oil, used in Portugal. It contains six *cavadas*, or *canadors*. Two *Alquiers* make an *almude*, or *almonde*.

ALQUIER is also a measure for grain, at Lisbon, containing a peck, three quarts, and a pint English.

ALQUIFOU, or ARQUIFOU, as the merchants spell it, is a sort of mineral *lead*, very heavy, easily reduced into powder, and hard to melt. When it is broken it parts into shining scales, much like the colour of needles of antimony. The potters use it to give their works a green varnish. In England it is commonly called *potter's ore*. It is found in Cornwall; the potters mix manganese with it, and then the varnish, or glazing, on their wares becomes of a blackish colour.

ALQUIVITE, or QUEVETO *Coast*, in *Geography*, a part of the coast of South America, which is washed by the Pacific Ocean, extends from the Morro del Bonifacio, at the entrance of Baldivia on the south distant 15 leagues to the river Imperial, on the north distant ten leagues. That on the south is the lowest and flattest land on the coast of Chili; but that to the north is higher, and in most places bold, with the exception of the shoals that run west south-west from the island Mocha, north-west by west from the river Imperial. Alquivite is in S. lat. $38^{\circ} 40'$. W. long. 76° .

ALRAMECH, or ARAMECH, in *Astronomy*, the Arabic name of a star of the first magnitude, otherwise called ARCTURUS.

ALRAUPE, in *Ichthyology*, a name given by the Germans, to the *myxela flammatilis*, or eelpout, a species of the *GADUS*.

ALRED, ALFRED, or ALURED, in *Biography*, an ancient English historian, was born at Beverley, in Yorkshire, and educated in the university of Cambridge. Having acquired a considerable knowledge of divinity, philosophy, and history, he returned to his native country; became a secular priest, and was appointed a canon and treasurer of the church dedicated to St. John of Beverley. His "Annals," containing the history of the Britons, Saxons, and Normans, were continued to the 29th year of Henry I. and he probably died in the year 1128 or 1129. From the preface to his work it appears that he was rather poor than rich, and much devoted to his studies. His abridgment of our history, from Brutus to Henry I. is one of the most valuable pieces that has escaped the rage of time, and the indiscretion of our first reformers. It is written in a concise, elegant, Latin style, with great perspicuity, and an uncommon attention to dates and authorities: so that he may be justly regarded as our English Florus. Leland has omitted Alred, in his collection of British writers, because he considered his work as merely an abridgment of Jeffrey of Monmouth's British History; whereas, it is not only doubtful whether Alured ever saw Jeffrey's history, but probable, from a variety of circumstances, that this history was published after Alred's Annals.

This work was published by Mr. Hearne, at Oxford, in 1716, from a MS. which belonged to the famous Thomas Rawlinson, Esq. under the title of "The Annals of Alured of Beverley;" and in a preface to it, Mr. Hearne has vindicated the author from the charge of plagiarism, which has injured the reputation of this valuable compendium of British history. Although Huntingdon, Hoveden, Malmesbury, and other writers have prefixed summaries of ancient history to the accounts they have left us of their own times, yet none of them, says a very competent judge, are to be compared, in point of accuracy or elegance, with this history, which deserves to be translated and to be continued, with the same spirit, to later times. Besides this work, which has been mentioned under different titles, Alured wrote no other, except "The History of St. John of Beverley," a collection of records, which has never been printed, but is preserved in the Cotton Library, under the title of "Libertates Ecclesie, S. Johannis de Beverlik, &c. Biog. Brit.

ALRESFORD, in *Geography*, a town of Hampshire, situate in the road from London to Winchester on a small stream, which, by means of a large pond as a reservoir, with locks and aqueducts, was formerly navigable by barges and lighters to Southampton; but the navigation has for several centuries reached no farther than Winchester. It consists of about 200 houses, one church, and two principal streets, and has a small manufacture of linens. Its market is on Thursday. It is distant from London somewhat more than 57 miles.

ALROE, a small island of Denmark, in the bay of Hørsens and prefecture of Aakiar, belonging to the diocese or general government of Aarhus.

ALRUKAK, in the *Materia Medica*, a word used by Avicenna, and others of his nation, for what was called by the Greeks *leptos libanotis*, and *manna thuris*. This was the fragments of frankincense, which were broken off from the larger pieces in the collecting or packing up, and were most esteemed in medicine, as being the driest and purest kind.

ALRUM,

ALRUM, in the *Botanical Writings of the Ancients*, a name given to the tree which produces the *Libani*. This gum was originally known to be the exudation of a tree growing in Arabia and the East Indies, and well known to Avicenna, and others, and by all of them called by that name.

ALRUNES, a name given by the ancient Germans to small figures of wood, of which they made their *LARÆ*.

ALSÀ, now **ANSA**, in *Ancient Geography*, a small river of Italy, which passing by Aquileia discharged itself into the Adriatic. Near this river Constantine, the son of Constantine the Great, fighting against his brother Constans, lost his life.

ALSACE, was before the revolution a province of France; bounded on the east by the Rhine which separated it from Swabia, on the south by Switzerland, and part of Franche Comté, on the west by Lorraine, from which it is separated by the chain of mountains called Wasgau or Les Vosges, and on the north by the Palatinate of the Rhine; and comprehended between $47^{\circ} 32'$ and $49^{\circ} 8'$ N. lat. and $6^{\circ} 44'$ and $7^{\circ} 24'$ E. long. This has been reckoned one of the most fertile and plentiful provinces in Europe, abounding in corn, wine, oil, flax, tobacco, fruits, and pulse, of various forts, wood and excellent pasture. The part of this province that lies betwixt the rivers Ill, Haardt and the Rhine, is of narrow extent, and less fertile than the other parts; but the district that borders upon Switzerland and Mount Saverne, and the levels about Strasbourg to the Rhine, are very fruitful and agreeable, and produce abundance of grain, tobacco, culinary vegetables, saffron and hemp. The mountains towards Lorraine are high and covered with fir, beech, oak, and horn-beam. The forests of this province are numerous, and furnish great quantities of wood both for fuel and building; as well as plenty of deer and game of all kinds, and it is in general diversified with hills and vales, which render it fertile and productive. Alsace has mines of silver, copper, iron, and lead; and it has also various mineral waters and baths. Its rivers are numerous, of which the principal is the Rhine, and it has also several lakes. The number of inhabitants, who are mostly Lutherans and Roman Catholics, was formerly computed at about half a million; their common language is the German, though the French is generally understood and principally spoken by people of superior rank, and in the towns. This province was divided into Upper and Lower Alsace; the former contained 32 large and small towns, and the latter 39; and in both there are upwards of 1000 market towns and villages. By the late division of France, this province forms two departments, *viz.* those of the Upper and Lower Rhine, the capital of the former being Colmar, and that of the latter Strasbourg.

This province was anciently inhabited by the Rauraci, Sequani and Mediomatrici. Its name first occurs in the history of France under the Merovingian kings; and it is most probably derived from the river Ell or Ill, the inhabitants on the borders of which were called Elifassen, from whom the country itself was afterwards denominated Elfas, in Latin Elifatia, Alifatia, and Alfatia. From the Celtæ it fell under the dominion of the Romans; from them it passed to the Germans, and after the battle of Tolbiac, or Zulpich, gained by Clovis in 496, it was possessed by the Franks. It was afterwards incorporated with the kingdom of Austrasia, and in 752 it was subject, like the rest of the monarchy, to the laws of Pepin and his successors. At the decease of Lewis Debonnaire in 840, his eldest son Lotharius obtained it, and he joined it to that part of the

empire of the Franks which fell to him, and which was called the kingdom of Lotharinga or Lorraine. Lotharius II. his youngest son, inherited it; and after his death, it became a province of Germany, and was governed by dukes. About a century before the death of Alphonse, the prominent count, who governed the province of Alsace, assumed the title of Landgrave, and the name of the province which they pretend was called Landgraviat, one before and the other nation. In 1357 the first duke of the inferior Landgraviat was conveyed to the bishop of Strasbourg, who styled himself Landgrave of Alsace. The government of Alsace was afterwards conferred by the emperor on several houses, till Ferdinand I. gave it to the German line of his own house; and accordingly it continued in the house of Austria. At the peace of Munster, in 1648, the emperor ceded for ever to the crown of France all rights to the town of Brisach, lands, waste of Upper and Lower Alsace, Sundgau, and the district of the ten united imperial cities in Alsace, with the whole sovereignty belonging to them. By the peace of Ryfwick, in 1713, the emperor and the empire ceded to France the perpetual sovereignty of the city of Strasbourg, and of all its dependencies, on the left side of the Rhine.

ALSADAF, in the *Materia Medica*, a name given by Avicenna and Serapio, to the *unguis odoratus*, and also to the *murex*, or purple fish, of the shell of which it was supposed to be a part.

ALSAHARATICA, a name used in *Botany*, by some, to signify the *parthenium*, or *LIVERWORT*.

ALSCHARCUR, in the *Materia Medica*, a name given by Rhazes, and some others of the old writers, to the *SKINK*, a small animal of the lizard kind, formerly used in medicine as a cordial, and as a provocative to venery.

ALSCHAUSEN, or **ALSHAUSEN**, in *Geography*, a free imperial village of Germany in the circle of Swabia, in a commandery of the same name belonging to the Teutonic order, within the bailiwick of Alsace and Burgundy. It has a castle which is the residence of the country commandery of this bailiwick, and it lies betwixt the district of Altorf and the countries of Konigseck, and Scheer. The title of this place to jurisdiction in ecclesiastical and civil matters has been frequently contested by the Teutonic order.

ALSCHWANGEN, a town with a castle of Poland, in the duchy of Courland, and parish of Alschwang.

ALSCHNEFU, in *Botany*, a name used by some authors, for *WORMWOOD*.

AL SEGNO, in *Musick*. These Italian words are used when a return is made to a former part of a movement, where this mark or character appears: *sg.* as who should say, return to this sign *sg.* This is an expedient to save the trouble of writing, or expence of printing certain portions of a movement that are to be repeated. Thus *da capo*, implies that a whole strain is to be repeated from the beginning.

ALSEN, in *Geography, an island of Denmark, situate in the lesser Belt, or entrance into the Baltic sea, between the coast of Sleswick, to which it belongs; and separated from the main land by a narrow channel called *Alsen-fjord*. Its extent is about six leagues in length, and two in breadth; the soil is fertile, and produces plenty of fruit, and wheat excepted, all kinds of grain, together with large crops of aniseeds, used by the Danes as a curmative for seasoning their food, and mixing with their bread. The island is flattered by fine woods, which abound with game; and several of its lakes are well stocked with fish. It is divided*

into forth and north-flower, called *Sandsting* and *Norling* perfectures. It is about 100 miles west of Copenhagen.

ALSEN, a river of Germany, which runs into the Ill near Flakitz.

ALSEN, a town of Germany, in the circle of the Upper Rhine, and district of Deux-Ponts; 28 miles west of Worms.

ALSENZ, a town of Germany, in the circle of the Upper Rhine, and principality of Nassau-Weiburg, seven miles south of Creutznach, and 40 north-west of Mannheim.

ALSFELD, a very ancient town of Germany in the circle of the Upper Rhine, in Upper Hesse, in a prefecture of the same name. It lies near the river Schwalm, has an old castle and two churches; and it is the first town in the circle which received the constitution of Augsburg, being formerly more wealthy and populous than it is at present. N. lat. 50° 40'. E. long. 9° 9'.

ALSHASH, a beautiful city in Buckharia, supposed to be the same as *Alashash* or *Alashash*, or *Thyphoid*.

ALSHILL, a town of Sweden, where a gold mine was discovered in 1752.

ALSHIM, a town of Germany, in the circle of the Lower Rhine, 10 miles north of Worms.

ALSIMBEL, in the *Materna Medica*, a name given, by Avicenna and others, to the spikenard of India. It is thus called from its having the appearance of a spike, or ear, and also *spikenard*, a word which signifies its being a cagern of many spikes, or ears; and such is much of the *nardus Indica*, or Indian *spikenard*, that we receive at this day.

ALSINA, in *Botany*. See *THELIGONUM*.

ALSINANTHEMUM. See *ARENARIA*.

ALSINASTRUM. See *COSTUS* and *ELATINE*.

ALSINE, formed of *ἄλσος*, a grove, *chickweed*, Eng. *morgeline*, Fr. in *Botany*, a genus of the *pentandria trigynia* class and order, and of the natural order of *caryophyllei*: its characters are, that the *calyx* is a five-leaved perianthium, leaflets concave, oblong and acuminate; the *corolla* has five equal petals, longer than the calyx; the *filamina* consist of capillary filaments, the anthers roundish; the *pistillum* has a subovate germ, styles filiform, and stigmas obtuse; the *pericarpium* is an ovate, one-celled, three-valved capsule, covered with the calyx; the *seeds* are very many and roundish. Martyn reckons three, and Gmelin five species. 1. *A. media*, holosteum Alfine of Swartz, common chickweed, with petals bipartite, and leaves ovate-cordate. The number of stamens in the flower of the common chickweed is uncertain, from three to ten. This species in different soils and situations assumes different appearances; but it is distinguished from the *cerastium*, which it most resembles, by the number of pistils, and by having the petals shorter than the leaves of the calyx, and from all the plants related to it, and particularly the *stellaria nemorum*, by having the stalk alternately hairy on one side only. Dr. Withering refers it to the *STELLARIA*, with which genus it agrees in various respects, and especially in the capsules opening with six valves. He observes, that it grows almost in all situations from damp and almost boggy woods, to the driest gravel walks in gardens; but in these various states its appearances are very different, so that those who have only taken notice of it as garden chicken-weed would hardly know it in woods, where it sometimes exceeds half a yard in height, and has leaves near two inches long, and more than one inch broad. In its truly wild state, he says, in

damp woods, and hedge bottoms with a northern aspect, it has almost always ten stamens; but in drier soils and more sunny exposures, the stamens are usually five or three. Dr. Smith (Flor. Brit. vol. ii. p. 473.) also refers it to the genus *stellaria*, and characterizes it under the species of *STELLARIA media*, with ovated leaves and procumbent stalks, having the lateral line alternately hairy. When the flowers first open, the peduncles are upright; as the flowers go off, they hang down; and when the seeds ripen, they again become upright. Dr. Withering observes, that the flowers are upright, and open from nine in the morning till noon; but if it rains, they do not open. After rain they become pendent; but, in the course of a few days, rise again. In gardens or dunghills chickweed sheds abundance of seeds, which are round, compressed, yellow and rough, with little tubercles; and thus becomes a troublesome weed; but if it be not suffered to seed, it may be destroyed, as it is annual, without much trouble. This species is a remarkable instance of the sleep of plants; for every night the leaves approach in pairs, including within their upper surfaces the tender rudiments of the new shoots; and the uppermost pair but one, at the end of the stalk, is furnished with longer leaf-stalks than the others, so that they can close upon the terminating pair, and protect the end of the branch. The young shoots and leaves, when boiled, can scarcely be distinguished from Spring spinach, and are equally wholesome. Swine are very fond of it; cows and horses eat it; sheep are indifferent to it; and goats refuse it. It is a grateful food to small birds and young chickens. For medical purposes this herb was formerly employed in cataplasms against inflammations; and its expressed juice, or decoction, given also internally, as an aperient, antiscorbutic, antiphlogistic; and as a restorative, probably for abating hectic heats, in atrophies and consumptions. The virtues ascribed to it, says Dr. Lewis, do not appear to be wholly without foundation; though its active matter is so far divided and diluted in the herb, as scarcely to manifest itself till separated from the grosser parts. This plant is found wild in most parts of the world. It is annual, and flowers almost through the whole year. 2. *A. fegetalis*, with entire petals, and awl-shaped leaves. This, according to La Chenal in Hall. helv. is the same with the *ARENARIA tenuifolia*. It is annual, and grows about Paris and in Piedmont. 3. *A. mucronata*, with entire, short petals, fetaceous leaves and awned calyces. This is a native of France and Switzerland, and introduced into Kew Garden, in 1777, by Dr. Gouan. 4. *A. prostrata*, with oblong leaves, and dichotomous prostrate stalk. Forsk. fl. Æg. arab. p. 207. 5. *A. graminifolia*, with lanceolate, rigid, hairy leaves, and erect three-flowered stalk. Arduin sp. ii. tom. x. See *ARENARIA*, *CALLITRICHE*, *CAMPANULA*, *CENTUNCULUS*, *CERASTIUM*, *CORRIGIOLA*, *CUCUBALUS*, *DRABA*, *FRANKENIA*, *GLAUX*, *GLINUS*, *GYPHOPHILA*, *HOLOSTEUM*, *ISNARDIA*, *LINUM*, *LIMOSELLA*, *LYCHNIS*, *MOEHRINGIA*, *MOLLUGO*, *NAMA*, *OLDENLANDIA*, *PEPLIS*, *PHARNACEUM*, *SAMOLUS*, *SIBTHORPIA*, *SILENE*, *SPERGULA*, *STELLARIA*, *TRIENTALIS* and *VERONICA*.

ALSINE, *Affinis*. See *ANDROSACE*.

ALSINES *Facie*. See *THELIGONUM*.

ALSINEFORMIS. See *MONTIA*.

ALSINELLA. See *SAGINA*.

ALSINOIDES. See *BUFONIA* and *MONTIA*.

ALSIRAT, in the Mahometan *Theology*, a bridge laid over the middle of hell, finer than a hair, and sharper than the

the edge of a sword, over which the people are to pass, after their trial on the day of judgment.

To add to the difficulty of the passage, Mahomet affirms, that the aliriat, narrow as it is, is beset with briars and thorns; none of which, however, will be any impediment to the good, who shall fly over it like the wind; Mahomet and his Muftulmen lead the way; whereas the wicked, by the narrowness of the path, the entangling of the thorns, and extinction of the light, which directed the former to paradise, will soon miss their footing, and tumble headlong into hell, which is gaping beneath to receive them. See Sale's Prelim. Disc. to Koran, sec. iv. p. 90. See *METANS*.

ALSITZ, in *Geography*, a river of the Netherlands, which passes by the city of Luxemburg, and runs into the Sour near Dinich.

ALSIMUM, in *Ancient Geography*, a city of Italy in Etruria, occupying, according to Cluverius, the spot where Palo now stands. If it was built by the Aborigines long before the Tyrsenians invaded Italy, as we are informed by Dionysius Halicarn. it must have been founded not long after the dispersion in the days of Peleg. Silius Italicus (lib. viii. v. 475.) refers its origin to the Trojan times, and says, that it was built by Alefus, the friend of Agamemnon; but some have conjectured, that Alefus or Alisa, its founder, was Elifha, the son of Java, mentioned in Scripture. Velleius Paterculus (lib. i. c. 14.) relates, that it became a Roman colony, towards the end of the first Punic war. It was situated 18 miles from Portus Augusti, and south-east of Cære.

ALSLEBEN, in *Geography*, a town of Germany, in the circle of Upper Saxony and the principality of Anhalt-Defau, and in the bailiwick of Great Alleben, which has a princely palace built in 1666; nine miles south south-west of Bernburg. N. lat. 51° 38'. W. long. 11° 29'.

ALSLEBEN is also a small town of Germany, in the circle of Lower Saxony and principality of Magdeburg, and in the bailiwick of Alleben, situate on the Saale, and consisting of 108 houses. The revenues of the collegiate church have been transferred to the cathedral of Magdeburg. The old village of Alleben lies so near the town walls as to seem to be a suburb of it. It is 22 miles south of Magdeburg.

ALSO-SAJO, a town of Hungary, in the Gespanschaft of Gomor, situate on the banks of the Sajo. A quantity of cinnabar is dug in its neighbourhood.

ALSO-DANY, a small town of Hungary, in the district of Ofzlan and Rewischtye jurisdiction, to which belongs a mineral water.

ALSOP, ANTHONY, in *Biography*, an English poet and divine, was educated at Westminster school, and from thence elected to Christ-church college, Oxford. He was soon after his admission to the university distinguished by Dean Aldrich, and published "*Fabularum Æsopicarum delectus*," Oxon. 1698, 8vo. with a preface, in which he took part with Mr. Boyle in the dispute between him and Dr. Bentley. He passed through the gradation of offices to that of censor at the college with reputation, and had the care of several of the principal noblemen and gentlemen of the society; and in this situation he continued, till Sir Jonathan Trelawny, bishop of Winchester, appointed him his chaplain; and soon after gave him a prebend in his own cathedral, together with the rectory of Brightwell in Berks, from which no solicitations to a higher station could induce him to remove. In 1717 he was cast in an action for the breach of a contract of marriage, with 2000l. damages; and on this occasion he left the kingdom. The

edition of his collection of fables, which he dedicated, which happened, I think, in 1721, was occasioned by his falling from a high chair in his study. A translation of his was published in 1752 by W. Lisle. Bentley's edition of the fables of "Antony Alsop, of the Christ-church school, Oxford, lib. ii. c. 14." I have seen only one copy, in Dr. Dobb's collection, one in Penn's, and one in the only volume of the Gentleman's Magazine, and then in the Student. It was a pleasant and useful composition, and not roughly rendered by the form of his poetical. Mr. Alsop is correctly mentioned by the learned Dr. Hogg of the Commons, (vol. i. p. 236.) as having enriched the commonwealth of learning by "Translations of Fables from Greek, Hebrew, and Arabic," and no less contemptuously by Dr. Bentley, under the name of "Tony Alsop, a late editor of the Æsopian Fables." *Æg. Diet.*

ALSOP, VINCENT, an English nonconformist divine, was born in Northamptonshire, and educated at St. John's college, Cambridge, where he took the degree of master of arts. Having taken deacon's orders, he settled at Oakham in Rutlandshire, as assistant in the free-school. Having imbibed the principles of nonconformity, he was ordained among the presbyterians, and exercised his ministry at Wilbec, in Northamptonshire, whence he was ejected in 1662. After this event he preached occasionally, and was imprisoned six months for praying with a sick person. Being known to the world by a book which he wrote in an humorous style against Dr. Sherlock, he was invited to settle with a congregation of presbyterians in Westminster; and in this situation he fortunately escaped fines and imprisonment, because his christian name, which he studiously concealed, was not known to the informers. At the commencement of the reign of James II. Mr. Alsop's son engaged in treasonable practices, and obtained the king's pardon; and this act of clemency seems to have attached the father to the royal interest. In the address which was presented to the king for his general indulgence, and which is supposed to have been written by Mr. Alsop, he intreats his Majesty to believe, "that loyalty is not entailed to a party," and he professes for himself and his brethren, their gratitude and good wishes; to which address the king replied, that he was happy in observing two good effects of his declaration, the easing and pleasing of his subjects, and restoring to God the empire over conscience; adding, "it has been my judgment a long time, that none has, or ought to have any power over the conscience but God;" and expressing his hope, "to live to see the day, when you shall as well have Magna Charta for the liberty of conscience, as you have had for your properties;" closing with this admonition: "and now, gentlemen, do you so preach to your hearers, as they may be good Christians, and then I do not question but they will be good subjects." After the revolution, Mr. Alsop, though he retained a grateful respect for the memory of king James, became zealously attached to the government and interest of king William. He lived to an advanced age, and died on the 8th of May 1703. It is said, that though on grave subjects he wrote with a becoming seriousness, yet when wit might be properly shewn, he displayed it to great advantage. To this purpose we are referred to his "*Antifozzo*," in vindication of some great truths opposed by Dr. William Sherlock," Nov. 1675. He also wrote, "*Mellus Inquirendum*," in answer to Dr. "*Goodman's Conscience Inquiry*," Nov. 1679; "*The Mischief of Impositions*," in answer to Dr. Stillingfleet's "*Mischief of Separation*," 1682, with several single sermons. *Biog. Brit.*

ALSTADT, in *Geography*, a town of Prussia, in the Oberland, near Prenzlaerack.

ALSTEDTUS, JOHN HENRY, in *Biography*, a German protestant divine, and one of the most voluminous writers of the 17th century. He was born about the year 1588, and was for some time professor of theology and philosophy at Herborn, in the county of Nassau, and afterwards at Alba Julia, in Transylvania, where he died in 1638. He was one of the divines that attended at the synod of Dort. He was an industrious compiler of systems of sciences. His principal work is his "Encyclopædia," printed at Lyons in two volumes, folio, in 1649. Vossius speaks with commendation of that part which comprehends arithmetic. His "Thesaurus Chronologicus," has passed through several editions. His "Triumphus Biblicus," was written with a view of shewing, that all arts and sciences may be deduced from the Bible. His "Theologia Polemica," was answered by Himmelius, divinity professor at Iena. His other works are "Philosophia restituta," "Elementa Mathematica;" "Methodus formandorum Studiorum," printed at Strasburg in 4to. in 1610; "Templum Musicum, or Musical Synopsis," which is so formal as to resemble a logical rather than a musical treatise; and a treatise, "De Mille Annis," published in 1627, in which he maintains the Millenarian doctrine, or that of Christ's reign on earth for 1000 years, and fixes the commencement of this reign in 1604. The character of this writer has been well compressed in a single anagrammatic word, "Sedulitas." Gen. Dict.

ALSTER, in *Geography*, a river of Germany, which runs into the Elbe near Hamburg. It passes through the city, and forms a lake nearly half an English mile in circumference, which in summer evenings is covered with all sorts of pleasure-boats, affording to the spectators a very amusing spectacle.

ALSTON, CHARLES, (M. D.) in *Biography*, a botanical and medical writer, was born in the western parts of Scotland in the year 1683. He early applied himself to the study of botany, and opposed, with considerable ingenuity, the sexual system of Linnaeus. When 33 years of age, he went to Leyden, and studied three years under Boerhaave. Returning thence with his friend Alexander Monro, he was materially instrumental in establishing a school of medicine in the College at Edinburgh, of which he was appointed professor of botany and the materia medica. In this post he continued to the time of his death, Nov. 1760.

In the fifth volume of the Edinb. Med. Essays, we have a short paper by Alston on the efficacy of the powder of tin in destroying or expelling worms from the bowels. He obtained the prescription, he says, of an empiric, who was famed for his skill in curing persons afflicted with those noxious insects. One ounce of tin, reduced to powder, and mixed with treacle, was given the first morning, and half an ounce each of the two following mornings; the patients were then purged with the infusion of senna and manna. He speaks highly of the efficacy of this medicine, which has certainly considerable powers in these cases, and may be given to the most delicate subjects with perfect safety. His dissertation on the sexes of plants, in which he combats the doctrine of Linnæus, was published in the year 1753, in the first volume of the Edinburgh Physical and Literary Essays. But the work principally calculated to secure his fame with posterity, is his Lectures on the Materia Medica, which was published in the year 1770, in two vols. 4to. by his friend and successor in the professor's chair, Dr. John Hope. Although considerable additions and improvements have been since made in this branch of science, yet this work will be always

held in esteem for the number of curious and useful facts it contains. Haller Bibliotheca Botan.

ALSTON-MOOR, or ALDSTONE, in *Geography*, a town of Cumberland, situate on a hill near the river Tyne, on the borders of Northumberland. The parish is small; but on account of the lead-mines in its neighbourhood very populous. The lands are part of the forfeited estates of the earl of Derwentwater, and are held on lease, granted for a thousand years, under the governors of Greenwich hospital. The market is plentiful, and held on Saturday. The distance from London by Bernard castle is 271, and by Penrith 302 miles. N. lat. 54° 45'. W. long. 2° 4'.

ALSTONIA, so named from Dr. Alston, in *Botany*, a genus of the *polyandria monogynia* class and order: its characters are, that the *calyx* is an inferior, imbricate perianthium, scales ovate, very obtuse and concave, the inner ones gradually larger, forming, as it were, a quadripartite or quinque-partite calyx; the *corolla* is one-petalled, shorter than the calyx, tube short, border spreading, divided into eight or ten parts, divisions equal, in a double row, alternately interior and exterior, obovate, obtuse, quite entire; the *filamina* have very many filaments, inserted into the tube, very short, imbricate, very smooth, the outer ones longer, linear, attenuated at the tip, anthers orbiculate and furrowed; the *pisillum* has a superior germ, ovate and small, style simple, of the length of the corolla, filiform and erect, the stigma capitate-obovate. The fruit is unknown, and the genus is imperfectly determined; it is nearly allied to *Symplocos*, and perhaps only a species of it. Swartz. There is one species, viz. *A. theaeformis*, joined by M. l'Heritier with *Hopea* and *Ciponima*, under the same genus *Symplocos*. This shrub was found by Mutis in South America. It is very smooth, and resembles the bohea tea in the leaves, the imbricate calyces, the situation of the flowers, &c. The dried leaves chewed give a green colour to the saliva, and have the taste of Chinese tea. The leaves are alternate on short petioles, elliptical in their form, and from the middle to the tip obtusely serrate, stiff and veined. The flowers are axillary, three or four together, and sessile; the calyx is very smooth, the scales rounded and green, with a membranaceous edge; the corollas are white and spreading. Martyn's Miller. Trans. Linn. Soc. vol. i. p. 170.

ALSTROEMERIA, so named from Baron Alstroemer, of Sweden, who, in his travels through Europe, sent many plants to Linnæus, in *Botany*, a genus of the *hexandria monogynia* class and order, of the natural order of *Lilia* or *Liliaceae*, *Sarmentaceae* of Linn. and *Narcissi* of Jussl.; its characters are, that it has no calyx; the *corolla* is six-petalled and sub-bilabiate, the three outer petals wedge-shaped, retuse, mucronate, the inner, which are alternate with the others, lanceolate, the two lower ones tubulous at the base; the *filamina* have awl-shaped filaments, bending down and unequal, anthers oblong; the *pisillum* has a germ inferior, hexangular, truncate, style bending down, filiform, of the length of the stamen, stigmas three, oblong and bifid; the *pericarpium* is a roundish, six-ribbed, mucronate capsule, three-celled, and three-valved, valves concave, and contrary to the dissepiment; the seeds very many, globose, covered with raised points, subumbilicate at the tip. Gmelin enumerates five; Martyn and Willdenow six species. 1. *A. pelegriana*, called *pelegriana* by the Spaniards in Peru, to express a superb flower, spotted-flowered *A.* has an erect stem, corollas bell-shaped, straight, leaves linear-lanceolate, sessile; or, according to Willdenow, has an erect stem, patent corollas, the three exterior petals wedge-shaped, three-toothed, the rest mucronate, the leaves linear-lanceolate and sessile. This species is found in Peru and Lima; the flowers are whitish, beautifully

beautifully stained and veined with purple and red; its flowers from June to October; and was introduced into Kew garden, in 1753, by Messrs. Kennedy and Lee. 2. *A. petiolata*, with erect stem, reflex-spreading and acute corolla, sessile leaves, and pedicles shorter than the involucre. This plant resembles the former in its structure and habit, but the leaves are narrower, and the stem terminated by an irregular involucre of larger petiolate leaves; the peduncles naked and one-flowered, flowers four or six rather nodding; the petals alternately less, whitish, red at the tip, streaked, or dotted with red at the base, filaments yellow, pistil red, and stigma tritid. This species is a native of South America. 3. *A. Light*, striped-flowered *A.* with erect stem, spatulate-oblong leaves, peduncles of the umbel longer than the involucre, and two-lipped corolla. The barren items are clothed with awl-shaped leaves, and terminated with spatulate-oblong leaves, placed in a kind of rose; the floriferous item clothed with awl-shaped leaves, the peduncles few and naked; the three upper petals of the corolla larger, white, dotted at the base, and spotted at the tip with red, the three lower ones shorter and red; the filaments longer than the lower petals, rugged, the anthers twin and yellow; the pistil red. This plant, which is a native of Lima, is remarkable for the largeness of its flowers, and for their fragrant, scarcely inferior to mignonette; it flowers in February and March, and was introduced here about 1776 by John Brown, Esq. 4. *A. diffusa*, with twining stem, petiolate, lanceolate, acuminate leaves, branching umbel, peduncles longer than the involucre, bracted and loose. The leaves are nervose, petioles naked, the involucre many-leaved, awl-shaped and reflex, the peduncles few, elongated, sustaining one or two flowers, the outer petals red, and the inner greenish. This is a native of Lima. 5. *A. multiflora*, with twining stem, petiolate, lanceolate, and acuminate leaves, simple umbel, peduncles shorter than the bractes, and petals alternate and truncate. This species resembles the last in habit and structure; but the petioles are wrinkled at the edge, and the umbel is not peduncled, the manyflowered involucre consists of broader leaves, and the peduncles are simple and naked; the three outer petals are shorter, narrower, and entire, the inner truncate or emarginate, with a point; the colour is unknown. It is a native of South America. 6. *A. ovata*, with twining stem, lanceolate leaves, lanuginose on the upper surface, lucid on the lower, and corollas tubular; or, according to Willdenow, with twining stem, petiolate, elliptic, acuminate leaves, above villose, ramose umbel, bracteate loose peduncles, longer than the involucre, and bell-shaped corolla. The stem, twining contrary to the sun, is slender, and three feet high, the leaves are alternate and sessile, the flowers terminate in umbels, the petals approximate into a tube, ovate-oblong, the three outer scarlet, green at the tip, the three inner green, flatted towards the top, and variegated with black dots; the stamens are fixed to the germ near the base of the petals, anthers ovate and brown; germ green without, marked with six longitudinal grooves, and terminated with six small notches, style subulate, stigmas sharp, capsule globular, an inch in diameter, six-grooved, six-notched at the edge. This species differs from the former in its woolly leaves, and tubulose flowers. It is a native of Peru.

All these are stove-plants, and may be propagated by parting the roots in Autumn. The first is more hardy than the third, and may be treated as a green-house plant, but it will flower and ripen its seeds better under the glass of a hot-bed frame, freely admitting air: it is more usually raised from seeds sown in the Spring in a pot of light earth, on a

gentle hot-bed, either of dung or tan. *Curtis Mag. Martyn's Miller.*

ALSUNGEN, in *Geography*, a lake of Sweden, in the province of Halland, from which the river Lator, strong river, and by which it is connected with the sea.

ALSWÄNGEN, a town of Finland, in the county of Courland, four leagues west of Chudskoy.

ALSWEDD, a district of the parish of Rye, in the county of Sussex, in England, consisting of five parishes, the inhabitants of which are employed in agriculture and the breeding of cattle.

ALSZA, a small town of Turkey in Europe, belonging to a tribe of Tartars, situated between the Black Sea.

ALT, a river of Prussia, which runs into the Baltic, 7 miles west of Osmünde, in the county of Lauenburg.

ALT, formed of *alus*, is Latin for *high*, and applied to the high notes in the organ. See *Altus*.

ALT-BUNZLAU, *Bolizna*, in *Geography*, a town of Bohemia, in the circle of Bunzlau, or Bolešlawsko, founded by Wratislaw in 915, and improved by his son Boleslaw the Cruel in 937, but reduced by the troubles of the 14th and 16th centuries to an inconsiderable place. The cathedral church of St. Cosinus and Damian is very ancient.

ALT-CLOSTER, a town of Germany, in the circle of Lower Saxony and duchy of Bremen, 12 miles southeast of Stade.

ALT-RANSTADT, or *Old-Ranstad*, a town of Poland, a village of Germany, in the circle of Leipzig, two leagues from Leipzig, famous for a treaty concluded in 1706 between Charles XII. of Sweden, and Augustus II. king of Poland; and for the stipulation with the Imperial plenipotentiary, Count Wratlaw, in 1717, on account of the religious freedom of the Protestant inhabitants of the duchy of Silesia.

ALTA, a town of Sweden, in Helsingland, on the frontiers of Geltricia.

ALTEBA, in *Ancient Geography*, a place of Africa, in Numidia.

ALTAI, or ALTAY mountains, in *Geography*, are a chain of mountains in the northern part of Asia, ranking among the most extensive on the globe, and vying in length even with the Andes of South America, which extends from about the 70th to the 140th degree of longitude east from London, or about 5000 miles. The several ridges and branches of this immense chain of mountains are distinguished by different appellations, under which they will be noticed in the course of this work. The Altay mountains are called by the Chinese Altai-alin, and Ghin-shan, which signifies the Gold Mount. They are divided into the Great and the Lesser Altay. The former separates the Mongolian Tartary from the empire of the Soongorian Kalmaes, and a small part of Bukharia toward the west. This range proceeds in various windings toward the north-north-east, throwing out several considerable ridges, between which are the main sources of the Yenisei, Obi, and Irtysh, through Soongoria to the north-north-west, where they enter in conjunction with the Lesser Altay. The Lesser Altay separates Soongoria from the government of Kolhyvan, through which the abovementioned streams pursue their course over a great extent of country. The great chain of the Altay mountains commences with Bogdo, one of its highest points, passes over the sources of the Irtysh, north-westward between that and the lake Teletzkoi-Ozero, unites beyond the Yenisei with the SAYANE mountains and those of BAIKAL, and in Daouria with the Argunian or NERTSHINSKOI mountains, fixing the limits between the

beria and the Chinese empire from the Irtysh to the Amur, and even on, with divergent branches, to the mountains of OROUS, and to those of KAMISCHATKA, and of the KURIL and ALUTAN islands, terminating in the promontories and rocky shores of Cape Tschumski, the boundary of Asia; unless we suppose the mountainous and rocky island of Kure and Japan connected with the mountains which reach from Tibet to China. The portion of the Altay mountains that properly belongs to Russia, may be distributed into two parts; one of which comprehends the entire space between the Irtysh and the Oby, and the other the space between the Oby and the Yenisei. The former may be denominated the Kolhyvan, and the latter the Kufnetzkoï mountains. Both include the greater part of the government of Kolhyvan; and the former half might, on account of its mineral wealth, be called, by way of eminence, the Altaian Ore-mountains.

That part of the Altaian chain, which separates the government of Kolhyvan from the Chinese Soongoria, is divided into two great branches; one from the Irtysh to the lake Teletzkoi and the head of the river Abakan, is properly the Lesser Altay, or Khrebet Khalta, and the other, from the Abakan to the Yenisei, is called Sabinskoy Khrebet. In the former are the greatest elevations of the Kolhyvanian, and in the latter those of the Kufnetzkoï mountains; and these form the basis of all the ribs or ridges that shoot out to the north-west and to the north, which at last lose themselves towards the Icy or Frozen Ocean in extensive plains; while toward the south they still continue to soar to an uncommon height over a long and broad extent of territory. In the midst of these lofty mountains, says Dr. Pallas, and on the frontier line between the Soongorian and Mongolian deserts, Bogdo-Dola, or Bogdo-Alim, *q. d.* the Almighty Mount, so eminently famous among all these nations, lifts its pointed heads; which, if not one of the highest, is yet, by its craggy, steep, and irregular form, with the appearance of having been thrown up by some violent agitation of the earth, the most striking of the elevated mountains of this region. North-west from it the principal mountain as far as Altain-Kul, or Teletzkoi-Ozero, is called the Golden Mountain. Eastward towards Mongoley, more to the south, runs a large mountain Changuy, and southwards a snow mountain Muffart, which connects either with the Tibetan, or with the northerly mountains in India. To the west the chief mountain throws out an arm, mostly bare of forests, and studded, as it were, with rocks, called Allakoola, *i. e.* the chequered mountain, by the Tartars Ala-Tau, which joins with the Kirghizian Alginskoi-Sirt. The Great Altay mountains are properly connected, as we have already observed, with the mountains of Tibet by the Muffart, or by other chains; for all the deserts between Siberia and India, and the eastern Bukharia, are merely alternate hills and plains, and very rocky. Besides, it is evident that the Altay mountains must make an uninterrupted partition between the Western Steppes and the eastern regions, because the Steppe animals, particularly the antelopes or Steppe-goats, shun the mountains, and even in Asia go no further than to the western range of the Altai, and are come from it northwards to the woody regions of the Oby. The snow-mountain, which appears northwards on the Siberian frontiers from the Irtysh to the Bukharma and the Katunia, and quite into the angle formed by the rivers Ina and Belaia, which flow into the Tsharish, is, as it were, a branch or nook of the Great Altai, and is by some usually called the Little Altay, and darts its stupendous pinnacles above the clouds. This mountain is bold and

steep, and appears, especially in the vale where the Ina unites with the Tegerek, like a towering wall, behind which the mountains rise higher by irregular gradations, and at last strike up in separate points. The same steep vale parts the Schistofe mountain from the Chalkstone mountain, which spreads from hence northwards between the Ina and the Loktefka quite to the Tsharish. Over the Schistofe mountain the snowy summits rise conically out of a granite mixed with schorl and mica. The same granite shews itself again in chalky promontories, with the schistus lying upon it, and forms the Revnovaïo Sopka, as it is called, at the same time, in the bosom of the chalky mountains, the still more elevated Sinaïa Sopka. Granite appears likewise throughout in low, rocky, craggy mounts and single cliffs, between the rivers Ubo and Alay, where the mountain has already fallen deep towards the plain, and likewise about the lake Kolhyvan. The rich ore-mountain of Kolhyvan places itself immediately between and about this granite-flock, and thence arises an apparent confusion in the strata through the whole of the ore-mountain.

The principal part of the Altay mountains that belongs to Russia is the range of Kolhyvan, or the proper ore-mountains of Altay; and these may be arranged into the KOLHYVANO-VOJKRESNKOI, the KORBOLIKINSKOI, the ALAISKIAN, the OUBINSKOI, the BUKTARMINSKOI, the TELETSKOI, and the TSHARISKOI mountains. The second range of the Altaian mountains belonging to Russia, or the Kufnetzkoï mountain, is still almost unknown and inaccessible. Its two subdivisions are the Kufnetzkoï proper and the Krasnoyarskoï mountains, which together fill the whole large space between the Oby and the Yenisei. The summits of these mountains, between the sources of the Tom and the Yus, and on the Mrafs, are covered with perpetual snow. Their inward constitution is not accurately ascertained; but various sorts of granite, porphyry, jasper, breccia, saline chalkstone, marble with sea-shells, horn-stone, slate, serpentine, mountain-crystal, chalcedony, and cornelians are brought from hence. On the Kondoma are productive iron-mines; about the source of the Tshumish the Salahirskoï silver-mines continue to be worked with sanguine expectations; and at Krasnoyarsk several copper-mines were formerly wrought, but are now abandoned. In the last-mentioned circle is also an establishment for smelting iron ore. The highest mountains to the south are about the source of the Abakan, where the famous mount Sabin, or Shabina Dabahn raises his snowy head to a stupendous height, and the Ittem on the borders of the brook Shantigyr.

The greater part of the Altay mountains is more bald than woody. The largest forests are in the low country about the Alay, the Oby, and the Yenisei. The species of wood are the pinus sylvestris, the birch, the aspen, the pinus peica, the pinus abies, the alder, the willow, noble larch-trees, (pinus larix) and cedars. The principal rivers of these mountains are the Irtysh, and its collateral streams the Bukharma, the Ulba, and the Uba; the Oby, with its main rivers, the Alay, the Tsharish, the Tshulym, the Tom, the Katunia, the Yus, and the Abakan, which falls into the Yenisei. The upper regions of these mountains are uncommonly exuberant in waters.

The Altayan mountains contain rich gold and silver shafts, and also veins of lead, copper, and iron, impregnated with gold and silver. The most important silver mines in these mountains are those of KOLHYVAN. The copper-mine is also considerable; besides which the cupriferous silver ore yields a quantity of copper, the whole amounting to about 15,000 pood a year. In 1782 there were coined here

18,793 pood of copper. We have before mentioned the iron smelting-house of this mountain. In the Altay there are neither markets for provisions, nor any tradesmen and mechanics; and therefore the miner must provide himself with all necessaries, which he is enabled to do by means of the numerous court and church holidays, on which he is released from public labour. With this view the first object of his attention is to have a small house, with a garden and a cow-yard. When new shafts are opened, he makes a shaft at first with a hovel constructed with a few stakes, and covered with fods, or he digs an habitation and a baking oven in the earth; when he has the prospect of being stationary, he erects a regular house to which he brings his cattle and his little property. Hence it often happens, that within forests apparently the most inaccessible, or in wild and dreary steppes, whole streets and villages spring up in a few years. The miners of the Altay are generally very ingenious and industrious; and they are excellent hunters, expert horsemen, and in case of necessity, the best soldiers. Tooke's View of Russia, vol. i. p. 118, &c. Vol. iii. § 10.

ALTALA, a small district in the south-west part of Corsica.

ALTAMIRA, a village of Spain in Galicia, on the river Tamara, which gives title to an earl and grandee of Spain, five leagues west of St. Jago de Compostella.

ALTAMONT, or ALTONONTI, a town of Italy, in the kingdom of Naples, and province of Calabria Citra, near which are gold and silver mines, 10 miles south-west from Cassano.

ALTAMURA, a town of Naples, in the province of Bari, at the foot of the Apennines, six miles north-east from Gravina.

ALTANUM, in *Ancient Geography*, a town of Italy, in the part of Magna Græcia, called Brutium, situate on the eastern side, south of the gulf of Scylaceum, and north of Locri.

ALTAO, a town of Africa in Mauritania Cæsariensis, according to Ptolemy.

ALTAR, ALTARE, ARA, a place or pile whereon to offer sacrifice to some deity.

Altars are, without doubt, as ancient as sacrifices; and consequently their origin is not much later than that of the world. Gen. c. iv. Some attribute their origin to the Egyptians; others to the Jews; others to the patriarchs before the flood. Some remove them as far back as Adam, whose altar is much spoken of by Jewish and even Christian writers. Others are contented to make the patriarch Enoch the first who consecrated a public altar. Be this as it will, the earliest altars, of which we find any express testimony, are those of Noah, (Gen. viii. 20.) and of Abraham, (Gen. xii. 7.) In the patriarchal times altars were formed of rude materials, and they were of almost instantaneous construction, and temporary, appropriated to the purpose for which they were designed. The altar which Jacob set up at Bethel was merely the stone on which he rested, Gen. xx. 8. Such was also the altar of Gideon, Judges vi.; and the first altar which Moses erected by the command of God was made of earth. Exod. xx. 24.

The principal altars of the Jews were the altar of incense, the altar of burnt-offerings, and the altar or table of shew-bread.

The altar of incense described, Exodus xxx. 1—10. was made of shittim wood, and overlaid with gold. It was one cubit square, and two cubits high, with an ornament of gold like a carved moulding round the top of it. It was carried about by two bars of the same wood, covered with gold, and passing through four golden rings. Its use was for

burning incense every morning and evening; and it was also to be sprinkled with the blood of the sacrifices that were offered for the sins of the priests, committed either by particular persons, or by the people in general. See MISCELLANY, Plate I.

The altar of burnt-offering, described Exodus xxvii. and xxviii. was placed toward the east end of the court, fronting the entrance of the tabernacle, and at such a convenient distance from it, that the smoke of the fire which was constantly burning on the altar might not fully the furniture within the tabernacle. Its dimensions were five cubits, or about 15 feet square, and three cubits, or about five and a half feet high. It was made of shittim wood plated over with brass, and it had four brass rings, through which were put two bars, by which it was carried on the shoulders of the priests. It had four horns at the four corners; but critics have been divided as to the form and use of these appendages to this altar as well as to the former. Some have supposed that they were mere ornaments resembling the rays of the sun; the term translated *horn* signifying also a ray of light. Others imagine that the corners of the altars were in shape like the horns of an ox or ram, &c. that they served for the altar of incense to move and carry it about with the greater ease and steadiness; and with respect to this larger altar, for tying the victims to them, according to the allusion of the Psalmist, Psalm cxviii. 27. Michaelis understood by the horns merely the corners, but this interpretation is incompatible with the context. They were evidently projections from the corners; the text, however, does not inform us whether they were upright, oblique or curved. Spencer, Le Clerc, Witius, and others, think that they were really horn-shaped, like those of the *ara pacis* of the Romans. Josephus says so expressly of the altars in his time: *ταυτογενος διαδοχον, κρηνηναις περιεχον γυναιας*. De Bell. Jud. lib. iv. c. 5. n° 6. p. 324. ed. Haverc. The fire of this altar was kept upon a square grate, suspended by rings at the corners, and possibly by chains in the cavity of the altar. The dimensions of this grate might be about five feet square; and six inches being allowed for the thickness of the sides, there would be a space of about 1½ foot betwixt the grate and the altar on every side, which would be sufficient to prevent the wooden sides from being damaged by the fire. The fire on this altar was considered as sacred, having first descended upon it from heaven. Lev. ix. 44. It was therefore to be kept constantly burning, and never to go out. Lev. vi. 13. From hence probably the Chaldeans and Persians borrowed their notion of their sacred fire, which they preserved with religious care and attention; a custom which afterwards passed from them to the Greeks and Romans. This altar was beaten down and destroyed by the Babylonians at the burning of the temple, but it was replaced on the return of the Jews from captivity. Ezra iii. 3. It was now a large pile built of unhewn stone, 32 cubits (*i. e.* 48 feet) square at the bottom, and gradually decreasing to the top or hearth, which was a square of 24 cubits, and one cubit high, made of solid brass, and hence called the brazen altar; for it is not to be imagined that it was all made of solid brass. The ascent up to the altar was by a gentle rising on the south side, called the Kibbesh, 32 cubits in length, and 16 in breadth, and landed upon the upper benching-in next the hearth or the top of the altar. Prideaux's Conn. vol. i. p. 199. See MISCELLANY, Plate I.

The altar or table of shew-bread, described, Exod. xxv. 23—30. was made of the same sort of wood with the altar of incense, and, like that, overlaid and ornamented with gold. Its dimensions were two cubits long, one broad, and one and a half high. It had a golden border, crown, or rim round it;

it; and upon it were placed two rows of piles of loaves, or cakes of bread, by the row or pile, which were changed a new one every Sabbath. The table was also adorned with golden dishes, spoons, and bowls.

The Jews called the word "altar" to a kind of tables occasionally raised in the country or field, on which sacrifices were offered to God. Thus we often read, that a man had such a place an altar was built to the Lord.

The altars of the Heathens were at first made of turf; they were afterwards made of stone, marble, wood, and even of horn, as that of Apollo in Lycia. Before temples were in use altars were erected in groves, in the highways, and on the tops of mountains; and it was customary to engrave upon them the name or attribute of the deity to whom they were consecrated. Altars were of different kinds with regard to their qualities, the uses to which they were applied, and the objects to which they were appropriated. Accordingly we read of altars sacred to gods, heroes, virtues, vices, diseases, &c. and of inner and outer, stationary and portable, public and private altars. They differed also in their figure, which was round, square, or triangular. All of them were turned towards the east, and generally adorned with sculpture, basso-relievos, and inscriptions, expressing the gods to whom they were appropriated, or representing their distinguishing symbols. For a specimen of Pagan altars, see MISCELLANY. Plate I. N° 1, represents an altar dedicated to Neptune, a trident, and two dolphins, the attributes of this deity being exhibited on its sides. N° 2, is a four-square altar, dedicated to the nymphs, as the inscription informs us. N° 3, exhibits a Bacchanal with a thyrus in his hand, which shows that the altar was erected to Bacchus; with two other sides it appeared triangular. Each side of N° 4, which was triangular, exhibited a genius, one of whom is seen carrying an oar upon his neck, which seems to indicate that it belonged to Neptune. N° 5, with the inscription "Ara Neptuni," is of a round figure; the god is represented wholly naked, preserving the pallium on his shoulder, and holding in his left hand a trident, and in his right a dolphin.

Altars differed also in their height as well as in their figure and the materials of which they were formed.

According to Servius, (in Virg. Ecl. v. 66. Æn. ii. 515.) those altars set apart for the honour of the celestial gods, and gods of the higher class, were placed on some pretty tall pile of building, as the altar of Olympian Jupiter, which was nearly 22 feet high; and for that reason were called *altaria*, from the word *alta* and *ara*, a high elevated altar. Those appointed for the terrestrial gods were laid on the surface of the earth, and called *aræ*—and, on the contrary, they dug into the earth, and opened a pit for those of the infernal gods, which they called *βοθροί* and *λακκοί*, *scrobiculi*. But this distinction is not every where observed: the best authors frequently use *ara* as a general word, under which are included the altars of the celestial and infernal, as well as those of the terrestrial gods. Witness Virgil, Ecl. v.

"—En quatuor aras."

Where *aræ* plainly includes *altaria*; for whatever we make of Daphnis, Phœbus was certainly a celestial god. So Cicero, pro Quint. "Aras delubraque Hecates in Græcia vidimus." In the great temples of ancient Rome there were commonly three altars. The first was placed in the sanctuary at the foot of the statue of the divinity, upon which incense was burned, and libations offered; the second was before the gate of the temple, and upon it they sacrificed the victims; and the third was a portable altar, upon which were placed the offering and the sacred vessels.

The Greeks also distinguish two sorts of altars; that

whereon they sacrificed to the gods, was called *βωμῆς*, and was a real altar, different from the other, whereon they sacrificed to the heroes, which was smaller, and called *πυλῆς*. Pellerin makes this distinction of *altar* in his Onomasticon; he adds, however, that some poets used the word *βωμῆς*, for the altar whereon sacrifice was offered to the gods. The Septuagint version does not use also of the word *βωμῆς*, for a sort of little low *altar*, which may be expressed in Latin by *stercularis*; being a hearth rather than an altar. The Egyptians, instead of altars, had *σπηλαι*, caves, in which adoration was paid to them.

Altars and temples afforded an asylum or place of refuge for malefactors, and criminals of all descriptions among the Jews, Greeks, and Romans; chiefly to slaves, from the cruelty of their masters, to insolvent debtors and criminals, where it was reckoned impious to touch them, and whence it was unlawful to drag them; but they sometimes kindled fire round the place, or shut up the temple and unroofed it. Hence "*ara*" is put for "refugium." Ovid, Trist. iv. 5. 2. The altars of the ancient Heathens, as well as those of the Jews, were adorned with horns, to which the victims were fastened, and criminals who fled for refuge to the altar laid hold of the horns. The ancients also, on solemn occasions, as in making alliances, and confirming treaties of peace, swore upon and by them. For classical authorities to these several facts, see Adam's Rom. Ant. p. 327. Harwood's Grecian Ant. p. 140, &c.

The altar, bearing an inscription, "To the unknown God," found, by the Apostle Paul, at Athens, and mentioned, Acts xvii. 23, has occasioned some difficulty to biblical critics. Jerom supposes, that the inscription on this altar was not, as St. Paul quotes it, "To the unknown God," but, "To the gods of Asia, and Europe and Africa, unknown and strange gods;" and that the apostle has not quoted the inscription exactly, but dexterously applied it to his own purpose. Theophylact and Oecumenius are also of opinion that the inscription was "to gods," &c. in the plural number. On the other hand, Chrysostom and Isidore of Pelusium assert, that the inscription was in the singular number, as St. Paul quotes it. Learned moderns, as well as ancient Christian writers, have entertained different opinions on this subject. Le Clerc says, that though the inscription was in the plural number, St. Paul was in the right to allude it in the singular number. The occasion on which this altar was erected, is thus related by Diogenes Laertius (in Epimen. lib. i. segm. 110. p. 70, 71.) About 600 years before Christ, "the fame of Epimenides was very great among all the Greeks, and he was supposed to be in great favour with the gods. The Athenians being afflicted with a pestilence, they were directed by the Pythian oracle to get their city purified by expiation. They therefore sent Nicias, son of Niceratus, in a ship to Crete, inviting Epimenides to come to them. He came accordingly in the 46th Olympiad, purified their city, and delivered them from the pestilence in this manner. Taking several sheep, some black, others white, he had them up to the areopagus, and then let them go where they would; and gave orders to those who followed them, wherever any one of them should lie down, to sacrifice it to the god to whom it belonged, and so the plague ceased. Hence it comes to pass, that to this present time may be found in the boroughs of the Athenians anonymous altars, a memorial of the expiation then made." By the God to whom it belonged some have understood, "the god next the place; others have translated the passage, "to the proper god to whom that office belonged; to him, whoever he was, who should remove the inflicted pestilence." Dr. Doddridge, (in loc.)

(in loc.) understands the direction to be, "when the sheep lay down, to sacrifice them to the god near whose temple or altar they then were." Dr. Lardner has given a more satisfactory interpretation of this passage. "Epimenides," says this judicious writer, "took with him up to the acropagus several sheep, some black and some white; and when he let them go, he directed that each one, when it lay down, 'should be sacrificed to the god to which it appertained or belonged.'" Black sacrifices were offered to some gods, white to others. Epimenides knew not by what god the pestilence had been inflicted upon the Athenians. When he was desired to purify the city, in order to its deliverance, he chose out sacrifices of different kinds, black sheep, and white sheep, and led them up to the acropagus: and from that place, the citadel or the seat of the senate, and of the court of judicature, he sent out the sheep, as in the name of the whole city or commonwealth to be sacrificed, in order to appease the offended deity, whoever he was. A sheep, with a black fleece, when it lay down, was to be offered to a deity who delighted in such sacrifices; a sheep with a white fleece was to be offered to a deity, to whom white sacrifices were acceptable. By this means he hoped to ingratiate the offended deity, whoever he was." From Laertius's relation Dr. Lardner infers, that there were several anonymous altars at Athens, and in the adjoining country; and that all these altars were in the singular number; for each sheep, when it lay down, was to be sacrificed to the god to whom it appertained. It appears from the testimonies of heathen authors, who lived whilst these altars with their inscriptions subsisted, such as Diogenes Laertius, Pausanias, Philostratus, and the author of Philopatrias, which Dr. Lardner has cited, that the inscription upon the altar at Athens was in the singular number: nor does it appear that there were any in the plural, "to unknown gods:" and this inscription seems to have been peculiar to the Athenians. To the same purpose it is observed, by the ingenious Mr. Hallett, that the Athenian altars were erected, not to the honour of Jupiter, Mars, Apollo, by name, but to that particular god, whoever he was, who had wrought out their deliverance. Nevertheless they thought, that this god, though unknown, was one of the idols of the heathen world. The truth, however, was, though they did not know it, that he, who delivered them by his providence from that distress, was the one infinite supreme God. And therefore St. Paul justly says, that the Athenians worshipped him; for they worshipped him who removed the plague, whoever he was; but the true God removed the plague; therefore they worshipped the true God. And yet, as the apostle observes, they worshipped him ignorantly, that is, they were ignorant of his majesty and power, and regarded him as no greater than one of their own idols. Lardner's Works, vol. viii. p. 111—119. Hallett's Notes and Discourses on Texts of Scripture, vol. i. p. 307—309.

ALTAR of Adam, in *Antiquity*, is pretended by some rabbins and others to have been erected by the first man soon after the fall; when, being overwhelmed with sorrow, a promise was made him by the ministry of the angel Haziël, that a Redeemer should be sent. In gratitude for this news, and for a perpetual remembrance thereof, Adam is said to have built an altar, and sacrificed on it a heifer.

The reliques of this altar have been mentioned by several writers of later ages.

ALTAR is sometimes also used among Christians for a square table, placed on the eastern side of the church, raised a little above the floor, and set apart for the celebration of the eucharist.

Its form is not borrowed either from that of the Heathen altars, or even from that of the Jews, in the temple; but as the eucharist was instituted by Jesus Christ, at supper, and upon a table, the modern altar is made in form of a table; whence it is more usually, and even more significantly denominated *Communion Table*.

In effect the denomination altar is founded on the supposition, that the eucharist is a proper sacrifice: which, though the standing doctrine of the church of Rome, is utterly denied by most of the reformed. Accordingly, Bishop Ridley, in the reign of Edw. VI. A.D. 1550, issued injunctions for taking down all altars, and requiring the churchwardens of every parish to provide a table decently covered, and to place it in such a part of the choir or chancel as should be most meet, so that the ministers and communicants should be separated from the rest of the people. The reasons alledged for this alteration were these: because our Saviour instituted the Sacrament at a table, and not at an altar: because Christ is not to be sacrificed over again, but his body and blood to be spiritually eaten and drank at the holy supper, for which a table is more proper than an altar: because the Holy Ghost, speaking of the Lord's Supper, calls it the Lord's Table; 1 Cor. x. 21. but no where an "altar." The canons of the council of Nice, as well as the fathers St. Chrysostom and St. Augustine, call it the Lord's Table; and though they sometimes call it an altar, it is to be understood figuratively. An altar has relation to a sacrifice, so that if we retain the one we must admit the other, which would give great countenance to mass-priests: there are many passages in ancient writers that shew that communion tables were of wood, that they were made like tables, and that those who fled into churches for sanctuary did hide themselves under them: and the most learned foreign divines have declared against them, as Bucer, Oecolampadius, Zuinglius, Bullinger, Calvin, P. Martyr, Joannes Alasco, Hedio, Capito, &c. and have removed them out of their several churches, and the Lutheran churches only retain them. Ridley, Cranmer, Latimer, and the rest of the English reformers were unanimously of opinion, that the retaining of altars would serve only to nourish in the minds of people the superstitious opinions of a propitiatory mass, and would minister an occasion of offence and division among the godly. Some of the bishops, however, refused to comply with the order of council, and suffered themselves to be deprived of their bishoprics for contumacy, October 1551. The practice of consecrating altars with their furniture was introduced and vindicated by Archbishop Laud in the reign of Charles I. but objected to by Prynne, as having no higher original than the Roman missal and pontifical, in both which there are particular chapters and set forms of prayer for this purpose; and it was alledged that the practice, as well as the arguments on which it was founded, have no foundation in reason or Scripture, and are contrary to the usage of the church of England, and the opinion of our first reformers. To the antiquity of altars it was replied, that though the name is often mentioned in Scripture, yet it is never applied to the Lord's table; but altars and priests are put in opposition to the Lord's table, and ministers of the New Testament, 1 Cor. ix. 13, 14. It was added, that it cannot be pretended by any law or canon of the church of England, that it is called an altar more than once, Stat. 1 Edw. VI. c. i. which statute was repealed within three years, and another made, in which the word altar is changed into table. It was said, that from the unanimous testimony of most of the fathers that lived within 300 years after Christ, and of our most learned reformers, it appears, that for

above 250 years after Christ there were no altars in churches, but only tables; and that they were first introduced by Pope Sixtus II. and that the canons of the popish council of Aix, in 1583, are the only ones that can be produced for railing them in. The practice of bowing to the altar, charged on the archbishop as another innovation, was objected to as popish, superstitious, and idolatrous, being prescribed only by popish canons, and introduced to support the doctrine of transubstantiation, and having no foundation in antiquity, nor approved by any Protestant writers. Burnet's Hist. Reform. vol. ii. p. 150—159. Strype's Annals, vol. i. p. 160—162. Neal's Hist. Puritans, vol. i. p. 44, &c. vol. ii. p. 136—145, 4to.

In the primitive church the altars were only of wood, as being frequently to be removed from place to place. But the council of Paris, in 559, decreed, that no altar should be built but of stone.

At first there was but one altar in each church; but the number soon increased; and from the writings of Gregory the Great, who lived in the sixth century, we learn, that there were sometimes in the same church twelve or thirteen. In the cathedral of Magdeburg there are no less than 49 altars.

The altar is sometimes sustained on a single column, as in the subterraneous chapels of St. Cæcilia, at Rome, &c. and sometimes by four columns, as the altar of St. Sebastian of Crypta Arenaria; but the customary form is, to be a massive of stone-work sustaining the altar-table.

These altars bear a resemblance to tombs: to this purpose, we read in church-history, that the primitive Christians chiefly held their meetings at the tombs of the martyrs, and celebrated the mysteries of religion upon them. For which reason it is a standing rule to this day in the church of Rome, never to build an altar without inclosing the relics of some saint in it.

In lieu of proper altars the Greeks in process of time made use of *ANTIMENSIA*.

ALTAR of *Prothesis*, is a name given by the modern Greeks to a smaller, preparatory kind of altar, wherein they bless the bread, before it be carried to the large altar where the solemn liturgy is performed.

F. Goar maintains, that the table of *prothesis* was anciently in the sacristy or vestry; which he makes appear from some Greek copies, where sacristy is made use of in lieu of *prothesis*.

ALTAR is also used, in *Church History*, for the oblations or contingent incomes of the church.

In ancient days they distinguished between the church and the altar. The tithes, and other settled revenues, were called the church, *ecclesia*; and the other incidental incomes, the altar.

ALTAR, in *Astronomy*. See *ARA*.

ALTAR-thane, in our *Ancient Law Books*, denotes a priest, or parson of a parish. In this sense the word is synonymous with *church-thane*.

ALTARAGE, includes not only the offerings made upon the altar, but also the profit that arises to the priest on account of the altar.

ALTARIST, *altarista*, properly denotes the vicar of a church who serves the altar, and to whom the altarage or produce of the altar is assigned for his maintenance. Du Cange.

The *altarist* is sometimes also called *altarius*, sometimes *altar priest*.

ALTARIST is also used for *chaplain*.

ALTASRIF, in *Literary History*, the title of a medi-

cal book written in Arabic, describing the method of practice in use among the Arabs.

It was written by Alfaharavius, an author in the fifteenth century, and translated into Latin by P. Ricius, in 1519. Concerning the history and contents of the *Al Tasrif*, see Freind, Hist. Phys. p. ii. p. 124, seq.

ALTAVELA, in *Ichthyology*, the name of a flat cartilaginous fish, which, in the Linnæan system, by Gmelin, is a variety of the *Raja Passinaca*; with its wings, as they are called, that is, its thin and flat sides, broad and obtuse towards their lower part. The fishermen, from the resemblance these flat sides have to wings, have an opinion that this fish can fly. The tail is very short, scarce being of half the length of the body. Its flesh is solid and well salted, and it always sells well in the markets. It is caught in the Mediterranean, and is frequently brought to market at Rome. Fab. Columna.

ALTAVELLA, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Principato Ultra, seven miles south of Benevento.

ALTAVILLA, a town of Naples, in the province of Principato Citra, eighteen miles south-east of Salerno.

AL-TAYEF, a town of Hejaz, a district of Arabia Felix, situate above 60 miles east of Mecca, behind Mount Gazwan, where the air is very wholesome, but the cold more intense than in any other part of the district. Its territory abounds in fountains, and produces excellent rains. The town is small, but surrounded with a wall.

ALTCHIRCK, or *ALTKIRCH*, a town of France, in the department of the Upper Rhine, situate on an eminence near the river Ill, five leagues west of Bale, and nine south of Colmar. N. lat. 47° 8'. E. long. 7° 8'.

ALTDORF, or *ALTORFF*, a large and handsome town of Switzerland, and capital of the canton of Uri, situate in the valley of the Reufs, and almost surrounded by steep mountains covered with trees, which throw a gloomy shade over the town. It has two convents, four churches, and several chapels, one of which was erected on the spot where was born William Tell, who is said to have shot the apple from his son's head in this town. Gesler, a tyrannical governor, placed over the free inhabitants of Uri by ALBERT I. among other oppressive and irritating measures, set a hat on a pole at Altdorf, and required the same respect to be paid to it as to his own person; but William Tell refusing to submit to this ignominious requisition, provoked the indignation of the governor, and was obliged to secure himself by flight. This circumstance, as some have reported, laid the foundation of the liberties of Switzerland, and occasioned an union of Uri, Schwitz, and Unterwald, in 1308 for throwing off the Austrian yoke; and in 1315 these three cantons formed a perpetual alliance. This town is 20 miles south-east of Lucerne, and 33 south of Zurich. N. lat. 46° 55'. E. long. 8° 24'.

ALTE & *bafse*, in *Middle Age Writers*, denotes sovereignty, or a thing done with the supreme power. Du Cange.

ALTEA, in *Geography*, a sea-port town of Spain, in the Mediterranean, on the south-east coast of Valencia, eight leagues north-east of Alicante, and 17 south of Valencia. It trades in wine, flax, silk and honey. It was taken in 1705, in favour of the Archduke Charles, but lost after the battle of Almanza. N. lat. 38° 40'. W. long. 0° 16'.

ALTEN, or *ALTENBOTTEN*, a gulf of Norway, on the coast of Finnmark, in the government of Wardhus.

ALTENA, or *ALTONA*, a sea-port town of Germany, in Holstein, on the Elbe, in a situation favourable for commerce. It was burned by the Swedes in 1712, and afterwards

wards rebuilt and surrounded with walls. It is the port of the Danish East-India Company; half a league west of Hamburg. North lat. 54° . West long. $9^{\circ} 39'$.

ALTENA, a town of Flanders, five leagues north-east of Dendermond.

ALTENAU, a small mine-town of Germany, in the principality of Grubenhagen, situate in the Harz forest, near the source of the Ocker, and surrounded by rugged mountains and rocks, eight miles south of Goslar. In this town there is a house for finding silver.

ALTENBECKEN, or ALTENBERGEN, a town of Germany, in the circle of Westphalia, and bishopric of Paderborn, three miles east of Lippling.

ALTENBERG, a town of Germany, in the duchy of Stiria, eight miles south of Weitsburg.

ALTENBERG, a town of Germany, in the circle of Erzgebirg, and prefecture of Altenberg. It is a mine-town, and the tin supplied by it is reckoned the best next to that of the English and Bohemian. The tin mine was discovered in 1458. Great quantities of lace are wove here. It has repeatedly suffered much from fire.

ALTENBURG, OVAR, a small well-built town of Hungary, with a castle standing on a small branch of the Danube and Leitha, and secured by deep and wide moats. It has an annual fair, which lasts a week. It is 17 miles south of Presburg, and 40 south-east of Vienna. North lat. $47^{\circ} 56'$. East long. $23^{\circ} 15'$.

ALTENBURG, a town of Germany, in the duchy of Stiria, on the Sann, eight miles south-south-west of Windisch Gratz.

ALTENBURG, or OLDENBURG, a town of Germany, in the duchy of Holstein, on a river which runs into the Baltic, about three leagues to the east, 19 leagues north-east of Hamburg. North lat. $54^{\circ} 18'$. East long. $11^{\circ} 4'$.

ALTENBURG, a town of Germany, in the circle of Upper Saxony, anciently called *Plifne*, the capital of a principality of the same name. It is large and populous, and has a castle seated on a rock, which was the residence of the former electors and dukes. It was anciently an imperial city, and the capital of the country of Pleiffen. In this town are a place of education for young ladies of decayed families, a house belonging to the Teutonic order, a gymnasium illustre founded in 1703, with a good museum and library, an orphan house, and a house of correction. It is 20 miles south of Leipzig, and 52 west of Dresden. North lat. $50^{\circ} 59'$. East long. $12^{\circ} 52'$. The principality of Altenburg is a part of the ancient Osterlands; and the soil is very fertile in corn, and affords good pasture. It has large breeds of horses, and plenty of wood; and its mines yield copper and cobalt, and other minerals. The states of this principality are divided into those of the Altenburg, Saalfeld and Eisenberg circles, and consist of the nobility and towns of these three districts. Their provincial meetings are held at Altenburg. The religion of the country is Lutheranism.

ALTENBURG, a town in the circle of the Upper Rhine, and bishopric of Spire, two miles north-west of Bruchsal, and nine south-south-east of Spire.

ALTENBURG, a town in the circle of the Upper Rhine, two miles north-west of Wetzlar, and two north-east of Braunfels.

ALTENBURG, a town in the county of Tyrol, nine miles north-east of Glurns.

ALTENBURG, a small village of Swisserland above Bruck, in the canton of Bern, situate on the river Aar, and known by its Roman antiquities, and the ruins of *Castrum Vindonifense*.

ALTENBURG, a town in the archduchy of Austria, two miles south-west of Horn.

ALTENBURG, TERRICH, a town in the archduchy of Austria, near Lustburg.

ALTENHAUSEN, a town of Germany, in Carinthia, with a church on the Gurk, four miles north-east of Villach.

ALTENHOVEN, a town of the archduchy of Austria, on the Danube, four leagues east of Lintz.

ALTENKIRCHEN, a town of the circle of Westphalia, and county of Sayn, in the principality of the Elector of Brandenburg, both which are parts of the duchy of Cologne. It is 15 miles north-east of Coblenz. North lat. $50^{\circ} 38'$. East long. $7^{\circ} 27'$.

ALTENKIRCHEN, is also a town of the circle of Upper Saxony, in the island of Rugen, 16 miles north of Bergen.

ALTENMARKT, a town of Germany, in the duchy of Stiria, 14 miles north-east of Rottenmann.—Also, a town of the archduchy of Austria, four miles south-west of Baden. Also, a town of the same archduchy, 24 miles east of Steyregg, and 58 west of Vienna.—Also, a town of the circle of Upper Bavaria, on the river Alza, and near Raftadt.

ALTENRIFF, a town of Swisserland, in the canton of Friburg, six miles south of Gruyeres.

ALTENSOLEN island, lies eastward of the south point of Mayaroe island, on the coast of Norway, has a good road and shelter for all winds, and affords a passage for ships to sea northward, without going round the cape. It is about 3° east from Surroy island. North lat. 71° . East long. 26° .

ALTENSPACH, a town of Germany in Swabia, between the lakes of Constance and of Zell.

ALTENSTADT, a market town in a prefecture of the same name, of Ulm in Germany, seated on the Fils, and anciently belonging to the counts of Spitzenberg.

ALTENSTEIG, a town of Germany, in the duchy of Wurtemberg, situate on the Schwarzwalde, 24 miles south-west of Stuttgart, and 32 east of Straßburg. North lat. $48^{\circ} 31'$. East long. $8^{\circ} 29'$.

ALTENWIED, a town in the circle of the Lower Rhine, in the archbishopric of Cologne, 15 miles north of Coblenz, 5 east of Lintz, and 26 south-east of Cologne.

ALTERANT, or ALTERNATIVE, in *Medicine*, a property or power, in certain remedies, whereby they induce an alteration in the body, and dispose it for health and recovery, by correcting some indisposition, without occasioning any sensible operation.

Alteratives, therefore, must generally be either such remedies as destroy some prevailing acrimony in the *prime viæ*, or virus lurking in the fluids; or, as many believe, correct various acrimonies dispersed through the mass of the blood; or else such as resolve indurations, or calculous concretions, and prepare them when thus resolved, to pass out of the body, by the common emunctories, without the *patient's* being conscious of any important evacuation.

Alteratives may be classed under three heads, viz.

1. Such as subdue *virus*, or, as many call it, *morbid matter*, in the whole system or a part of it. When the venereal *virus* or action is subdued or removed by mercury, or when scrofulous or cancerous acrimonies, as they are called, are corrected by internal remedies, they furnish instances of this class. To the same head might, perhaps, be referred the cure of all animal poisons; the vegetable and mineral ones commonly require *evacuants* also.

2. Such as change the quality or texture of the blood itself, and often some of the secretions from it. These remedies are generally to be sought for in diet and regimen, together with those medicines called *Tonics*; such as bark and steel. Some physiologists however believe that the blood can

can only be changed by first changing the action of the solids, and this opinion is at present gaining ground.

In the third class may be placed such as act on the nervous system, often called *ANODYNES*, *EMOLLIENTS*, &c.

If we employ the term *alteration* in a more extended sense, to denote any means by which an alteration for the better can be produced, we should be obliged to refer all diet and medicines to this head; and even with the limitation, of "without a sensible operation," we find it no easy task to decide in all cases what remedies should be included under alteratives.

We think a warm or cold climate may act as an alterant; so may issues or setons; others go so far as to say that evacuations are the best alteratives; others, on the contrary, ascribe even the salutary effects of evacuants to their alterative nature. This has been alledged of mercury in the cure of the venereal disease; and of it and ipecacuanha in the cure of dysenteries; but it must be observed that these articles succeed best when administered in *alterant doses*.

The arrangement of the *MATERIA MEDICA*, as well as the *modus operandi* of remedies, will furnish much diversity of opinion for several centuries: it is, fortunately, a ground of dispute that never has, nor ever will materially injure the *practices* of either medicine or surgery.

ALTERATA, in *Music*, a term used by the French as well as the Italians, for temperament, in speaking of intervals, and likewise of extreme consonance and dissonance: as an extreme sharp 6th, a redundant 5th, an extreme flat 7th, &c.

ALTERATE. See *SESQUIALTERATE*.

ALTERATION, **ALTERATIO**, in *Physics*, the act of changing the circumstances and manner of a thing; its general nature and appearance remaining the same.—Or, it is an accidental, and partial change in a body: without proceeding so far as to make the subject quite unknown, or to take a new denomination thereupon. Or, it may be defined, the acquisition or loss of such qualities as are not essential to the form of the body. Thus a piece of iron, which before was cold, is said to be *altered*, when it is made hot; since it may still be perceived to be iron, is called by that name, and has all the properties thereof. By this, *alteration* is distinguished from *generation* and *corruption*; those terms expressing an acquisition or loss of the essential qualities of a thing.

The modern philosophers, after the ancient chemists and corpuscularians, hold all alteration to be effected by means of local motion. According to them, it always consists either of the emission, accession, union, separation, or transposition of the component particles.

Aristotle makes a peculiar kind of motion, which he calls the *motion of alteration*.

ALTERATION is used, in *Medicine*, to denote a change in the state and qualities of an animal body, in respect of temperature or constitution, health or sickness.

In this sense, alteration includes both *evacuation* and *accretion*.

ALTERATION is more strictly taken for a change in the quality of the body, contradistinguished from *evacuation* and *accretion*.

In which sense, alteration is the effect of medicines called **ALTERANTS**.

Alteration is chiefly applied in respect of the fluids or humours of the body. When applied to the solids, it is chiefly to affect the humours, or the motions of them.

ALTERATION is sometimes also applied in respect of the vital motions of the body.

Thus specifics are applied to alter and rectify convulsive and other disorderly motions. The alteration of the humours is either extrinsic, or intrinsic. The former is a change produced in the sensible appearances, as colour, thickness,

and the like: and the latter is a change in the primitive crasis, or constitution of a fluid.

ALTERATION in a sense still more strict, denotes that conversion which the food undergoes, to render it nourishment. In this sense alteration both includes the digestion performed in the stomach, and the assimilation in the habit of the body.

It is disputed among physiologists what the alteration is which the food undergoes.—Some reduce it to a mere comminution or trituration.—Others assert a total transubstantiation. See **DIGESTION**.

ALTERATION of quantities, among *Algebraists*, denotes what we otherwise call variation, or permutation.

ALTERATIVE, in *Medicine*, the same with **ALTERANT**.

ALTERCATION, a debate or contest between two friends, or acquaintance. The word comes from *altercari*; which anciently signified to converse, or hold discourse together. Thus, we say, they never come to an open quarrel; but there is continually some little altercation or other.

ALTER DO CHAO, in *Geography*, a small town of Portugal, in the province of Alentejo, 12 miles west of Pontalegre, and 84 east-north-east of Lisbon. North lat. 39° 8'. West long. 6° 38'.

ALTERE, a town of Flanders four leagues west of Ghent.

ALTERIO, a town of Naples, in the province of Calabria Citra, 17 miles east-north-east of Cosenza.

ALTERN, a town and castle of Germany, in the circle of Upper Saxony, in the county of Mansfeld.

ALTERN, *base*, a term in *Trigonometry*, contradistinguished from *true base*, thus—In an oblique triangle, the true base is either the sum of the sides; in which case, the difference of the sides is called the *altern base*; or the true base is the difference of the sides; in which case, the sum of the sides is called the *altern base*.

ALTERNANTHERA, in *Botany*, a genus of the *triandria monogynia* class and order; the characters of which are, that the *calyx* has five leaves; no *corolla*; six filaments, alternately barren; the stigma bifid; and the *seeds* solitary. There is one species, *viz.* *A. repens*. Forsk. Fl. Æg. Arab. p. 28.

ALTERNATE, or **ALTERNATIVE**, is understood of several things which succeed, or are disposed after each other by turns.

We say, an *alternate*, or *alternative* office, or trust, which is that discharged by turns; so, two general officers, who command each his day, are said to have the command *alternately*.

In *Botany*, the term *alternate* is applied to branches, leaves and flowers, when, instead of being opposite, they spring out regularly one above another: such are the leaves of borragé, or chequered daffodil. See **LEAF**.

ALTERNATE, in *Arithmetic*. See **ALLIGATION**.

ALTERNATE angles, in *Geometry*, are the internal angles made by a line cutting two parallels, and lying on the opposite side of the cutting line; the one below the first parallel, and the other above the second.

Thus x and u , and z and y (*Plate I. fig. 1. Geometry*.) are alternate angles, and these angles are equal to another.

There are also two external angles, *alternately* opposite to the internal ones. See **PARALLEL**.

ALTERNATE ratio or *proportion*, is that which the antecedents and consequents bear respectively to each other in any proportion, which has the quantities of the same kind.

Thus, if $A : B :: C : D$; then, *alternately*, $A : C :: B : D$.

ALTERNATE, in *Heraldry*, is used in respect of the situations of the **QUARTERS**.

Thus in quarterly *cartel*, the first and fourth quarters are

are *alternate*; and are usually of the same nature. And the like holds of the second and third.

ALTERNATION, in its primary sense, denotes a succession by turns.

ALTERNATION is more particularly used among *Chilists*, for disjunction, as in saying this or that.

ALTERNATIONS, in *Arithmetic*, a term sometimes used to express the divers changes, or alterations of order, in any number of things proposed. This is also called *permutation*, &c. and is easily found by a continual multiplication of all the numbers, beginning at unity.

If there be two quantities *a* and *b*, they admit only of 1×2 , or 2 changes, as *ab*, *ba*. If a third quantity *c* be added, this will admit of 3 changes with each of the two former; that is, it may be first, second or third in each of them; and therefore in this case the number of changes will be $1 \times 2 \times 3 = 6$. A fourth quantity will admit of 4 changes with each of the preceding quantities; that is, it may be first, second, third or fourth, or the whole number will be $1 \times 2 \times 3 \times 4 = 24$. If the number be *n*, multiply the series of natural numbers 1, 2, 3, 4, &c. continually to *n*, and the last product will be the number of alternations required.

Thus, if it be required to know how many changes or *alternations* can be rung on six bells, multiply the numbers 1, 2, 3, 4, 5, 6, continually one into another; and the last product gives the number of changes. See **CHANGES** and **COMBINATION**.

ALTERNATIVE, is particularly used for the choice of two things proposed.—In this sense we say, to take the *alternative* of two propositions.

ALTERNIA, in *Ancient Geography*, a town of Spain, belonging to the Carpetani.

ALTERS, or **ALTARS**, in *Nautical Geography, are a stony shelf, westward of Languard Fort, about a cable's length and a half, on which there are no more than five or six feet of water at low water, so that ships should keep near the fort till they have passed it, and then edge off a point or two to the west, till they come athwart of the north point of Harwich. Malham's Naval Gazetteer.*

ALTES, in *Ancient Geography*, a town of Peloponnesus, situate on the Caldaia, which fell into the river Alpheus.

ALTESSAN, in *Geography*, a town of Italy, in the principality of Piedmont, three miles north of Turin.

ALTEZEY, or **ALTZHEIM**, a town and castle of Germany, in the Lower Palatinate, capital of a territory of the same name, situate on a small brook which runs into the Saltz, 15 miles south-west of Mentz, and 14 north-west of Worms. North lat. $49^{\circ} 40'$. East long. $8^{\circ} 12'$.

ALTHA, in *Ancient Geography*, a town of Babylonia, upon the Tigris, and in dependence upon Apamea, according to Ptolemy.

ALTHÆA, *Ἀλθαία* of Dioscorides, from *αλθεω* a remedy, or *αλδωω* to heal, or as Dioscorides says *διὰ τὸ πωλυνεῖν* αἷμα, from its many excellent qualities, in *Botany*, a genus of the *monadelphia polyandria* class and order, or the natural order of *columniferae*, and *malvaceae* of Jussieu: its characters are, that the *calyx* is a double perianthium, outer smaller, one-leaved, the unequal novem-fid or nine-cleft, (6—12) divisions very narrow, inner semiquinefid, divisions broader and sharper; the *corolla* is five-petalled, united at the base, obcordate, præmorse and flat; the *stamina* have many filaments inserted into the corolla, anthers subreniform; the *pistillum* has an orbiculate germ, style cylindrical and short, stigmas many (20), setaceous, of the length of the style; the *pericarpium* consists of arils not jointed, forming a flat ring about a columnar receptacle; they are deciduous and open on the inside; the *seed* is one, flat-kidney-shaped in each aril.

There are five species. 1. *A. officinalis*, the common marsh-mallow, with leaves simple and deeply lobed, the flowers purple. Sm. the flower white, and the leaves deeply lobed. With the long, the first is common in the marshes; the second is rare, about the marshes, the third is common in the marshes, the fourth is common in the marshes, the fifth is common in the marshes. 2. *A. amurensis*, non-petalled marsh-mallow, with the lower leaves palmate, (dentated, Gmelin,) upper digitate, (hastate, the middle lacinia the longest, Gmelin.) This has a woody stem, four or five feet high, which push out many side branches; the leaves are alternate; the flowers axillary, less than those of the former species, but of a deeper red colour, and the calyx much larger. This seldom flowers the first year, except in a warm summer. It grows naturally in Hungary, Istria, Austria, Carniola, Italy, the south of France, &c. by the sides of wood; and was cultivated here by Gerard, in 1597. 3. *A. hirsuta*, hairy marsh-mallow, with leaves trifid, hairy-hispid, smooth above; peduncles solitary and one-flowered. This is a low plant, its branches trailing on the ground, the flowers axillary, smaller than those of the common sort, and have purplish bottoms, the stalks are woody, and seldom last more than two years; the outer calyx is eight-leaved, the inner as long as the corolla, and acuminate; the corolla crenulate. This species grows wild in Spain and Portugal, Italy, Austria, Carniola, Germany, Switzerland, and France; and was cultivated in Kew garden in 1683, by Mr. J. Sutherland. 4. *A. Ludwigi*, Ludwig's marsh-mallow, alcea of Ray's hist. with leaves lobed, naked on both sides, and peduncles collected and one-flowered. This resembles malva alcea; the peduncles are axillary from two to five, the outer calyx eight-leaved, and leaflets lanceolate, the inner shorter, quinquefid, very rough, with white villous hairs. 5. *A. Narbonensis*, Narbonne marsh-mallow, with leaves tomentose on both sides; the lower five-lobed, the upper three-lobed, peduncles solitary, one-flowered. The root is perennial, stems are annual, from four to six feet in height, round, and of the thickness of a finger, hoary with whitish stellate hairs; stipules subulate, acute and ciliate; leaves alternate, petioled, serrate; bracts subulate and small; the segments of the outer perianthium are six or seven, deeply cut, lanceolate, and acute; corolla purple-rose-coloured, twice as long as the calyx; anthers dark-purple; stigmas white; and arils smooth; first discovered by Abbé Pourret near Narbonne, found also in Spain, flowers in August and September, and introduced into Kew garden, in 1780, by M. Thouin. 6. *A. corymbosa*, with leaves simple, cordate or angular, and smooth, peduncles and calyxes hairy, and flowers in corymbs; a native of Jamaica. 7. *A. racemosa*, Pavonia spicata of Cavan. and Gmelin, with leaves simple, cordate, ovate, serrate, scabrous on the upper surface, and raceme terminating and erect. The stems are thick, stiff, five feet high, with many branches.

leaves alternate on long petioles; stipules lanceolate and acuminate; outer calyx deeply eight-lobed, inner somewhat tubelose, with five notches; corolla yellow, double the length of the calyx; the petals oblong, almost entire, marked with deeper-coloured streaks; the fruit composed of five bivalve capules; a native of Jamaica. Instead of this species Gmelin inserts *A. grandiflora*, with cordated, angulated, tomentose, patulous leaves, and subtriflorous peduncles. Martyn. Withering. Smith. Gmelin's Linn.

Culture. The first species may be propagated either by seeds, sown in the Spring, or by parting the roots in Autumn, which is the best season for the purpose. It will thrive in any soil or situation, but grows larger in moist places than on dry land; the plants, whose roots spread wide, should not be nearer than two feet. The second species is propagated by seeds sown in the Spring, in a dry soil and sheltered situation; this sort seldom continues longer than two years in England, but as the seeds ripen here, the plants may be had in plenty. If the seeds of the third species be sown in April, the plants will flower in July, and seeds ripen in September; and they should be sown where they are to remain.

ALTHÆA, in the *Materia Medica*. The *Althæa* officialis seems to have been known to the ancients, called by Dioscorides *Αλθαία* or *Ιβίσκος*, by Galen *Εβίσκος*, and by Pliny *Hibiscum*. It is probably the *Hibiscus* of Virgil, *Ecl. x.v. 30*, and *v. 71*.

“Hædorumque gregem viridi compellere hibisco.”

It has been much used by medical practitioners in every country where medicine has been regularly cultivated. All its parts abound with a glutinous juice, with scarcely any smell or peculiar taste. The dry roots, boiled in water, give out half their weight of gummy matter, which is thought to be nearly allied to gum arabic, tragacanth, starch, &c. and dissolves myrrh, and some other resinous substances more readily than gum; and on evaporating the aqueous fluid, forms a flavourless, yellowish mucilage. The leaves afford scarcely one-fourth of their weight, and the flowers and seeds still less. The mucilaginous matter is the medicinal part of the plant, and it is commonly employed for its emollient and demulcent qualities. It is recommended for obtunding and incrassating acrimonious thin fluids, in tickling coughs from defluxions on the fauces and lungs, in hoarseness, erosions of the stomach and intestines, difficulty and heat of urine, the dysentery, costiveness, and gonorrhœa; and for lubricating and relaxing the passages in nephritic and calculous complaints. It has been given in powder, from a scruple to a dram or two, either by itself, or in conjunction with other substances of a similar nature; it is seldom administered in this form: but it is taken to better advantage in that of an infusion or decoction. Dr. Cullen observes, (*Mat. Med. vol. ii. p. 411*.) that demulcents of this kind can have no effect as such in the mass of blood, or in passing by various excretions. The *Althæa* has been often applied in various external affections. The root boiled in honey and chewed by infants has mitigated difficult dentition; and milk, in which this root, figs and a small quantity of saffron have been boiled, has relieved the gums. The decoction is said to be useful in ophthalmiæ; and a gargarism made of the decoction of this root and figs has been serviceable in sore throats. The root, cut and boiled in water or milk, has formed a convenient and useful cataplasm for softening and ripening tumors; and it has been often added to glysters. The root was formerly used as an ingredient in several compounds of the pharmacopœias; but it is now directed only

in the form of a syrup. This is prepared by boiling a pound of the fresh roots bruised in a gallon of distilled water to one half, and pressing out the liquor when cold; and when it has settled for 24 hours, so that the feculencies may subside, the liquor is poured off, and four pounds of double-refined sugar being added to it, the liquor is boiled down to six pounds weight. This syrup is employed occasionally in some disorders of the breast, and for sweetening emollient decoctions in nephritic cases. Lewis. Murray. Woodville.

ALTHÆA. See *HELMANNIA*, *HIBISCUS*, *LAVATERA*, *MALVA*, *MELOCHIA*, *NAPÆA*, *SIDA*, and *WALThERIA*.

ALTHÆA Frutex. See *HIBISCUS*.

ALTHÆA, *Althæa Olcadum*, *Orgæz*, in *Ancient Geography*, a town of Spain, belonging to the Olcades; mentioned by Polybius under this name, but called Cartheia by Livy, in speaking of the exploits of Hannibal.

ALTHAMERUS, *ANDREW*, in *Biography*, a Lutheran minister at Nuremberg, lived in the 16th century, and attended the conferences at Berne, in 1528, which prepared the way for the reformation in that canton. He was so zealous an advocate for justification by grace, in opposition to the merit of good works, that he inveighed in a very indecent and outrageous manner against the apostle James, and gave him, almost, the lie direct. Grotius cites a passage from his “Annotations on James,” printed at Strasburg, in 1527, in which he charges the apostle with running counter to Scripture, and opposing his single authority against that of the Holy Ghost, the law, the prophets, Christ, and his apostles. Besides some works in divinity, he compiled a dictionary of the proper names in the Bible, “*Sylva Biblicorum nominum, &c.*” printed at Basil in 1535; “*Conciliationes locorum Scripturæ*,” published at Nuremberg in 1535, and at Wittemberg in 1582; and notes upon Tacitus, “*De Situ, moribus et populis Germaniæ*,” printed at Nuremberg in 1529 and 1536, and at Amberg in 1609, 8vo. *Gen. Dict.*

ALTHÆNUS, in *Ancient Geography*, a stream of Daulia, in Italy, the waters of which were said to cure all sorts of wounds.

ALTHER, in *Geography*, a town of France, in the department of the Mayenne, and chief place of a canton, in the district of Craon, four leagues south-south-west of Laval.

ALTHEA, in *Entomology*, a species of *PAPILIO*, in the class of *Nymphæales*, with dentated brown wings, and also a fascia and striga angular-dentated and white, found in Guinea.

ALTHEIM, in *Geography*, a market town of Upper Bavaria, in the district of Mauerkirchen, eight miles east of Braunau.

ALTHERIA, in *Ancient Geography*, a small country, placed by Pausanias, in the Argolide, near Trezena, which had borne the appellation of Orvea.

ALTHUSIUS, *JOHN*, in *Biography*, a German civilian, towards the latter end of the 16th century, advanced free principles on political subjects, which gave great offence to some of his contemporaries. He was a Protestant; and from being a professor of law, at Herborn, he was raised to the dignity of syndic, at Bremen. The fundamental principles of his “*Politics methodically digested*,” printed at Herborn, in 1603, are these; “that kings are mere magistrates; that the chief power of every commonwealth is in the people only; that it is lawful to depose a tyrant, to turn him out of the administration, and even to put him to death, if no other remedy can be found, and to chuse another in his room. He also composed a treatise “*De jurisprudentia Romana;*”

Romana;" another "De Civili Conversatione;" and other tracts. Gen. Dict.

ALTICA, in *Entomology*, a species of the CANTHARIS, with a red thorax, and violet unspotted elytra, found at the Cape of Good Hope.

ALTICÆ, a class of the genus CHRYSOMELLA, distinguished as saltatory, and having their posterior thighs encreased.

ALTIDIUM, in *Antient Geography*, a place of Italy, in Umbria, north-east of Noceræ.

ALTIKEN, in *Geography*, a prefecture of Zurich, in Switzerland, in which is a parochial village of the same name, not far from the Thur.

ALTILIA, a town of the kingdom of Naples, and province of Calabria Citra; 11 miles south of Cosenza.

ALTILIO, GABRIEL, in *Biography*, was born in the kingdom of Naples, and flourished about the end of the 15th century. He died about the age of 60, in 1501. He was preceptor to prince Ferdinand; and afterwards employed in state affairs, as he accompanied Jovianus Pontanus to Rome, in order to negotiate a peace between king Ferdinand and pope Innocent VIII. His reputation as a Latin poet attracted notice, and contributed to his promotion to the bishopric of Policastro. The distinguished excellence of his Latin verses led his contemporaries to regard him as a person who was intimately conversant with polite literature, and who had studied the ancients with great improvement. In the delicacy of his elegies and the sublimity of his heroics, he is said to have so much excelled, that in the opinion of Pontanus and Actius, he was equal to the ancient poets. Most of his poetical performances are lost; but some of them are preserved in the "Deliciæ Poetarum Ital." Gen. Dict.

ALTIMETRY, ALTIMETRIA, compounded of *altus*, high, and *metron*, metior, to measure, the art of taking or measuring ALTITUDES or heights, whether accessible or inaccessible.

Altimetria makes the first part of geometry; including the doctrine and practice of measuring both perpendicular and oblique lines; whether in respect of height or depth.

ALTIN, in *Commerce*, a money of account in Muscovy; worth three copecks, one hundred of which make a ruble, worth about four shillings and six pence sterling.

They have had occasionally altin coins, both of copper and silver. Those of the silver altins under Peter I. had on one side the eagle, and on the other, with the date of the year, the word ALTINIK. But for a long time no more altins have been struck; and those of silver are now seldom to be seen.

ALTIN, or ALTYN-KOOP, LAKE, in *Geography*, a lake of Siberia, in the government of Kolyvan, is situated on a very considerable elevation of the ALTAIAN mountains, by which it is also entirely surrounded. N. lat. 49°. E. long. 105°. It is also called by the Russians Teletzkoe-ozero and Altain-kul. Its length is computed at 126, and its greatest breadth at 84 versts. From it proceeds the river By, which at its confluence with the Katunia assumes the name of Oby. The bottom of this lake is rocky, and the northern part of it is sometimes frozen so hard as to be passable on foot; but it is said, that the southern part is never covered with ice. The water on this lake and the adjacent rivers rises only in the middle of Summer, when the snow on the mountains is dissolved by the heat of the sun.

ALTIN, a town of Naples, in the province of Abruzzo Citra; nine miles south of Langiano.

ALTINCAR, among *Minerals*, a species of factitious salt used in the fusion and purification of metals.

The altincar is a sort of flux powder. Divers ways of preparing it are given by Libanius.

ALTING, HENRY, in *Biography*, was born at Friburg, in 1573, and, having devoted himself to the pursuit of a divine, he was sent in 1592 to the university of Helmstedt, where he became a professor. In 1600 he was appointed preceptor to the electoral prince palatine, and in 1602 accompanied him to England, where he was introduced to the acquaintance, among others, of archbishop Abbot. In 1603 he returned to Heidelberg, where he took the degree of doctor of divinity, and was appointed director of the college of Wisdom. At the synod of Dort, to which he was deputed in 1618, he distinguished himself by his prudence and eloquence. After his return to Heidelberg, he very narrowly escaped falling a sacrifice, when the city was taken in 1622, by count Tilly; for, as he was entering the house of the chancellor, one of the guards met him, and ignorant of his person, threatened his life; "with this battle-axe I have this day killed 10 men; Alting, if I knew where to find him, should be the 11th." Alting replied, with a resolution and constancy of mind, and at the same time with an allowable evasion, which saved his life: "I am a teacher in the college of Wisdom." When the Jesuits took possession of the house, he concealed himself in a garret, and was secretly supplied with food, till he had an opportunity of making his escape, and of following his family to Heilbron. After the desolation of the palatinate by count Tilly's forces, he retired to Schorndorf; but here, although situated among Protestants, he encountered new trials. The Lutheran ministers of Schorndorf, who were at variance with the professors of Heidelberg, were dissatisfied with the permission which the duke of Wirtemberg had given to one of these professors to reside among them; and by reason of their jealousy and intolerance, Alting was obliged to remove to Embden in 1623, from whence he followed his late pupil, who was king of Bohemia, to the Hague. Under the patronage of this prince, and in the office of tutor to his eldest son, he remained till the year 1627, when he obtained his permission to remove to Groningen, where he was appointed to the professorship of divinity, which he retained till his death. Such were his talents and character and public services, that he was held in very general estimation; but the confusion and troubles of that period prevented his taking possession of the office of divinity-professor at Heidelberg, to which he was appointed by prince Louis, his patron and administrator of the palatinate. Domestic affliction, occasioned by the loss of his eldest daughter and his wife, brought upon him a settled melancholy, which, after a few months, was a period to his life, in the year 1644. Alting, though he was no friend to the innovations introduced at this period by the Socinians, was of a moderate and peaceable temper, and indisposed to dispute and quarrel about trifles. "Adhering," as he judged, "to the plain doctrine of scripture, he was equally desirous to avoid sophistical subtlety and fanatical scrupulosity." His works were, "Athenæ Helmstedtenses," "Johannis Behm;" Heidelb. 1618; "Locis Communes;" "Problemata;" "Explicatio Catecheseos Palatine;" Amstelod. 1646; "Exegesis Augustinæ Confessionis;" &c. Amst. 1647; "Methodus Theologiæ Didacticæ et Catecheticæ;" "Medulla Historiæ Profanæ," published under the name of Paræus. Gen. Dict.

ALTING, JAMES, son of Henry Alting, was born at Heidelberg, in 1618, and after finishing his studies at Groningen, became professor in that university. Attached to the

the study of the oriental languages, he put himself, in 1638, under the tuition of a Jewish Rabbi, at Emsden. Upon his visit to England, in 1640, he was admitted to clerical orders by Dr. Prileau, Bishop of Worcester; but he altered his purpose of continued residence in this country, as soon as he received an invitation to the Hebrew professorship, at Groningen. He returned to Germany in 1643, and obtained considerable distinctions of honour in the university. In this situation a rivalry commenced between him and his colleague, in the professorship of divinity, Des Marets. The latter was addicted to the scholastic philosophy and plan of instruction; whereas the former devoted himself to the study of the Scriptures and Rabbinical learning, and acquired a degree of popularity, as a lecturer, which excited the jealousy and opposition of Des Marets and his adherents. A dispute between these coadjutors, who were now become competitors and rivals, had for some time prevailed; and at length the decision of it was referred to the divines of Leyden. These umpires pronounced Alting innocent of heresy, but fond of innovation, and Des Marets deficient in modesty and candour. The civil power was at last obliged to interfere, and the penalty of deprivation was decreed against those divines, who should in any ecclesiastical assembly revive the Marefio-Altingian controversy. The magistrates proceeded by an usurpation of authority which did not belong to them, to prohibit even writing for or against the judgment of the divines of Leyden. This breach between the two professors was never thoroughly compromised; though, by the interposition of friends, a kind of formal reconciliation was effected, while Des Marets lay on his death-bed. Alting did not long survive him, but was taken off by a fever, in 1679. He was reproached, in consequence of his attachment to Rabbinical learning, with an inclination to become a Jew. His works were collected some years after his death, and published in five volumes folio, under the care of Bekker, minister at Amsterdam, by his cousin Menſio Alting, burgo-master of Groningen, who wrote a good description of the Low Countries, entitled, "Notitia Germaniæ Inferioris." It is said that he preached well in three languages, German, Dutch, and English. Gen. Dict.

ALTITUDE, in *Geometry*, the third dimension of body, considered with regard to its elevation above the ground—called also *height* or *depth*.

ALTITUDE of a figure, is the distance of its vertex from its base, or the length of a perpendicular let fall from the vertex to the base.

Thus, K L (*Plate I. Geometry, fig. 2.*) being taken for the base of the right angled-triangle, K L M: the perpendicular K M will be the altitude of the triangle.

Triangles of equal bases and altitudes are equal; and parallelograms, whose bases and altitudes are equal to those of triangles, are just the double thereof.

ALTITUDE, in *Optics*, is usually considered as the angle subtended between a line drawn through the eye, parallel to the horizon, and a visual ray emitted from an object to the eye.

For the laws of the vision of altitudes. See **VISION**.

If through the two extremes of an object, S and T (*Plate I. Optics, fig. 13.*) two parallels, TV and SQ be drawn; the angle TVS, intercepted between a ray passing through the vertex S, and terminating the shadow thereof in V, makes, with the right line TV, what is called, by some writers, the *Altitude of the Luminary*.

ALTITUDE, in *Cosmography*, is the perpendicular height of an object, above the plane of the horizon.

Altitudes are divided into *accessible* and *inaccessible*.

ALTITUDE, *accessible*, of an object, is that whose base you can have access to, so as to measure the nearest distance between your station, and the foot of the object on the ground.

ALTITUDE, *inaccessible*, of an object, is that whose base cannot be approached, by reason of some impediment; such as water, or the like.

There are three ways of measuring altitudes, *viz. geometrically, trigonometrically, and optically*.—The first is somewhat indirect and unartful; the second is performed by means of instruments for the purpose; and the third by shadows.

The instruments chiefly used in measuring of altitudes, are the quadrant, theodolite, geometric quadrat, or line of shadows, &c. the descriptions, applications, &c. whereof, see under their respective articles **QUADRANT**, **THEODOLITE**, and **QUADRAT**.

ALTITUDES, to take accessible. To measure an accessible altitude *geometrically*.—Suppose it required to find the altitude AB (*Plate I. Geometry, fig. 3.*) plant a staff, DE, perpendicularly in the ground, of such height as may be equal to the height of the eye. Then, lying prostrate on the ground, with your feet to the staff; if E and B prove in the same right line with the eye C, the length CA is equal to the altitude AB. If some other lower point, as F, prove in the line with E, and the eye, you must remove the staff, &c. nearer to the object: on the contrary, if the line continued from the eye over E, mark out some point above the altitude required; the staff, &c. are to be removed farther off, till the line CE raise the very point required.—Thus, measuring the distance of the eye C from the foot of the object A, the altitude is had; since $CA = AB$.

Or thus: at the distance of thirty, forty, or more feet, plant a staff DE (*fig. 4.*) and at a distance from this, in C, plant another shorter one, so as that the eye being in F, E and B may be in the same right line therewith. Measure the distance between the two staves, GF; and between the shortest staff and the object, HF; as also, the difference of the heights of the staves, GE.—To GF, GE, and HF, find a fourth proportional BH.—To this add the altitude of the shorter staff, FC. The sum is the altitude required, AB.

To measure an accessible altitude, *trigonometrically*.—Suppose it required to find the altitude AB (*fig. 5.*) choose a station in E; and with a quadrant, theodolite, or other graduated instrument duly placed, find the quantity of the angle of altitude ADC. Measure the shortest distance of the station from the object, *viz.* DC, and this of consequence is perpendicular to AC.

Now, C being a right angle, it is easy to find the side AC; since, in the triangle ACD, we have two angles, *viz.* D and A its complement, and a side opposite to one of them, CD, the side opposite to the other may be easily found by this canon. As the sine of the angle A is to the given side opposite to it DC, so is the sine of the other angle D to the side required CA. To this side, thus found, adding BC, the sum is the perpendicular altitude required.

Or say, as radius is to the distance DC, so is the tangent of the angle ADC to AC, the height of the object; and adding the altitude of the instrument above the ground, the whole height of the object is found. The operation is best performed by logarithms. E. G. Suppose the angle $ADC = 51^{\circ} 52'$, and the distance $DC = 64$ feet. Then it will be,

Radius

Radius	10.0000000
Log. of DC, or 64 feet	1.806180
Tang. of 51° 52'	1.0115128
AC or 81½ feet	1.911220

To which add four feet, the height of the eye, and the altitude required, or AB, is 85½ feet.

This may also be resolved by projection, thus: draw DC, on which set 64 feet from any scale from D to C; erect the perpendicular CA; then make the angle CDA = 51° 52', and draw DA, intersecting the perpendicular in A, the top of the object. Then CA, measured on the same scale, will give 81½.

If there happen an error in taking the quantity of the angle A, (fig. 6.) the true altitude BD will be to the false one BC, as the tangent of the true angle DAB, to the tangent of the erroneous angle CAB.

Hence, such error will be greater in a greater altitude than in a less; and hence also, the error is greater, if the angle be lesser, than if it be greater. To avoid the inconveniences of both which, the station is to be pitched on at a moderate distance; so that the angle of altitude DAB, may be nearly half right.

Again, if the instrument were not horizontally placed, but inclined, e. gr. to the horizon in any angle, the true altitude will be to the erroneous one, as the tangent of the true angle to that of the erroneous one.

If the plane interposed between the observer, and the object be inclined, as in fig. 7; two stations C and D must be selected, and their distances from the base of the object, viz. CA and DA must be measured. Then as the external angle ACB is equal to CDB + DBC, the angle DBC = ACB - CDB, or DCB is equal to the supplement of ACB; in either way the angles of the triangle BCD are known, and one side DC is given; then say, the sine of DBC : DC :: sine of BDC : BC, which will be known: and in the triangle ABC, the two sides CA and CB being given together with the included angle, we shall

have $CB + CA : CB - CA :: \text{tangent of } \frac{B + A}{2} :$

$\text{tangent of } \frac{A - B}{2}$, whence the angles will become known;

and it will be easy to find AB the altitude of the object as before. Otherwise, measure the distance AC, and the angles A and C; and as in the triangle ACB, all the angles and one side AC are given, the other side AB will be easily found.

To measure an accessible altitude optically, by the shadow of the body, see SHADOW.

To measure the altitude of any object by optical reflection, place a plane mirror, or a vessel of clear water, horizontally at C, (fig. 8.), and retreat from it to such a distance at D, that the eye E may just perceive the image of the top of the object, in the reflecting surface at C; then, as these triangles, having two equal right angles, and the angle ACB = ECD, because the angle of incidence is equal to the angle of reflection, are similar, we shall have CD : DE :: CA : AB, the altitude required.

To measure an accessible altitude by the geometrical quadrat or square. Suppose it required to find the altitude AB (fig. 9.) choosing a station at pleasure in D, and measuring the distance thereof from the object DB; turn the quadrat this and that way, till the top of the tower A appear through the sights.

If then, the thread cut the right shadows, say, as the

part of the right shadow cut off, to the side of the quadrat, to the distance of the station DB, to the part of the altitude AB. If the thread cut the upper line at G, or the side of the quadrat to the part of the second shadow cut off, to the distance of the station DB, to the part of the altitude AE.

AE, therefore, being found in either way, by the rule of three, and the part of the altitude BE added to it, the sum is the altitude required. See QUADRAT.

As a method, to measure an inaccessible altitude, suppose AB (fig. 4.) an inaccessible altitude, to that cannot be measured to the foot of it. Find the distance CA, or FAD, as taught under the article DISTANCE; then proceed with the rest as in the article for accessible distances. See STAFF.

To measure an inaccessible altitude, by two stations.—Choose two stations G and E (fig. 10.) in the same right line with the required altitude AB, and at such distance from each other, DE, as that neither the angle FAD be too small, nor the other station G too near the object AB. With a proper instrument take the quantity of the angles ADC, AFC, and CFB; and also measure the interval FD.

Then, in the triangle AFD, we have the side D, given by observation; and the angle AFD, by subtracting the observed altitude AFC, from two right angles; and consequently the third angle DAF, by subtracting the other two from two right ones; and also the side FD; from whence the side AF is found by the canon above laid down, in the problem of accessible altitudes. And by the triangle AFC, having a right angle C, and observed angle F, and a side AF, the side AC, and the other CF, are found by the same canon. Lastly, in the triangle FCB, having a right angle C, observed angle CFB, and a side CF, the other side CB, is found by the same canon.

Adding, therefore, AC, and CB, the sum is the altitude required, AB.

E. G. Suppose AFC to be 58° and ADC 38°, and the distance of the stations FD to be 26 yards. Subtract ADC or 38° from AFC or 58°, and there remains FAD or 20°. Then, in the triangle DAF, the angles and one side being known, we shall have sine of DAF . sine of ADF :: FD : FA i. e. S. 20° : S. 38° :: 26 : a fourth, or by logarithms, 9.534517 : 9.773420 :: 1.414773 : 9.7893420 + 1.414773 = 9.534517 = 1.672633 the log. of 46.8. Again, in the triangle AFC, radius : sine of AFC :: AF : AC, i. e. rad. : S. 58° :: 46.8 : a fourth, and by logarithms, 10.0000000 : 9.9284205 :: 1.6702633 : 9.9284205 + 1.414973 = 10.0000000 = 1.5986838 the log. of 39.69 or 39 yards two feet, to which add the height of the instrument above the ground, and we have the altitude required.

By projection; draw a line DC, and at the extremity D make the angle ADC = 38°, and draw the line DA. Then set off the distance of the stations 26 from D to F, and at F make the angle AFC = 58°, and draw FA to intersect DA in A: then the distance of A from the horizontal line DC, applied to the scale, will give the height.

If two stations be taken at F and D, so that the angle AFC may be = 2 ADC, DF will be = AF; and radius will be to the distance of the stations DF or AF :: S. AFC : the altitude AC.

If the station at F be such, that the angle AFC may be 45°, and the angle ADC = 26° 34', the altitude AC will be equal to DF the distance of the two stations. For when AFC is 45°, AC = CF = FD, and DC = 2 AC, as radius : natural tangent of 26° 34' :: 2 : 1.672633 DC (or 2 AC) : AC.

We may hence deduce a method of finding the height of one object, as AC, situate upon another HC. Find, first, the whole altitude AC, and then the altitude of HC, as above, and their difference will be the altitude of AH, as e. g. of a spire above the tower of a steeple. If the height of the tower HC be known, any distance DF in the horizontal line DC may be measured from H. This is the reverse of the preceding problem.

To measure the altitude of a balloon, cloud, or other moveable object, C; (*fig. 11.*) let two observers at A and B, in the same horizontal plane, take, at the same time, the angles CAD and CBD, and measure the distance AB between the stations; and then the altitude may be calculated as before. The height of a cloud may be found by its shadow in the following manner. Observe the cloud C, (*fig. 12.*) in its direct access to or recess from you; and marking the instant in which the middle of the shadow is at some remarkable point upon the ground as at A, at that moment take the altitude ABC of the middle of the cloud. Then, take the sun's altitude at your station B, and that will be equal to the angle BAC, and measure the distance between your station and the place of the shadow. In the triangle ABC, as all the angles and one side are known, it may be easily projected, and the height of C above BA may be determined: or it may be resolved trigonometrically thus:

$$\text{fine of } C : AB :: \text{fine of } B : AC = \frac{S. B}{S. C} \times AB; \text{ and}$$

rad. : AC $\left(= \frac{S. B}{S. C} \times AB \right) :: S. A : \text{the perpendicular};$
or rad. $\times S. C : AB :: S. A \times S. B : \text{the height.}$
If the cloud be directly over your head at the time of observation, CBA will be a right angle; and rad. : AB :: tangent of the sun's altitude CAB : the height CB.

N. B. The cloud should be small, because the observation must be at a point. If the cloud be large, its edge as well as the edge of the shadow must be observed; and the stations must be upon a large plain or open ground.

To find an inaccessible altitude by the shadow, or the geometrical quadrat.—Choose two stations in D and H (*fig. 9.*) and find the distance DH, or CG; observe what part of either the right or verfed shadow is cut by the thread.

If the right shadow be cut in both stations, say, as the difference of the right shadow in the two stations, is to the side of the square; so is the distance of the stations GC to the altitude EA.—If the thread cut the verfed shadow at both stations, say, as the difference of the verfed shadow marked at the two stations, is to the lesser verfed shadow; so is the distance of the stations GC, to the interval AE.—Which being had, the altitude EB is also found by means of the verfed shadow in G; as in the problem for accessible altitudes. Lastly, if the thread in the first station G, cut the right shadow, and in the latter, the verfed shadow; say, as the difference of the product of the right shadow into the verfed, subtracted from the square of the side of the quadrat, is to the product of the side of the quadrat into the verfed shadow; so is the distance of the stations GC, to the altitude required AE.

The utmost distance at which an object may be seen in the horizon, being given, to find its altitude.

Suppose the top H of a tower FH (*fig. 13.*) just visible at E, the distance EF being 25 miles; and suppose the circumference of the earth to be 25000 miles, or the radius 3979 miles, or 21009120 feet. Then $25000 : 25 :: 360^\circ : 21' 36'' = \text{the angle } EGH;$ and radius : secant of the

angle G :: EG : GH = 21009536 feet; and $21009536 - 21009120 = 416$ feet or FH the height of the tower.

Otherwise.—In the right-angled triangle GEH, GH^2 or $GF^2 + 2 GF \times FH + FH^2 = GE^2 + EH^2$. But GE being = GF, $2 GF \times FH + FH^2 = EH^2$; or, FH being comparatively very small, $2 GF \times FH = EH^2 = EF^2$, and $FH = \frac{EF^2}{2GF}$, but $2 GF$, or the earth's diameter, is

7958 miles, therefore $\frac{EF^2}{7958} = FH$ in miles, and $\frac{EF^2 \times 1760}{7958} = FH$ in yards.

Or, the altitude FH may more easily be found thus. The horizon dips nearly eight inches or $\frac{2}{3}$ of a foot, at the distance of one mile, and according to the square of the distance for other intervals; therefore, as 1^2 or 1 : 25^2 or 625 :: $\frac{2}{3}$: $\frac{2}{3}$ of 625 or 416 feet.

The method of taking considerable terrestrial altitudes, of which those of mountains are the greatest, by means of the barometer, is very easy and expeditious. This is done by observing on the top of the mountain how many inches, &c. the mercury is fallen below what it was at the foot of the mountain. When this is done, you will have its altitude by the help of a table calculated for that purpose. A very accurate table of this kind may be found in the *Hist. de l'Acad. Roy. des Scien.* 1703, and 1705, calculated by M. Cassini; and also in the *Phil. Trans.* Eames's and Martyn's *Abr.* vol. vi. p. 34. See BAROMETER.

ALTITUDE of the eye, in *Perspective*, is a right line let fall from the eye, perpendicular to the geometrical plane. See PERSPECTIVE.

ALTITUDE, in *Astronomy*, is an arc of a vertical circle, intercepted between the sun, moon, star, or other celestial object, and the horizon.

This altitude may be either *true* or *apparent*. If it be taken from the rational, or real horizon, the altitude is said to be *true*, or *real*; if from the apparent or sensible horizon, the altitude is *apparent*. Or rather, the *apparent* altitude is such as results from observations made at any place on the surface of the earth, and the *true* is that which has been corrected, on account of the refraction and parallax.

The true altitudes of the sun and fixed stars differ but very little from their apparent altitudes; because of their great distance from the centre of the earth, and the smallness of the earth's semidiameter, when compared with it. The quantity of refraction is different at different altitudes, and the parallax is different according to the distance of celestial objects; in the fixed stars it is too small to be observed; that of the sun is about $8\frac{1}{2}$ seconds, and that of the moon about 52 minutes. The altitudes of the heavenly bodies are observed by a quadrant or sextant, or by the shadow of a gnomon, and by various other ways may be found without a quadrant, or any the like instrument, by erecting a pin or wire perpendicularly as in the point C (*Astronomy*, *Plate I. fig. 5.*) from which point you have described the quadrantal arc AF. Make CE equal to the height of the pin or wire, and through E draw ED parallel to CA, and make it equal to CG, the length of the shadow; then will a ruler, laid from C to D, intersect the quadrant in B; and BA is the arc of the sun's altitude, when measured on the line of chords.

The sun's altitude may be computed by the following rule, proposed by Mr. Lyons for nautical purposes. By the rules in the *Nautical Almanac*, for 1771, find the logarithm ratio; subtract it from the rising found answering to the given distance of time from noon, in the tables of the same *Almanac*; the remainder is the logarithm of a number, which

which subtracted from the natural sine of the star's meridian altitude, leaves the natural sine of the altitude at the required time. For, finding the altitude of the moon or a star, he gives the following rule. From the tables above mentioned, take out the rising, corresponding to the hourly angle in the distance of time from the star's passing the meridian; add to it the logarithmic cosine of the star's declination, and the logarithmic cosine of the latitude of the place; the sum, abating twenty from the index, is the logarithm of a number, which subtracted from the natural sine of the star's meridian altitude, leaves the natural sine of the altitude at the given time. These rules are of great importance in determining the longitude at sea. See Naut. Alm. for 1778.

In taking of altitudes from the visible horizon, where great exactness is required, an allowance is to be made for refraction, and the height of the observer's eye above the surface of the sea. To find the altitude of the stars, &c. by the globe, see **GLOBE**.

An irregularity has been observed in the apparent altitudes of the stars near the MERIDIAN. On some occasions, when they are mounting towards the meridian, they appear to fall, and after passing the meridian, to rise. Hist. Acad. Scienc. 1719. p. 75.

M. Parent suggests a new method of taking altitudes at sea, by a common watch. It is obvious, that in an oblique sphere, the difference between the rising and setting of two stars, in the same meridian, is greater, as they are farther distant from one another.

Now the astronomical table furnishing us with tables of the right ascensions and declinations for the fixed stars, it is easy, after observing the difference of time between the rising of two stars, to distinguish that part of the difference which accrues from their different position from that which arises from the obliquity of the sphere.—But such difference is the precise height of the pole of the place of observation.

Indeed, the ship not being immoveable, but changing place between the two observations, seems to lay the method under some difficulty; but to this M. Parent answered, that a small alteration either of the ship's longitude or latitude, will make no sensible error; and that if she have gone a large distance between the two observations, it is easy reckoning how much it is, and accordingly allowing for it. See **SAILING**.

ALTITUDE, meridian. The meridian being a vertical circle, a meridian altitude, that is, the altitude of a point in the meridian, is an arch of the meridian intercepted between it and the horizon.

If HO (*Astronomy*, Plate I. fig. 6.) be the horizon, and HZO the meridian, then the arc HE, or the angle HCE will be the meridian altitude of an object in the meridian at the point E.

To observe the meridian altitude of the sun, of a star, or other phenomenon, by means of the quadrant, see **MERIDIAN ALTITUDE**.

To observe a meridian altitude by means of a gnomon, see **GNOMON**.

ALTITUDE, or elevation of the pole, is an arc of the meridian OP (fig. 6.) intercepted between the pole P and the horizon: or the angle OCP.

The altitude of the pole coincides with the latitude of the place; and may be found by observing the meridian altitude of the pole star, when it is both above and below the pole, and taking half the sum, after it has been corrected on account of refraction. Or the same may be found

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by means of the declination and meridian altitude of the sun.

ALTITUDE, or elevation of the equator, is the complement of the altitude of the pole, or a quadrant of a circle. Thus, if the angle HCL, fig. 6. or arc HL of the quadrant, between the horizon and the equator at L, and equator at ZP, the co-latitude of the place.

ALTITUDE of the tropic amounts to the same with that is otherwise called the solstitial altitude of the sun, or his meridian altitude when in the solstitial points.

ALTITUDE of the horizon, or of stars seen in it, is variable by the refraction, according to the quantity of which the horizon is, more or less, either elevated or depressed.

ALTITUDE of the nonagefimal, is the altitude of the sixth degree of the ecliptic, counted upon it from the point where it intersects the horizon, or of the middle or highest point of it which is above the horizon, at any time; and it is equal to the angle made by the ecliptic and horizon where they intersect at that time. See **NONAGEFIMAL**.

ALTITUDE, refraction of, is an arc of the vertical circle, as Ss (*Astronomy*, Plate I. fig. 7.) whereby the altitude SE, of a star or other celestial body, is increased by means of the refraction. This is different at different altitudes, being nothing at the zenith, and greatest at the horizon, where it is about 33'. See **REFRACTION**.

ALTITUDE, parallax of, is the difference CB (fig. 8.) between the true and apparent place of a star; or the difference BC, between the true distance of a star AB, and the observed distance AC, from the zenith A. The parallax diminishes the altitude of a star, or increases its distance from the zenith. This arc, or the angle measured by it, is evidently less, as the celestial body is farther distant from the earth, and also less, for the same body, as it is higher above the horizon, being greatest there and nothing at the zenith. To find the parallax of altitude, &c. see **PARALLAX**.

ALTITUDE of the cone of the earth's or moon's shadow denotes the height of the shadow of one or the other in an eclipse, and is measured from the centre of the body. It is found by this proposition: as the tangent of the angle of the sun's apparent semidiameter is to radius, so is one to a fourth proportional, which will be the height of the shadow in semidiameters of the body. The greatest height of the earth's shadow is 217.8 semidiameters of the earth, when the sun is at his greatest distance, or his semidiameter subtends an angle of about 15' 47"; and the height of the same is 210.7 semidiameters of the earth, when the sun is nearest the earth, or when his semidiameter is about 16' 19": and between those limits it is proportional to the intermediate distances or apparent semidiameters of the sun. The altitudes of the shadow of the earth and moon are nearly as 11 to 3, the proportion of their diameters.

ALTITUDE, or exaltation, in Astrology, denotes the second of the five essential dignities, which the planets acquire by virtue of the signs in which they are found.

ALTITUDE of motion, in Mechanics, is a term used by Dr. Wallis, for the measure of any motion, estimated according to the line or direction of the moving force.

ALTITUDE, determinative, is sometimes used for the height, whence a falling body acquires, by acceleration, a certain velocity. Herman. Phoron. lib. i.

ALTITUDE, in speaking of fluids, is more frequently expressed by the term depth.

The ingenious Dr. Hales, in his vegetable Statics, proposed a method of measuring unfathomable depths of the sea; on the principles by which Dr. Desaguliers contrived an instrument called a SEA-GAGE, which was tried before

the Royal Society; and is described in the *Phil. Transf.* N° 405. A more particular description of this instrument by Dr. Hales himself is as follows.

Suppose A B (*M. J. J. J. J.*, Plate I. fig. 1.) to be an iron tube, or mucket-barrel, of any length, as fifty inches, having its upper end A well closed; if this tube be let down in this position about thirty-three feet into the sea, a column of water of that height is nearly equal to the mean weight of our atmosphere, and, consequently, from a known property of the air's elasticity, it will be compressed into half the space it took up before, so that the water will ascend half way up the tube; and if the tube be let down thirty-three feet deeper, the air will be compressed into $\frac{1}{3}$ of its first dimensions, and so on $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, &c. the air being constantly compressible in proportion to the incumbent weight; whence by knowing to what height the water has ascended in the tube, we may readily know to what depth the tube has descended into the sea.

Now to measure the depth of one of these columns of sea-water: first, by a line let the iron tube, with a weight at its bottom, sink about thirty-three feet, which depth in salt water will nearly answer to the weight of the air at a mean height of the barometer; then draw up the tube, and observe how far the water rose. If thirty-three feet of water be equal to one atmosphere, then will the water rise so high as to fill exactly one half of the tube. But if the water rise higher or lower than half-way, then, by the rule of three, say, as the number to which the water rises is to one, so is thirty-three to the number of feet, measuring the depth of the column required. For example, suppose the water rises, when the tube is let down thirty-three feet, only $\frac{9}{10}$ of half-way, then say, 9 : 10 :: 33 : 36 $\frac{1}{2}$ feet the depth of each column, which being once known, the number of columns of water is to be multiplied by this number of feet, whereby the depth of the sea in feet will be known.

But since, when the instrument has descended to the depth of 99 columns, or 99 times 33 feet, the air will be compressed into the $\frac{1}{100}$ part of 50 inches, that is, into half an inch, the divisions both for some space below and also above that will be so very small, that the difference in depth of several columns of water will not be sensible. So that an instrument of no greater length than this would scarcely give an accurate estimate of half a mile's depth, that is 2640 feet, or 80 columns depth of water. The lengthening of this instrument to 4, 5, or 10 times this length would obviate this defect, and make the difference of the degrees of descent much more sensible. But since it is impracticable to make a metalline tube of so great a length, and if it were made, it would be so unwieldy as to be easily broken, the difficulty may be obviated in the following manner.

Let there be a globose metalline body of iron or copper, nearly of this form (*fig. 2.*) K, L, M, N, Q, whose capacity within may be equal to nine times the capacity of the metalline tube, Z, K, L; let this globose body be firmly screwed to the metalline tube, at K, L, with a leathern collar, well soaked in some unctuous matter at the shoulder, or joining, thereby to secure that joint in the most effectual manner. Let there be a small hole at X for the sea-water to enter freely in, and let some coloured oil be poured into the globose body, to fill it up to the hole X. Let there be also provided a slender rod *db*, screwed, or fastened into the metalline tube *ss*, which must also be made to screw in and out, thereby to take out the rod at pleasure; the rod must also have a small button *d* fastened to its upper end, which

will prevent its being daubed by falling against the sides of the tube.

The capacity of the tube must be estimated by pouring water in, when the rod and metalline tube are fixed in their places.

Now since the lower vessel is supposed to contain nine times as much air as the tube Z L, which is the same thing as if the tube were nine times as long, therefore the air in the globose vessel will not all be forced within the capacity of the tube, till the vessel has descended to the depth of nine columns, or nine times 33 feet; for then the air will be compressed within one tenth of the space it first took up. Supposing, therefore, the instrument to have descended to the depth of 99 columns of water, or 99 times 33 feet = 3267: then the air will be compressed within $\frac{1}{100}$ part of 500 inches (the capacity of the whole vessel being supposed equal to the tube of that length), that is, within five inches of the top of the tube; and, consequently, the rod *db* will be found tinged with the oil, within five inches of its top.

Suppose again the instrument to have descended to the depth of 199 columns, of 33 feet each, then the air will be compressed within $\frac{1}{200}$ part of the whole, that is, nearly within 2 $\frac{1}{2}$ inches of the top of the tube. In this case, the instrument will have descended 6567 feet; that is, one mile and a quarter, and 132 feet.

Suppose again the instrument to have descended to the depth of 399 columns, then the air will be compressed into $\frac{1}{400}$ part of the whole, that is, nearly within one inch and a quarter of the top of the tube. In this case the instrument will have descended two miles and a half, wanting 53 feet, which may probably be the greatest depth of the sea.

The larger the capacity of the vessel K, L, M, N, Q, the deeper will the gage be enabled to sink, the instrument being made stronger, and its joints being secured in proportion.

The instrument being thus prepared, a large buoy, *i*, must be fixed to it, which ought to be a solid piece of light wood, well tarred to prevent the water's being pressed into the sap-vessels; and as it may rise at a considerable distance from the ship, it may be advisable to fix on the top of the buoy broad fans of tin, properly painted, so as to be easily seen.

In order to sink the instrument, a weight must be fixed to it in the following manner. See the diagram. W is a weight of ballast, hanging by its sheet shank T, in the socket *ff*, which socket is screwed fast to N Q. The shank is retained in its place by the ketch *k* of the spring O, while the machine is descending; but as soon as W touches the ground at the bottom of the sea, the ketch O *k* sinking by the descending force, a little below the upper part of the hole *k*, is therefore at liberty to fly back, and so lets go the weight; then the buoy rises up to the surface of the water with the machine. Springs might also be fixed on the inside of the socket *ff*, so as to fly back in the same manner, when the weight touches the ground. It might be advisable to keep an exact account of the stay of the machine under water, which might be done by a watch, or by a pendulum vibrating seconds. Dr. Hook found upon trial, that a leaden ball which weighed two pounds, fixed to a wooden ball of the same weight, and both let down in fourteen fathom water, reached the bottom in seventeen seconds, and the detached wooden ball ascended to the surface in seventeen more. See *Phil. Transf.* Lowthorp's Abr. vol. i. p. 258. Consequently if this machine descended and ascended greater depths with

with the same velocity, it would reach to the depth of a mile in seventeen minutes, and reascend in the like time. This, however, might be a vague estimate, until experience has furnished a rule.

This machine was tried in various depths in the Thames, and answered very well, always returning, and leaving the ballast behind. It was afterwards tried near the Bermudas, when several ships were in company; but though a good look-out was kept for three or four hours, it was not seen to return. Hales's Statics, vol. ii. p. 328.

ALTITUDE of the *sea's surface* is not every where the same, as appears from the drift of **CURRENTS** setting strong out of one sea into another.

ALTITUDE of the *mercury*, in the **BAROMETER**, is marked by degrees placed on the face of that instrument, the variations of which are the chief object of *barometrical* observations.

The mean altitude of the mercury at London for every day in several years is about 29.87 inches, and its variations are computed between 31 and 28 inches. Some suggestions have been made, as if the altitude of the mercury were regularly greater in the morning than in the evening; at least something of this kind was observed to hold for a considerable time at Berlin. Hist. Crit. Rep. Lett. tom. xiv. p. 239.

ALTITUDE of the *pyramids in Egypt*, was measured long ago as the time of Thales, by means of their shadow, which makes one of the first geometrical observations we have an exact account of. Plutarch has given an account of the manner of this operation, which, according to this author, was done by erecting a staff perpendicular upon the end of the shadow of the pyramid; and by two triangles made by the beams of the sun, he demonstrated that there was the same proportion between the shadows as between the pyramid and the staff. Stanl. Hist. Phil. p. i. p. 9. See **PYRAMID**.

ALTITUDE, *circles, parallels, and quadrant* of. See the respective articles.

ALTITUDE instrument, equal, is that used to observe a celestial object, when it has the same altitude on the east and west sides of the meridian, or in the morning and afternoon. This instrument consists of a telescope about 30 inches long (with two vertical, and three or five horizontal wires in its focus), supported on the end of an iron bar or axis, 30 inches long, and about an inch in diameter; the axis being sustained in a vertical position by passing through a hole in one end of a brass box, whose other or lower end sustains the lower joint of the axis. The box, which is about 21 inches long, with ends about four inches square, has only two sides, which are fixed at right angles. From one of these sides project four flat arms, with a hole in each, whereby the box is, by screws, fixed in a vertical position to an upright post. On the lower end of the box lies a brass plate, which slides in grooves, and can, by means of a screw, be gently moved forwards or backwards; in this plate is a fine punched hole, to receive the smooth conical point, into which the lower end of the axis is formed. On the upper end of the box are two plates, which slide also in grooves; and, by the means of screws, can be gently moved sideways, till their angular notches embrace the axis, which, in this part, is made perfectly cylindrical and very smooth. To the upper part of the axis is fixed, by its radius, a brass sextant (or arch of 63°, to a radius of seven or eight inches) with the arch downwards, so that the centre is just above the top of the axis: also a spirit-level is fixed at right angles across the axis, just under the arch, so as to be clear of the upper end of the box. To the under part of the telescope is fixed a brass se-

micircle, of the same radius with the sextant, both arches having a common centre point. In the sextant is a groove cut through the plate, parallel to its limb, to receive two screw-pins, which go into the sextant limb, near its end; by these screw-pins the two arches may be pushed closer, and the telescope fixed in any desired position, which might be nearly obtained by graduating the sextant, and putting a Venetian scale on the sextant.

When this instrument is used, the box is fixed to the post, and the axis put into the box, letting the conical point drop into the punched hole; the level is screwed on, and the telescope is directed, observing to insert the centre and arch-pins; then, by the help of the screw-plates at the bottom and top ends of the box, the vertical position of the axis is corrected, so that the same end of the air-bubble in the level may stand at the same point through the whole revolution of the axis, which will thereby be known to be then truly vertical, so that the telescope will describe a parallel of altitude. The tube, thus adjusted, is to be directed to the sun or star, and fixed at the desired elevation, by pressing the two arches together with the two screw-pins. This instrument is very useful in adjusting clocks, &c. and comparing *equal* and *apparent* time.

ALTMANSTEIN, in *Geography*, a market town of Upper Bavaria, belonging to the family of Abensperg, 12 miles north-east of Ingolstadt.

ALTMORE, a town of Ireland, in the county of Tyrone and province of Ulster. N. lat. 54° 34'. W. long. 7° 2'.

ALTMUHL, a river of Upper Bavaria, which joins the Danube near Kelheim.

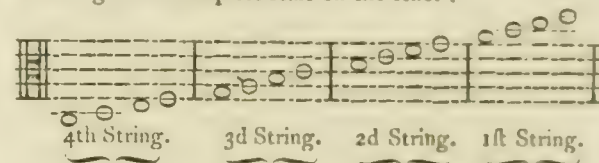
ALTMUHLMUNSTER, a commandery of the order of St. John, in Upper Bavaria, in the district of Rildenburg.

ALTOBASCO, in *Geography*, the name given to the ancient city of Colophon, in Ionia.

ALTOMUNSTER, a market town of Upper Bavaria, which has an abbey of nuns of the order of St. Bridget.

ALTO & BASSO, or in **ALTO** & in **BASSO**, in *Law*, signifies the absolute reference of all differences, small and great, high and low, to some arbitrator, or indifferent person. *Puteat universis per presentes, quod Wilhelmus Tyrus de Jure, & Thomas Gorwer de Almitre, posuerunt se in Alto & in Basso, in arbitrio quatuor hominum; viz. de quacumque querela pendente inter eos in curia—Nos & terram nostram alte & basse ipsius domini Regis supposuimus voluntati.*

ALTO, high. As *alto viola*, the tenor violin, in opposition to the bass viol. to which instrument or violoncello, the tenor strings are tuned octaves: as C². G². A². The following is the complete scale on the tenor:



This instrument has been rendered much more important of late years by quartets, and pieces made expressly for it than it used to be in the old overtures and concertos, in which it seldom had any melody assigned it. To fill up the harmony, by the refuse of other parts, was its only employment. But in the quartets of Stamitz, Boccherini, Giardini, and, above all, those of Haydn, it has been brought fully into action, and enjoyed *equality*.

ALTO Relievo, in *Sculpture*, a representation of figures and other objects against a flat surface or back-ground; differs

from batho-relievo only in the work being much more relieved and brought forward.

To any representation half-relieved or more, if it be not entirely detached from the ground behind, sculptors apply the appellation of Alto Relievo.

ALTON, in *Geography*, a town of England, in Hampshire, situate on the river Wyke. Its manufacture consists of plain and figured baragons, ribbed druggets and ferges; and round the town is a plantation of hops. Its market is on Saturday, and it is distant from London 47 miles.

ALTON is a village near Uttoxeter, in Staffordshire, in which are the ruins of a castle, supposed by Dr. Plott to have been erected by Theobald de Verdon in the beginning of the reign of Edward II. but by others apprehended to be prior to the Norman conquest.

ALTON, a tract of land in Strafford county, New Hampshire, in America, north-east from Barnstead.

ALTONA. See ALTENA.

ALTONA, in *Ancient Geography*, a river of Britain, mentioned by Tacitus, and supposed to be the same with the Avona or Avon; but as there are many rivers of this name, it is conjectured that the Altona of Tacitus flowed by Northampton and Peterborough eastwards.

ALTÖRE, in *Geography*. See ALTDORF.

ALTÖRE, or ALTDORF, a town of Germany, in the circle of Franconia, now small, but of great antiquity. It has an university with a valuable library, an anatomical theatre, chemical laboratory, and botanical-garden. It has undergone many revolutions from the year 912, when it is mentioned in some ancient records. It is subject to the house of Brandenburg, and is situated 12 miles east-south-east of Nuremberg. N. lat. 49° 25'. E. long. 11° 7'.

ALTRINGHAM, a town of England, in Cheshire, near the canal that passes to Warrington from Manchester, and about 8 miles from the latter town. The market is on Tuesday, and it is 179½ miles from London. N. lat 53° 25'. W. long. 1° 30'.

ALTSOHL, a district and town of Hungary, six miles south-south-west of Neusohl.

ALTSTADT. See ALSTADT.

ALTSTATT, a town of Germany, in the circle of Upper Saxony, and margraviate of Meissen, near Stolpen.

ALTSTED, a town of the circle of Westphalia and bishopric of Munster, five miles north-west of Ahus.

ALTSTETTEN, or ALSTETTEN, a town of Switzerland, in the Upper Rhinthal, seven miles east of Appenzel.

ALTUN-SOU, a river of Asia, which runs into the Tigris, 10 miles above Tecrit, in the province of Kurdistan.

ALTUN-TASH, a town of Asiatic Turkey, in the province of Natolia, 20 miles north-west of Kutaja.

ALTUR, or ALTOR, a sea-port town of Asia, in Arabia Petrea, situate to the west of Mount Sinai, and towards the extremity of the western part of the Red Sea. The Greeks called it Raitho; the houses are built of white coral, which is found in great abundance on the coasts of the Arabian gulf. The inhabitants are partly Arabs and partly Christian Greeks. The monks of Mount Sinai have a convent in this place. Its port, like that of Suez, can admit no large vessels. N. lat. 28° 20'. E. long. 34° 19'.

ALTZENAU, a town of Germany, in the circle of the Lower Rhine, five miles south-east of Hanau.

ALTZEY, ALZEY, or ALTZHEIM, anciently *Alcia*, a town of the Lower Rhine, in the Lower Palatinate, with a citadel, on the river Selz, and the capital of a prefecture of the same name, three miles south-west of Odernheim, and 14 north-west of Worms. N. lat. 49° 44'. E. long. 7° 25'.

ALVA DE ALBTA, a town of Spain, in Old Castile, not far from Zamora.

ALVA DE TORMES, a town of Spain, with a castle, in the country of Leon, and province of Salamanca, on the frontiers of Estremadura, situate on the banks of the Tormes, eight leagues east south-east of Salamanca.

ALVA, DON FERDINANDO ALVARES DE TOLEDO, *Duke of*, in *Biography and History*, was born of an illustrious family in Spain in 1508; and having received military instruction under his grandfather, Frederic of Toledo, he was appointed a general, in 1538, by Charles V.; and, in 1542, defended Perpignan against the besieging army of the Dauphin of France. When Charles V. determined to commence hostilities against the German Protestants, in 1546, the duke of Alva was appointed general-in-chief of the Imperial army; and in the following year, when the Elector of Saxony was defeated in the battle of Mulhausen, and taken prisoner, he was chosen to preside at the court-martial, which sentenced this unfortunate prince to suffer death by being beheaded. At the siege of Metz, in 1552, the chief command, under the emperor, was entrusted to the Duke of Alva; but neither the obdurate perseverance of Charles, nor the concurring assistance of Albert of Brandenburg, could avail against the vigorous defence of the Duke of Guise. The emperor, after varying the mode of his operation, and repeatedly renewing the attack, was at length constrained to yield to the solicitations of his generals, who conjured him to save the remains of his army by a timely retreat. "Fortune," says he, "I now perceive, resembles other females, and chuses to confer her favours on young men, while she forsakes those who are advanced in years." In this siege, which lasted 56 days, he lost upwards of 30,000 men, who either died of disease, or were killed by the enemy. In 1555, the emperor found it necessary to check the progress of the French forces in Piedmont by some vigorous measures; and with this view to employ a general of such reputation and abilities, as might counterbalance the great military talents of the Marechal Brissac, who was at the head of the French army. The Duke of Alva was pitched upon for that purpose, and he was invested with the dignity of the emperor's vicar-general in Italy, as well as with the supreme command in all the Imperial and Spanish territories in that country. But though his authority was unlimited, the success of his operations was inconsiderable; and after having boasted, with his usual arrogance, that he would drive the French out of Piedmont in a few weeks, he was obliged to retire into winter quarters, with the ignominy of being unable to preserve entire that part of the country of which the emperor had hitherto kept possession. At the commencement of the ensuing year, Charles resigned to his son Philip the crowns of Spain, with all the territories depending upon them, both in the Old and New World; and though the Duke of Alva had advanced in the course of this year into the pope's territories, and reduced the whole of Campagna Romana, yet it was with reluctance that he pursued hostilities against the head of the church, which were no less repugnant to his own principles than to those of his new master. Having therefore made a truce, he afterwards negotiated a peace with the pope; and, notwithstanding his haughty spirit, submitted to the humiliating condition of asking forgiveness of the pontiff whom he had conquered. After a general peace was established in Europe in 1559, the Duke of Alva was sent to Paris, at the head of a splendid embassy, to espouse, in the name of his master, Elizabeth, the daughter of Henry, king of France. The tyrannical conduct of Philip, and the persecuting measures which he had adopted with a view of restraining the progress

progress of the Reformation, had excited a very general dissatisfaction among his subjects in the Low Countries; and therefore, in 1567, he determined to find the Duke of Alba with an army to compel the discontented to submit to his will, and to punish them for their disobedience. No person could be a fitter instrument for the execution of his purpose. The duke not only approved, but advised and recommended, hostile measures. Notwithstanding the remonstrances of the regent, the Dukes of Parma, Philip persisted in his purpose; and the Duke of Alba, with a considerable army, directed his march to the Netherlands, and, after garrisoning the frontier towns, proceeded to Brussels, where he arrived in the month of August, A. D. 1567. His arrival spread great consternation and astonishment over all the provinces. Many thousand persons had before this time left the country, among whom was the Prince of Orange, who would gladly have prevailed upon Count Egmont to accompany him. But he did not perceive the danger that awaited him. The prince took a sorrowful leave of him with these memorable words, which a disastrous event must soon have brought to his recollection: "You are the bridge, Count Egmont, by which the Duke of Alba will pass into the Netherlands, and he will no sooner pass it than he will break it down. You will repent of despising the warning which I have given you, but I dread that your repentance will be too late." One of the duke's first acts, after his arrival, was to call both Count Egmont and Count Horn into prison; and their imprisonment was soon followed by their trial, condemnation and death. The Dukes of Parma, after repeated solicitations, obtained permission to quit the country, and she left Brussels in the beginning of the year 1568, much regretted by all, and particularly by the Protestants, to whom her administration appeared mild and gentle, compared with that which they had reason to expect under the present government. As soon as she was removed, the Duke of Alba fully disclosed his commission, and his powers appeared to be much greater than those of any former governor, and such as were subversive of all the rights and privileges which Philip, as sovereign of the Low Countries, had at his inauguration solemnly sworn to maintain. But the pope had previously granted him a dispensation from his oath, so that his mind was quieted in every measure of despotism and cruelty, which he dictated or sanctioned. Alba's commission, besides the absolute command of the army, comprehended the presidency of the three councils of state, of justice, and of the finances, with ample powers to punish or to pardon crimes of every sort at his own pleasure. Allowing to the Reformers a month for leaving the country, he issued secret orders to the Inquisition to proceed immediately in the most rigorous execution of their edicts. For their assistance and encouragement he instituted a council of 12 persons, most of whom were Spaniards, and of which the duke was the president, called the Council of Tumults; but by the Flemings, justly denominated "the Council of Blood." Thus fortified and aided, the duke proceeded to build citadels at Antwerp, and in several other cities, and to spread his troops over the country in such formidable bodies, that the people, who could not endure their oppression and rapacity, either forsook their habitations, or abandoned themselves to despair. Above 20,000 persons escaped at this time into France, England, and the Protestant provinces of Germany. Some were seized in their flight, and innocent persons were overwhelmed with horror at the sight of the dreadful punishments inflicted on those who were charged with guilt; and all concurred in lamenting that a country, once eminently flourishing and distinguished by the mildness of its government and the happiness of the people, should now present to view no other object besides confiscations,

imprisonment, and blood. In the space of a few months more than one party was cut off from the head of the nation; and the Duke of Alba, in the midst of his triumph,

was himself seized by the Spaniards, and confined in the castle of St. Peter, where he died in the midst of his sufferings. The people, who had only been passive spectators of the duke's cruelty, now closed their ranks, and the Catholics and Protestants, who had been long at enmity, were brought to the same point of view, and they themselves put to the sword, or committed to the flames, their sufferings were prolonged with ingenious cruelty. To prevent them from being sensible of the necessity of their torments to the truth of their profession, their tongues were first scorched with a glowing iron, and then screwed into a machine, contrived for purpose to produce the most excruciating pain. It is, indeed, shocking to reflect on the influence of inhumanity in the persons of the Duke of Alba and his associates; especially when we consider that the victims were generally persons of the most excellent character, who, having imbibed the principles of the Reformation, were too honest to disguise their sentiments, or to say the worst of them, who had been betrayed into indiscretions by their zeal for propagating truths, which they believed to be of the highest importance to the glory of God, and the happiness of mankind. The hearts of even those members of the "bloody council" revolted against the repeated acts of cruelty to which their function was required; some of them sought a dissolution, others absented themselves, and of the 12 that composed the council, there were seldom more than three or four present. At this time the magistrates of Antwerp, whose behaviour had been uniformly obsequious during the whole of Alba's administration, presented an humble petition on behalf of some citizens whom the inquisitors had imprisoned. To this petition Alba returned a haughty reply, reproaching them for folly and presumption in applying on behalf of heretics; threatening them with tokens of his displeasure; and even assuring them, that if they persisted in such measures, he would hang them all, for an example, to deter others from similar presumption. Some of the catholic nobility also remonstrated to the king against the governor's barbarity, and the pope exhorted him to greater moderation. But the inquisitors enforced the council of Vargas, who recommended perseverance, and Philip turned a deaf ear to the remonstrance which had been made to him; and the persecutions were continued with the same unrelenting fury. The people were reduced to circumstances of extreme distress, and they had no resource left but in the common public spirit, and extensive influence of the prince of Orange. Alba, soon after his arrival in the Netherlands, cited prince William to appear before him, but he was too sagacious to be deluded by promises of lenity, and refused to obey the citation, assigning, at the same time, a variety of reasons for his conduct. Several other noblemen were cited to answer for their conduct; and, upon their refusal, Alba pronounced sentence against them, and confiscated their effects. The Prince of Orange at length had recourse to arms; but he would be employed in making levies, his brother Count Louis arrived with an army in the Netherlands, and resolved to make his first attempt on Groningen. The Spanish army under Count Arenberg was sent to oppose him, but Louis was victorious. However, Alba soon marched against him with a superior army, and totally defeated him. The Prince of Orange prepared for

for a sion by publishing a manifesto, in which he declared that his religious sentiments were changed, and that he was now convinced that the opinions of the Protestants were more conformable to the Scriptures, the rule and standard of Christian faith, than those of the Romish church. William was a formidable enemy; and it required all the caution and valour of Alva, and of his son Frederic de Toledo, to prevent him from breaking in upon the Netherlands. Alva succeeded; and the prince, disappointed in his expectation of supplies, was under a necessity of disbanding his army. After this event Alva marched in triumph to Brussels, and commanded a solemn thanksgiving for his success to be observed through all the provinces. He ordered a statue of himself to be formed of brass, and medals to be struck. On one of these medals he was represented riding in a triumphal chariot, with a Victory behind him, putting a crown upon his head. In his right hand he held a sword, to signify that he had conquered Lewis by open force; and in the left an Ægis, to express that wisdom of which he had availed himself against the prince of Orange; and as a further emblem of his wisdom, the chariot was drawn by owls, which, in the ancient Heathen superstition, were sacred to Minerva. His statue, which was placed in the citadel of Antwerp, was the workmanship of Jockeling, a German artist, the most celebrated sculptor of the age, and afforded a still more striking display of his vanity and arrogance. He was represented trampling under his feet the figure of a monster, having certain emblematical signs in different parts, which denoted the petition which had been presented to the Dukes of Parma, the compromise, and the insurrection and tumults which ensued. The base of the figure was a square pillar of marble, with the name of the artist on one side, and with encomiums on the Duke of Alva on the three other sides, who is said to have extinguished heresy and rebellion, to have saved the church from destruction, and restored justice and tranquillity to the Netherlands.

We learn from Grotius, that about this time the duke enacted several useful regulations with regard to trade, the coin, and the liberty of the press: but they failed in promoting the purposes for which they were intended, and the memory of them was soon effaced by the violence of the measures which he afterwards pursued. He devoted the interval of leisure which he now enjoyed to various acts of tyranny; and to the accomplishment of his schemes for reducing all the provinces to total slavery, and extirpating the reformed religion; and the executioner was fully employed in removing all those friends of freedom whom the sword had spared. The emigrations from the Low Countries were, in consequence of Alva's violent and cruel measures, very numerous; and of those persons who were exiles many came over to England, where they were all received by queen Elizabeth. In this country they enjoyed the free exercise of their religion; and amply recompensed the English for the protection that was afforded them by introducing various branches of manufacture, with which they had been before unacquainted. Alva's vanity was flattered about this time by an embassy which was deputed by the pope, to present him with a consecrated hat and sword; and he was thus confirmed and encouraged in the prosecution of those sanguinary measures, which had procured him this distinguished honour. But such were the absurdity and folly, as well as the oppression and tyranny, into which his arrogance betrayed him, that he adopted a measure which may be regarded as the chief cause of all the difficulties which he afterwards encountered, and of all those astonishing exertions which the people made

to emancipate themselves from the Spanish yoke. Heedless of the rights and privileges of the people, who had been accustomed to be taxed by their own princes, he resolved, by his own authority, to establish numerous and burdensome taxes, sufficient not only for supplying his present exigencies, but to serve as a perpetual fund for defraying all the expences of his government. These taxes, by their number, and by the mode of their imposition, and enforcement, excited universal discontent. The states assembled and remonstrated; but Alva was not only deaf to remonstrance, but determined, after some temporising measures, to employ force for rendering effectual his arbitrary requisitions. The states of Utrecht were resolute and firm in their opposition, and though they incurred a confiscation of their territory and revenues, their conduct was attended with the most important consequences, and produced a more general resistance to the taxes which the governor imposed. In the mean while the prince of Orange was not an unconcerned spectator of these transactions. Having returned from France, in 1569, to his country of Nassau in Germany, he commenced preparations for trying his fortune once more against the Spaniards. The exiles also, who had left the country on account of the persecution of Alva, united, and fitted out a great number of armed vessels with which they seized all the Spanish ships which they could meet with on the Flemish or English coast. Alva persevered in issuing edicts for the payment of exorbitant taxes; and, in order to intimidate the people into compliance, he formed the barbarous resolution of putting to death, before their own houses, 17 of the principal inhabitants of Brussels. But before the time fixed for their execution, a messenger arrived with information that the exiles had made a descent on the island of Vorn, and got possession of the Brille. This intelligence alarmed Alva, and induced him to revoke his bloody orders, and to suspend, for a time, the levying of taxes. An order had been issued by queen Elizabeth, in compliance with the request of Alva, that all ships, belonging to such of the inhabitants of the Low Countries, as had withdrawn their allegiance from the king of Spain, should leave her harbours. This order was an occasion of triumph to Alva, but, in the issue it contributed to the vigorous exertions of the exiles, to the capture of the Brille, and to that union under the prince of Orange, which laid the foundation of the independence of the United Provinces. The spirit of resistance and revolt which was spreading through the country was much encouraged by the defeat of the Spanish fleet under Medina-Cæli, in 1572, and by the supply of money and military stores which the exiles found on board the ships that were taken. The revolt in North Holland became general; Mons, the capital of Hainault, and one of the most populous and flourishing cities in the Low Countries, was taken by Count Lewis; the Spanish army was employed in endeavouring to recover it; the people of Holland and Zealand were industriously securing themselves, by every precaution and preparation in their power, from being again reduced under the Spanish yoke. In contempt of the order issued by Alva, for an assembly of the States at the Hague, a meeting was held at Dort, and it was determined to acknowledge the prince of Orange as the only lawful governor or Stadtholder of the provinces, and commander in chief of all their forces both by sea and land: and every possible exertion was made to furnish him with necessary supplies. Whilst the prince and the States were employed in providing for the security of Holland, Frederic de Toledo was making rapid progress in reducing the towns which had revolted in the other provinces;

but

but his progress was marked by various acts of oppression and of cruelty, of so horrible a nature as to be scarcely credible, if they were not well authenticated by the most unexceptionable testimony. But the perfidious cruelty of Alva and his son, after the siege and capture of Haarlem, exceeded, if possible, in atrocity every other measure of this savage administration. By the lowest computation, 900 brave men were executed, with every circumstance of ignominy and barbarity, like the vilest malefactors, who, trusting to Toledo's promise, had surrendered their arms to throw themselves upon his mercy. The consequence, however, of the length of this siege and of the loss of men sustained by it, was a mutiny among the Spanish troops; and it was with difficulty, and after much negotiation, that they were induced to march against Alkmaar. Here they met with a repulse, attended with great loss, and Frederic was obliged reluctantly to retire. Alva's fleet was, about the same time, defeated by the Zealanders, and the town of Gertruydenburg surprised by the prince of Orange. Alva, dispirited by these events, and declining in his health, by the anxiety and fatigue he had undergone, solicited a recall, and obtained Philip's leave to quit the Netherlands, and to return home. Philip, diffident of the success of the cruel measures that had hitherto been pursued, and determined to try the effect of a milder administration, complied the more readily with Alva's request. Accordingly, in December 1573, the duke and his son set out, by the way of Germany and Italy, for Spain; after having resigned the regency to his successor Requesens, who commenced his administration with demolishing Alva's statue at Antwerp, and with repressing the insolence of certain garrisons, at whose enormities his predecessors had connived.

In the review of Alva's administration we may observe, that both the catholics and protestants regarded him as the chief source of all the calamities in which the Netherlands had been involved. He had received his government from the dukes of Parma, in a state of perfect tranquillity. By his tyranny he had thrown it into the most terrible combustion, and kindled the flames of a destructive war, which he was conscious of being unable to extinguish, and he had, therefore, applied for liberty to retire. He is said to have boasted to Count Koningstein, uncle to the Prince of Orange, at whose house he lodged on his way to Italy, that, during his government of five years and an half, he had consigned more than 18,000 heretics to the public executioner; besides a much greater number whom he had put to the sword, in the towns which he took, and in the field of battle. During Alva's administration, the situation of the Low Countries was truly deplorable. His oppression was not confined to protestants, but many catholics were put to death, and their effects forfeited, under a pretence of their having entertained heretics, or having held a correspondence with them in their exile. Wives were punished with the utmost severity for affording shelter to their husbands, whom the council of tumults had condemned; children for performing the like offices to their parents; and in Utrecht, a father was executed for allowing his son, who had returned from banishment, to lodge under his roof for one night. By forcing so many thousands of the most industrious inhabitants to leave the country, and by neglecting to provide a naval force to oppose the exiles at sea, commerce was almost entirely ruined; notwithstanding which, he imposed upon the people more oppressive taxes, than they could have borne, if they had been in the most flourishing condition. In levying these taxes, the utmost rigour was employed. The people were often wantonly

provoked, and tumults purposely excited, from which cessation was taken to punish them with confiscation of their goods, and sometimes with both death and confiscation. From the confiscations and taxes large sums were raised: yet, by maintaining so many men on foot, and by building citadels to keep the principal towns in awe, he recruited little children from the house, who were employed in other expensive enterprises, he still bore down the poor state of his troops; and in order to keep them in good humour, he permitted them to live at free quarters upon the nobles' estates, against whom they exercised, on many occasions, the most cruel and oppressive rapacity.

Alva, after his return to Spain, enjoyed for some time the favour and confidence of his master; but his son Don Garcia de Toledo, having debauched one of the maids of honour, under a promise of marriage, was put under arrest, and assisted by his father in making his escape. Alva, in order effectually to prevent the fulfilment of his obligations, enforced by the king's order, concluded a marriage between him and his cousin, a daughter of the Marquis of Villena. Upon this Alva was banished from court, and confined to the castle of Uzeda. Here, notwithstanding many intercessions in his favour by the pope, and some foreign princes, he remained for two years. But when Don Antonio assumed the crown of Portugal, Philip made preparations for opposing him; and devolved on Alva the supreme command in Portugal, without forgiving his offence or admitting him into his presence. Alva, notwithstanding his age and infirmities, accepted the command; repaired to the army in 1580, defeated Antonio, and reduced the whole kingdom of Portugal to Philip's authority. When Lisbon was taken, the suburbs, which were at that time no less considerable than the town itself, were delivered up to be ransacked and plundered by the soldiers, without any distinction between the friends and the enemies of the king. When Alva was required to give an account of the treasure which he had acquired on this occasion, he is said to have replied; "If the king asks me for an account, I will state to him kingdoms preserved or conquered, signal victories, successful sieges, and 60 years' service." Philip made no further inquiries; but Alva did not live to enjoy the honours and emoluments resulting from this last exploit. He died in 1582, at the age of 74 years. Robertson's Hist. of Charles V. vol. iii. and iv. Watson's History of Philip II. of Spain, vol. i. and ii.

ALVACA, in *Ancient Geography*, a town of Media, according to Ptolemy.

ALVAH, the wood wherewith Moses sweetened the waters of Marah. Exod. ch. xv. ver. 25.

The name of this wood is not found in Scripture, but the Mahometans give it that of *alvah*, and pretend to trace its history from the patriarchs before the flood. Josephus, on the contrary, says, that Moses used the wood which he found next lying before him.

ALVALADE, in *Geography*, a small town of Portugal, in Alentejo, situate between two rivers, and containing about 1200 inhabitants.

ALVANIS, in *Ancient Geography*, a town of Mesopotamia, according to Ptolemy.

ALVANNA, in *Geography*, a town of Spain, in the province of Guipuscoa, three leagues east of Trevigno.

ALVAR, a town of Hindostan, in the country of Mewat, 60 miles south south-west of Delhi.

ALVARA *Martens Bay*, is situated on the coast of Loango, in Africa, in S. lat. 3°. and E. long. 11°. This bay

bay has a fine sandy beach, and good anchorage ground. On the south side of it are two villages.

ALVARADO, a town of America, in the province of Guaxaca, situate at the mouth of a river of the same name, 30 miles south-east of Vera Cruz. N. lat. $18^{\circ} 40'$. W. long. $96^{\circ} 39'$.

ALVARADO, a river of New Spain, rises in the mountains of the Zepotecs, and making a circuit through the province of Mazatlan, and receiving several smaller rivers and streams, runs into the Gulf of Mexico, about the distance of 30 miles from Vera Cruz. The mouth of the river is about a mile wide; but for more than two miles from the shore it is almost choked up with sand.

ALVARE, a town of Arabia Felix, according to Ptolemy.

ALVARES, a town of Portugal, in Estremadura, containing about 1200 inhabitants.

ALVAREZ, FRANCIS, in *Biography*, a Portuguese priest, was chaplain to Emanuel, king of Portugal, and sent by him as ambassador to David, king of Ethiopia and Abyssinia. Having continued six years in this country, he returned with letters to king John, the successor of Emanuel, and to pope Clement VII. and gave an account of his embassy at Bologna in 1533, in the presence of Charles V. He died in 1543; and the account of his embassy, with a description of the customs and manners of the Ethiopians, was printed at Lisbon, in folio, in the same year, and translated into Latin by Goetz, under the title "*De fide, regione et moribus Ethiopum*," and at Antwerp in 1558, in French, 8vo. He was the first writer who gave any certain information concerning Ethiopia; but his account, though represented by some as true and accurate, is not entitled to implicit credit. Gen. Dict.

ALVAREZ, EMANUEL, a learned Jesuit, was born in the island of Madeira in 1546. He became successively rector of the colleges of Coimbra, Lisbon, and Evora, at which place he died in 1582. His Latin Grammar, "*De Institutione Grammatica*," is much esteemed, and is still used by the Portuguese Jesuits in their colleges. It was published in 4to. in 1599, and has passed through several editions. Gen. Dict.

ALVAREZ DE PAZ, JAMES, an eminent Jesuit of the 17th century, and author of several devotional treatises, was born at Toledo in Spain, and educated in the schools of the Jesuits, among whom he entered himself at 17 years of age. Having finished his course of theological studies at Alcala de Henares, he removed to the kingdom of Peru, in South America, and read lectures in divinity and philosophy at Lima, which were much applauded. He was likewise rector of the colleges of Quito, Cuzco, and Lima, and governed the whole province for six years, connecting his public offices with the regular discharge of his private duties. At Potosi, where he was much revered, he was seized with a disease, which proved fatal, A. D. 1620, in the 60th year of his age. Gen. Dict.

ALVARID, among the Spanish Moors, denoted a judge. The word is also written *alvarilus*: in this sense *alvaridis* amounts to much the same with what is otherwise called *ALCAID*.

ALVARISTS, in *Church History*, a sect or branch of modern Thomists, denominated from Alvares, whose method and principles they follow.

The *Alvarists* differ from the ancient Thomists, in that the former are assertors of sufficient grace, the latter of efficacious grace. The former come near to the Jesuits, the latter to the Janfenists.

ALVAROTTO, JAMES, in *Biography*, an eminent civi-

lian, was born at Padua, and became professor of law in that city, in the 15th century. Besides other treatises, he wrote "*Commentaria in Libros Feudorum*," printed at Frankfort in folio in 1587, a work much esteemed, and often cited by the Italian lawyers.

ALVAYAZERA, in *Geography*, a small town of Portugal in the province of Beira, containing one parish, and near 1000 inhabitants.

ALUCITÆ, in *Entomology*, a subdivision of insects, with digitated wings, belonging to the genus of *PHALÆNA*, and of the *lepidoptera* order in the Linnæan system: comprehending 12 species.

ALUCO, *sacred owl*, in *Ornithology*, a species of the owl, or *STRIX*, with rusty head, black irides, and the primary wing-quills serrated at the edges. This species, the *La Hulotte* of Buffon, the *Ulula* of Briff. Gess. and Aldr. the black owl of Albin, and the brown owl of Pennant and Lewin, is 15 inches long; its head is large and round, without tufts, and face sunk, as it were, within the plumage; the beak of a yellow or greenish white; the upper part of the body of a deep iron grey, mottled with black and whitish spots, the under part white, with longitudinal and transverse black spots or bars; and the legs white, sprinkled with black points. It flies lightly, and not rustling with its wings. The outmost feather of the wing is two or three inches shorter than the second, and this shorter than the third; and the longest of all are the fourth and fifth. Its cry is a kind of howl, resembling that of wolves, whence its name *ulula*, and the German *buhu*, or *boo-boo*. It inhabits Europe and Tartary, and is said to be considered as sacred by the Calmucks, for having contributed to preserve the life of their great monarch, Jenghis Khan, though Mr. Pennant attributes this to another species. In Summer it lodges in the hollows of decayed trees in the woods, and in Winter approaches human habitations. Its most usual prey is field-mice, which it swallows whole. It generally lays four eggs, of a dirty grey colour, in the nests of other birds, such as buzzards, bustards, crows, and magpies. Gmelin's Linn. Buffon's Birds, vol. i. p. 291.

ALUCO, in *Entomology*, a species of *PHALÆNA Bombyx*, with brown wings, cinereous at the apex, found at the Cape of Good Hope.

ALUCO is also the name of a species of the *PHALÆNA Noctua*, with dentated wings, brownish, undulated with black and three marginal spots, found in China.

ALUCO is also the name of a species of *MUREX*, in the class of *VERMES testacea*, with tuberculated spiral windings, the middle stria spinose, the columella uniplicate, and the tail ascending. There are several varieties of this shell. It is found in the Southern Indian Ocean, Red Sea, and Atlantic, about four inches long, whitish, sprinkled with cærulean or brownish dots, the windings transversely striated, the lip roundish, and the aperture oval.

ALUDDA, or ALYDDA, in *Ancient Geography*, a town of Asia Minor, in Phrygia Major, upon the confines of Lydia.

ALUDEL, *Aludel*, Fr.—*Sublimirtopfe*, Germ.—*Aludelle*, Ital.—*Capitella sublimatoria*, Lat. The aludel of the chemists is a kind of pot or cucurbit, generally made of earthen ware, but sometimes of glass, open at both ends for the purpose of collecting the products of dry sublimations. The matrafs or cucurbit, containing the substance to be sublimed being fixed in a sand bath, is covered with an aludel, so disposed as that the neck of the cucurbit may be received into the body of the aludel, this again is covered in like manner with another aludel, and so on increasing the series according to the volatility of the substance operated

on, the neck of the upper aludel being either stopp'd with a cork or covered with an imperforated capital. See Chemistry, Plate iii. fig. 14. A, the cucurbit, B, a series of aludels, C, the capital. It was in an apparatus of this kind, that those crystalline sublimates formerly call'd *flowers*, as flowers of sulphur, of arsenic, of Borax, &c. used to be prepared, when each chemical and dropt in success into these articles for his own use: but since the shops have been supplied for the most part from large wholesale laboratories, the aludel, together with various other vessels, has been discarded, and its place supplied by apparatus of more simplicity and greater expedition.

ALVEARE, in *Conchology*, a species of *Trochus*, with a plicated nodulose shell, striated transversely, and adorned with bands of concatenated points, funnel-shaped umbilicus, and crenulated columella. It is found in India; the shell is coloured with a mixture of green and white, within pearly, and finely annulated.

ALVEARIUM, in *Anatomy*, the bottom of the *cavitas*, or hollow of the auricle, or outer EAR.

The *alvearium auriculæ* is a cavity, terminating at the *processus auditorius*, wherein that bitter yellowish excrement is secreted call'd *ceraumen*, or ear-wax.

ALVEARIUM alio signifies a bee-hive.

The word is formed of *alveus*, a channel, or cavity; in allusion to the *alveoli*, or cells, in bee-hives.

Among the ancients use also the word *alvearium* for a beehive, and more usually call'd among us *APIARY*.

Alvearium is sometimes alio used figuratively, to denote a colony.

In which sense *Alvearium* amounts to much the same with what we call *cornu*, the *cornu*, *cornu pia*, or the like. Vinea, *bee-hive*, *cornu*, *Alvearium* of law.

ALVEOLUS, in *Medicine*, Writers, denotes what we ordinarily call *the point*, or *STAR-SHOT*.

ALVENSLEBEN, in *Geography*, a bailiwick of Magdeburg, in Germany.

ALVEOLATE, in *Botany*, a term used in the same sense with favosum, or honey-combed, to express a part that is furrowed by oblong depressions.

ALVEOLI, in *Anatomy*, those little sockets in the jaws wherein the teeth are set.

The alveoli are lined with a membrane of exquisite sense, which seems to be nervous, and is wrapt about the roots of each tooth; from whence, and from the nerve, proceeds that pain call'd *odontalgia*, or tooth-ach. Of these alveoli there are usually 16 in each jaw.

ALVEOLI is more especially used, among *Naturalists*, for those waxen cells in the combs of bees, wherein their honey is deposited.

ALVEOLUS, *NAUTILUS Orthocera* of the Linnæan system, in *Natural History*, the name of a marine body, found frequently fossile, sometimes lodged in the cavity at the end of the *belemnite*, and sometimes loose; and in this last case, often so large, that we cannot suppose any *belemnite* ever to have existed so large as to have been able to contain it. We do not meet with these at this day in their recent state, but what we find of them fossile are ever large at one end, and tapering to a point at the other, and are compos'd of several hemispheric cells, like so many bee-hives jointed into one another, and having a *siphunculus*, or pipe of communication, like that in the thick *nautilus*. These are sometimes found perfect and whole, but much more frequently truncated, or wanting a part of their smaller end. Klein.

ALVERD, in *Geography*, a town of Persia, in the province of Taberistan, 20 leagues south-south-west of Ferabad.

ALVERNO, a mountain of Italy, in the duchy of Tuscany, 12 miles south of Borgo San Sepulchro.

ALVEROIA, a small town of Portugal, in Estremadura, containing within a district of one parish, about 400 houses, two leagues from Lisbon.

ALVISEN, in *Botany*, a name used by some for the *plantain*, or *J. altissimu*.

ALVEUS properly denotes a channel.

Alveus is applied, by some *Anatomists*, to the tunnel cut by the urine from the *vesicula seminis* to the *urethra*.

Alveus is also used in *Anatomy*, to denote a small socket, or hole, made out of the trunk of a bone, by boring or cutting it hollow.

Such was that wherein Romulus and Remus are said to have been exposed.

ALVIDOIA, in *Geography*, a small place of Naples, in Calabria Citeriore, 12 miles north-east of Crotone.

ALVIDUCA, a name call'd *Alviduca Libera*, openers of the belly, in the *MATERIA Medica*, a term used by some writers for LAXATIVE or purgative medicines.

ALVIGNANO, in *Geography*, a town of Naples, in the country of Lavona, 12 miles east of Capua.

ALVITO, a town of Naples, in the country of Lavona, six miles east of Sora.

ALVITIO is also a small town of Portugal, in the province of Alentejo, containing about 2000 inhabitants, and a barony.

ALULA *æthæ fœu spuma*, bastard or spurious wing, in *Ornithology*, is a kind of appendage to the true and principal wing, placed near its outer extremity, at the base of the primary quill-feathers, and consists of from three to five small feathers of the quill kind.

ALUM, ores of, in *Mineralogy*. Under this head we include all those minerals which either contain alum ready formed, or are capable of yielding this salt by the process of manufacture. They may be conveniently divided into three families. 1. The saline, all the species of which are almost wholly soluble in water; 2. The earthy-saline, in which the soluble particles are diffused through a large proportion of earth; 3. The earthy, which containing no alum but only the materials of it, are insoluble and destitute of that sweetish astringent taste, which is characteristic of the two former.

I. Family—**SALINE**. Taste aluminous, almost wholly soluble in water.

Species 1. Capillary alum.—*Vitriolum halotrichum*, Werner.—*Haarfaltz*, Germ.—*Termes timfo*, Hung.

The colour of capillary alum is either pure or yellowish white, passing into subella yellow and grey, upon exposure to the air. It occurs in long very tender capillary crystals accumulated on an earthy base, or amorphous or tooth-shaped. Its external lustre is glossy and generally glimmering, advancing sometimes to the little-shining, in the pure white varieties approaching more or less to the mother of pearl lustre; internally it is shining or little-shining with a glassy lustre. The amorphous has a fine, straight or curved fibrous fracture. It flies, when broken, into indeterminate not particularly sharp fragments. It appears sometimes to contain slender columnar distinct conerctions: is transparent, soft, and very brittle; though each separate crystal has a slight elasticity: sp. grav. according to Scopoli 1.835: has a sweetish astringent taste.

By the analysis of Scopoli, it is soluble in three times its weight of water, and consists of alum and sulphated iron. It is met with at Kremnitz and Chemnitz in Hungary, also in the quick-silver mines of Ydria, where it has generally been mistaken for white vitriol.

Species 2. Plume alum.—*Alumen nativum* f. *plumefum*, Werner.—*Naturlicher* f. *feder aluin*, Germ. *Fjäder aluin*, Sweed.—*Flaeragtig aluin*, Dan. *Alun de plume*, Fr.

The colour of this substance is yellowish or greyish white. Its external lustre is dull, but sometimes glimmering, or even little-shining. It consists of slender irregular hair-shaped fibres, either single or accumulated, and slightly adherent to each other; is seldom stalactitic or amorphous. It is usually opaque, but sometimes also transparent or semitransparent. It excites the same taste on the tongue as the preceding species.

It is found efflorescing on bituminous schistus at Göttwig in Austria, on grey argillite in Carinthia, in clefts and caverns on Stromboli, the Solfatara, the grotto of St. Germano, Mileno, and other places in Italy.

In Klaproth's Essays is an analysis of the native alum of Mileno, from which it appears, that 100 parts yield by simple solution and crystallization 47 of perfect alum, and 29 more by the addition of the necessary quantity of potash, the remainder being sand with a little selenite, and a small trace of oxydated iron.

Species 3. Mountain butter.—*Vitriolum alumen butyraceum*, Werner.—*Bergbutter*, Germ.

Its colour is of a more or less dun isabella yellow, or yellowish brown. It occurs amorphous commonly overlaying the surface of aluminous schistus in lumps or clots. Internally it is shining, with a waxy lustre. At first it is very soft, but by exposure to the air it becomes of a middle consistence, between crumbly and compacted, and is then of a strait shivery fracture. Its fragments are indeterminate, blunt. Its distinct concretions are small and fine granular. It is transparent on the edges, and slightly elastic; feels somewhat unctuous, and leaves on the tongue an acerbly sweetish astringent taste.

It occurs in many places where the aluminous schistus is plentiful, and exposed to the air, as at Muskaw in the Oberlausitz: is also found in Siberia.

It has not yet been analysed, but probably differs from the preceding, in containing a larger proportion of clay and iron ochre.

II. Family. EARTHY-SALINE. Taste aluminous, very little soluble in water. All the ores that belong to the third family are occasionally found to have undergone a natural change, similar to what is produced in them by art at the alum manufactories; in consequence of which they often yield, by lixiviation, a variable proportion of alum, and exhibit the sweetish astringent taste peculiar to this salt. 1. Upon the purely sulphureous ores or alum-stone with its varieties, this alteration seems to take place by the action of subterranean fire: alum is also probably formed in mere earthy compounds of silice and alumine, that contain no sulphur when they overlie heated sulphureous strata, by which they are first cracked and then penetrated with sulphureous acid vapours. Examples of both these occur in Italy at La Tolfa, not far from Civita Vecchia, and the Solfatara in the Neapolitan dominions; from 100 parts of which Bergman obtained by mere lixiviation eight parts of perfect alum. 2. The well known property of pyritous and pyrito-bituminous matters to heat, and afford vitriolic salts by the combined action of air and moisture, may also be traced, though in a slighter degree, in the aluminous ores of this description; hence it is that the upper strata of the softer aluminous schistus, of the alum earth, and the sulphureous peats are occasionally impregnated with alum. The marshy black soil of Arragon, that yields pure alum by lixiviation (Bowles's Spain, p. 388.), appears to be of this kind; also the aluminous turf of Helsingborg in Scania

(Bergm. Ess. vol. i. 353.); and a vein of black earth in the Shetland islands, containing alum and sulphated iron. Alum is also extracted from fossil wood in Hesse, (Vogel. p. 322.) Springs in the neighbourhood of these strata sometimes hold a little alum in solution, as those near Halle (Chym. Ann. 1788. p. 224.)

Family III. EARTHY—no aluminous taste—not soluble in water.

Species 4. Alum-stone. *Argilla aluminaris Tolensis*, Wern. *Alumen lapid. calcar. mineralizat.* Wall.—*Alaunstein*, *alaunkalchstein*, Germ.—*Alunsten*, Sweed. *Alunrig steenleer*, Dan.—*Pierre alumineuse de la Tolfa*, *Pierre calcaire alumineuse*, Fr.—*Pietra calcinosa aluminosa*, Ital.

Alum-stone is greyish or yellowish white, isabella yellow, or light smoky grey; amorphous. Its internal lustre is dull, seldom glimmering. Its fracture uneven, splintery. Fragments indeterminately sharp-cornered. It has distinct conchoidal concretions, which might be mistaken for a fine schistose texture. Is slightly transparent at the edges. Is half-hard passing into hard. Brittle, insipid, feels meagre; and adheres slightly to the tongue.

Its sp. grav. according to Kirwan, is 2.424. It has an earthy smell, and when projected on a red hot iron it hisses and gives out a black smoky, a slight sulphureous smell, and the residue acquires a reddish colour. According to Monnet's analysis, it consists of sulphur and clay, in nearly equal proportions, together with a little iron and potash. Bergman found it to contain about 43 sulphur and inflammable matter, 35 alumine, and 22 silice.

It is found in masses and veins running through argillaceous rocks at La Tolfa, in the states of the church, and in the ore from which the Roman alum is prepared. A volcanic origin has been generally attributed to it, but apparently without reason, as the veins of La Tolfa have been traced into the Apennines. It was formerly supposed to be mostly calcareous, as is evident from the synonyms quoted above. La Methrie (Theorie de la Terre, vol. ii. p. 215.) has hazarded an opinion that it is principally alum superaturated with alumine, and therefore earthy and insoluble. This is a notion which derives high probability from the recent analysis of this ore, by Vauquelin (An. de Chem. vol. xxii. p. 275.) who obtained from it

Alumine	-	-	43.92
Sulphuric acid			25.
Potash	-	-	3.08
Water	-	-	4.
Silice	-	-	24.

100.00

A similar kind of ore has been discovered in rocks near Poliniere in Brittany.

Species 5. Alum-slate. *Aluminous schistus*, *alaunschiefer*, Germ.—*Alun skifer*, Sweed.—*Ardoise alumineuse*, Fr.—*Lavagna aluminosa*, Ital.—*Timsó pala*, Hung. *Kwaffzowoi schifer*, Russ.

Of this there are two varieties.

Var. 1. Common alum-slate. *Gemeiner alaunschiefer*, Germ.—*Argilla aluminaris schistosa vulgaris*, Werner.

Its colour is bluish black, sometimes greyish black. Amorphous, or in concentric balls imbedded in the strata. Its internal lustre is glimmering, or dull. Fracture strait or curved flaty. It flies when broken into broad shivers, or trapezoidal fragments. Gives a grey streak; feels rather smooth but meagre. Is soft, brittle, and but little elastic.

Var. 2. Shining alum-slate.—*Glanzender alaunschiefer*, Germ.—*Argilla aluminaris schistosa nitida*, Werner.

It is of a bluish black colour, generally passing into the iron black—occurs amorphous, in large strata. The luster of its parallel fracture is shining or even brightly shining, with a lustre between common and semi-metallic: that of its cross fracture is dull, or at most glimmering. Fracture thick and curved slaty, seldom thin slaty. Its fragments therefore are sometimes thick and sometimes thin shivery. It feels smooth; is half hard; brittle; and but little elastic.

Both varieties are found in Norway, at Whitby in England, in Sweden, in Saxony, and various other provinces in Germany. The alum of Great Britain and the north of Europe is almost entirely made of it, for which use the second variety is said to be the best adapted. It commonly occurs in the neighbourhood of coal, and seems to differ in no respect from the bituminous shale impregnated with pyrites.

Species 6. Alum-earth — *Pyritaceous clay, alun erde* Germ.—*Argilla aluminaria bituminosa*, Werner. *Alunjord*, Sweed.—*Terre alumineuse*, Fr.—*Timfös föld*, Hung.

It has a light or dark blackish brown, brownish black, or blackish grey colour. Occurs in large strata of earthy or irregularly slaty masses. It is generally dull, but when containing scattered particles of mica, becomes occasionally glimmering. Its fracture is between compact earthy and imperfectly slaty. Its fragments are partly flaky and partly irregularly blunt cornered. Its streak has a feeble lustre. It is very soft, and may be rubbed to powder between the fingers; is brittle, and of very little elasticity.

When placed among burning coals, it generally blazes a little; and when moistened and exposed to the air in large quantities, it heats and not unfrequently inflames. From 100 parts of it, after torrefaction, Klapproth obtained 10 alum, 7.25 sulphated iron, 2.25 sulphated lime, and 1 sulphated magnesia.

It is found in alluvial and secondary strata, and is intimately connected with bituminous wood, alum slate, and coal shale. Is used in the manufacture of alum in Germany.

Lenz, Versuch der Mineralien.—Widenman, handbuch der Mineralogie.—Lametherie, Theorie de la terre.—Bergman's Essays.—Klapproth's analytical Essays.—Kirwan's Mineralogy.

ALUM, *Manufacture of.*

In order to appreciate rightly the peculiar advantages or disadvantages of the several methods of manufacturing this salt, it will be necessary to enter into a previous enquiry concerning the nature and proportions of its elements, and the different chemical varieties of alum, which have hitherto been confounded under the same name.

§ 1. *Analysis and Composition of Alum.*

The identity of the earthy base of alum with pure clay, was first ascertained by Geoffroy and Hellot, and the successive experiments of Pott, Margraaf, and Macquer, upon the same subject, put an end to the controversy concerning the nature of aluminous earth, which has ever since been universally received as the same with pure clay or alumine, according to the reformed nomenclature. The acid in alum has always been considered as the sulphuric, and the only question among chemists on this head is whether the acid is necessarily in excess. A solution of alum reddens litmus paper, and exhibits other properties of an uncombined acid; but on the other hand it is contended by Morveau, that crystallization and edulcoration would effectually

separate any such excess, and therefore that the degree of vegetable colour is not an unequal proof of superabundant acid. Removing the consideration of this and similar crises till we come to treat of the action of acids, it is sufficient to observe here, as indeed Berzelius has already shown, that the acid exists in alum with its very different degrees of affinity. By the action of most strong and volatile acids, all the fixed acids and bases of the alum are destroyed, sulphat of soda is produced, and a white earthy precipitate takes place, consisting of the alum deprived of a small portion of its acid, but still retaining the greater part, as may be proved by the farther decomposition of it by a caustic alkali; and to this superabundant or slightly combined acid, is entirely owing the taste, the solubility, and most of the other external characters of the salt.

The component parts of alum, according to Bergman, are 38 sulphuric acid, 18 alumina, and 34 water of crystallization. Observing, however, that those solutions, which contained a great excess of sulphuric acid could not be brought to crystallization by the addition of lime, soda or barytes; but only by means of potash or ammonia; finding also sulphat of potash in many species of alum, he appears often induced to believe that the alum of commerce is a triple salt consisting of sulphuric acid, alumine and potash. The subject remained in this state of uncertainty till it came under the notice of the most eminent analyst of modern times, the accurate and indefatigable Vauquelin, to whose admirable Memoir on the combinations of alumine with sulphuric acid, we are indebted for the final illustration of a question of equal importance to the chemist and manufacturer.

In order to ascertain the component parts of alum, and to determine the necessity and peculiar agency of alkalis in its preparation, he dissolved in pure sulphuric acid some alumine equally pure; the solution was evaporated several times to dryness to drive off the excess of acid, and the dry and pulverulent residue being then re-dissolved in water, was brought by evaporation to various states of specific gravity for the purpose of crystallization; but, notwithstanding every precaution, a soft magma, consisting of crystalline flakes, was all that could be procured. The solution, which had thus constantly refused of itself to afford crystallized alum, began to deposit some immediately on the addition of a few drops of potash, and by gradually adding the alkali, drop by drop as the deposition of alum ceased, the whole was converted into pure alum, without the smallest mixture of sulphated potash.

Another portion of the same pure aluminous sulphat was mixed with carbonated soda, but without obtaining any crystals. Nor were lime or barytes more efficacious.

Hence it appears plainly that the use of potash is not merely to engage the excess of acid, otherwise soda, barytes and lime, ought to have produced the same effect. Again, if potash and ammonia unite only to the superabundant acid, the sulphats of potash and ammonia should occasion no change in the pure aluminous sulphat; but, on the contrary, if they form an essential constituent part of alum, then they should produce the same effects when combined with sulphuric acid, as when pure. To ascertain this, a solution of sulphated alumine was mixed with a few drops of sulphat of potash, the immediate effect of which was the production of octahedral crystals of alum. Sulphat of ammonia produced the same result.

It might still, perhaps, be objected that the action of these salts, as they are remarkably greedy of sulphuric acid, determined the crystallization of the alum, by the simple absorption

tion of superfluous acid. In order to determine this, some uncrystallizable aluminous sulphat was mixed with acedulous sulphat of potash, and afforded as great an abundance of alum as when the neutral sulphat of potash was made use of. Hence, no doubt can remain concerning the influence and particular mode of action exercised by potash and ammonia in the manufacture of alum.

The experiments of Bergman and of several other chemists ascertained, that when a solution of common alum is boiled with a quantity of pure alumine, this last combines with it, and forms a peculiar salt insoluble in water, known by the name of neutral aluminous sulphat, or alum saturated with its own earth. To this fact was added another of equal importance, by Vauquelin, namely, that the earthy salt thus precipitated retains its potash or ammonia, for by digestion in dilute sulphuric acid, it is dissolved, and affords octahedral crystals of alum; it even appears from the memoir of this philosopher quoted above, that the presence of one of the two alkalis is necessary to the formation of this neutralized alum. To an uncrystallizable solution of sulphated alumine perfectly free from alkali, he added some pure alumine, and found that a part of it was dissolved to the complete saturation of the acid, but that no precipitation took place; having then added a few drops of sulphat of potash, a precipitate was deposited shortly after, possessing all the properties of the foregoing saturated alum. Hence is established the necessity of sulphated potash or ammonia, to enable alum, by combining with a larger proportion of its base, to pass to the earthy state.

The alum of commerce always contains sulphat of potash either alone or mixed with sulphated ammonia, and as it is often of consequence to the manufacturer to know the absolute and relative proportions of these salts, the following method of analysis may be had recourse to. First, let a small piece of the alum be reduced to powder, and mingled with a solution of caustic potash in sufficient quantity to decompose it entirely: if then, upon gently heating, it gives out an ammoniacal odour, as is generally the case, this indicates the presence of sulphated ammonia. Having obtained this indication, let two or three hundred grains of the alum be dissolved in distilled water and put into a tubulated retort, and then add quick-lime, equal in weight to the salt: by making this mixture boil for about twenty minutes, the whole of the ammonia will be expelled, and may be condensed by cold water in the receiver, or a Woulfe's apparatus: this ammoniacal liquor, being then carefully saturated with sulphuric acid and crystallized, will shew the quantity of sulphated ammonia. The residue in the retort being mixed with warm water and filtered, a clear liquor will be obtained, containing the sulphat of potash, with some selenite; this latter will be precipitated by boiling and evaporation, and the remaining fluid will then deposit the sulphat of potash in a crystalline form. When the previous assay does not indicate the presence of ammonia, the alum is to be decomposed by caustic ammonia, the precipitate is to be well washed, and the liquors being added together, are to be gently evaporated to dryness; the salt thus obtained is to be heated in a crucible till it ceases to exhale white vapours of ammoniacal sulphat, and the residue is sulphat of potash.

§ 2. Manufacture of Alum from the saline-earthly ores.

The only place where this kind of ore is found in sufficient abundance to be worth working, is at the Solfatara, a few miles from Naples. The Solfatara, called by the ancients *Forum Vulcani, Campi Leucogei*, is a small plain, at the top of a hill, covered with a white soil, and exhaling sulphureous

vapours which, during the night, emit a pale blue lambent light: the ground, even at the surface, is considerably warm, proceeding, no doubt, from subterranean fire. It has continued in nearly the same state from the age of Pliny to the present time, and is celebrated by this author in his *Natural History* (lib. xxxv. ch. 50.) for its sulphur, but not for its alum, as the Abbé Mazeas affirms. On the contrary, by his omission of the *Campi Leucogei*, when mentioning the various places from which alum was then procured, it is plain that the establishment of the alum works of the Solfatara is of more recent origin. The white clayey soil of this plain, being constantly penetrated by sulphureous vapours, and the exhalations during the night being for the most part mixed with the dew, and thus returned upon the surface, cause it to be covered with a light saline efflorescence. This, together with the earth to which it adheres, is daily collected and distributed into leaden cauldrons, so as to fill about two-thirds of their capacity; water is then added, till it stands about three or four inches above the surface of the clay, and this, in a few hours, by the assistance of the natural heat of the ground in which the cauldrons are set almost up to the brim, extracts the alum dissolved through the clay, and deposits it in rough crystals on its surface. These crystals being taken out and washed in the mother liquor, are put with fresh water into other boilers, and again dissolved as before, by the natural heat of the ground; the solution is then run through a filter into large wooden coolers, and in a day or two affords a large quantity of pure colourless crystals. Hence it appears that the alum exists ready formed in the earth of the Solfatara, and the whole of the manufacturing part is reduced merely to lixiviation and purification. The proportion of salt must necessarily be very variable, those parts that are exposed to the rain, and that lie above the general level, will contain the least. A specimen that was analyzed by Bergman yielded eight per cent. of alum. The Abbé Mazeas, from six pounds of the earth, procured, by lixiviation, two pounds and a half of crystals, or about 41 per cent. The alum itself has not yet been analyzed; it seems probable, however, that its alkaline part is entirely potash.

§ 3. Manufacture of Alum from alum-stone.

It is at La Tolfa, not far from Civita Vecchia, in the Roman state, that the manufacture of alum from this species of ore is principally carried on. All the alum known in commerce by the name of Roman alum is thus prepared, as well as the Levant or Smyrna alum.

The ore of La Tolfa forms veins of considerable hardness, which are separated by means of blasting from the rest of the rock; the pieces thus obtained are brought to the calcining oven, which is merely a hole dug in a rising ground, four or five feet in diameter, and from five to six in depth, with a lateral gallery, communicating with the open air, and the bottom of the furnace. The bottom being covered with faggots of brush-wood, the pieces of ore are skilfully laid over them, so as to form a kind of hollow vault, between the interstices of which is an ample passage for the smoke. As soon as the fire is kindled and the flame begins to appear between the stones, a workman is at hand to regulate the combustion, that it may be neither too great nor too feeble; in the course of from three to five hours the smoke begins to decrease, and the fire burns brightly; this is allowed to go on till the smell of burning sulphur begins to be prevalent, which is a sign that the ore is sufficiently roasted. The fire is now raked out, and the stones are left to cool. The sign of this first process being well conducted, is, that the

the ore has now acquired the sweetish astringent taste of alum.

The second process begins by piling the calcined stones in long beds, on a sloping floor, the lower side of which is terminated by a ditch of water, extending along its whole length: from this ditch the beds are frequently sprinkled, and the water draining from them retires again into the reservoir. In about a fortnight the stones begin to crack and break down, and are at length, in forty days, more or less, overspread with a reddish efflorescence, and reduced into a kind of paste. A leaden boiler is now half filled with water, and when hot, fresh portions of the prepared ore are continually stirred in till a solution of sufficient strength is procured; the liquor as yet turbid is drawn off into another boiler, where it is subjected to a very gentle evaporation, at the same time that it becomes clear by the deposition of its earth. Having arrived at the point of crystallization, it is transferred by means of a pipe into a square wooden vessel, eight feet high by five wide, so constructed as to be readily taken to pieces; after remaining here for a few days, the mother water is poured out, to be boiled again with fresh alum ore in the first cauldron, and the crystals, when dried, are ready for sale.

From this account of the process, by an eye-witness (the Abbé Mazeas), it would appear that no potash or ammonia is added to the lixivium; it follows, therefore, that one or both these alkalies must be found in the ore, and this is actually the case, according to the analysis, by Vauquelin, already quoted in the preceding article.

The nature of this ore has been long misunderstood, as well as the rationale of its manufacture, and the analyses of it undertaken by Bergman and Monnet have only served to perpetuate the error. Both these chemists found a large proportion of sulphur in it, while Vauquelin finds only sulphuric acid; this apparent contradiction, however, may easily be reconciled, by considering that the ore contains carbonaceous matter enough to blacken it, and to give out a light flame when powdered and spread on a hot iron; hence, if the analysis of Bergman and Monnet was begun by distillation in a close retort, as it probably was, the decomposition of the acid and production of sulphur is readily accounted for. Admitting then the proportions of this ore, as ascertained by Vauquelin, to be sufficiently correct, *viz.* alumine 43.92; sulphuric acid 25.; potash .00; water 4.; filix 24.; it ought to be considered a native roasted alum, with excess of earth and deficiency of alkali, intimately mixed with filix and inflammable matter. The action of the fire in the roasting is to drive off the inflammable matter, and from the sweet aluminous taste which is thus communicated to the ore, notwithstanding the loss by volatilization of part of its sulphuric acid, it seems also to effect a separation between the alum and the excess of earth. The subsequent cracking and breaking down upon exposure to the air and moisture, is probably caused by the absorption of water of crystallization.

But though a considerable proportion of alum is thus obtained, without the addition of potash, it may be worth while to enquire whether a larger quantity might not be procured by a trifling additional expence. The alum of La Tolfa contains by Vauquelin's analysis

49. sulphat of alumine

7. sulphat of potash

44. water

100

And according to Kirwan, (on the proportion of real acid,

50. 170. 1. 170 parts of potash are composed of 54.5 potash and 115.5 sulphuric acid; and 100 parts alum of 63.75 alumine and 36.25 sulphuric acid. Therefore, the 25 parts sulphuric acid in the ore require 37.1 alumine and 4.5 potash. But the ore only contains at most 2.5 potash, so that no more than 16 parts of sulphuric acid will be converted into alum; the remaining 9, will be in combination with alumine in the mother water; and this agrees with the observation of Mazeas, who speaks of an extremely small efflorescent salt being left in the pond at the bottom of the vessel. The 6 parts of acid that are thus left, may, however, be converted into alum, by the addition of 1.42 potash, or about 3. sulphat of potash.

From these data the ore of La Tolfa ought to yield by the present method of working it 78.5 per cent. of crystallized alum; or by the addition of 3 per cent. sulphat of potash, 125 per cent. of crystallized alum. In this calculation, however, no allowance has been made for the sulphuric acid volatilized in the roasting, and that portion of the salt which cannot be extracted by lixiviation in the large way from the prepared ore; both these circumstances will, no doubt, diminish considerably the produce of alum, but the proportions must vary much according to the skill and attention of the manufacturer.

§ 4. *Manufacture of Alum from the Pyrites ore.*

All the European alum, except what is manufactured at Solfatara and La Tolfa, as described in the preceding sections, is prepared from the alum slate or alum earth, and these containing only the remote principles of this salt, a much more complicated process is required than where the alum exists ready formed in the ore.

The only necessary ingredients in the pyrito-aluminous ores are clay, and pyrites, or sulphuret of iron. Besides these, however, there is generally a variable proportion of bitumen, lime, and magnesia. The best alum is procured from the black micaceous species in which the pyrites is thoroughly disseminated through the mass in such small particles as to be indistinguishable from the rest. Such, however, as contains even large nodules of pyrites, is very capable of being manufactured, much of the Swedish ore being of this kind.

The first thing to be done is to dispose the pyrites to decompose into sulphat of iron, (green vitriol), and this at the manufacture of Flone, in the department of Ourte, in France, is brought about by simple exposure of the ore to the action of air and moisture; this ore, however, is of the very best kind, moderately soft, free from bitumen, and with the ingredients well mixed, and even with these advantages, the process requires three years. The more stony and bituminous kinds, such as those of England and Sweden, are subjected to a previous roasting. For this purpose a layer of billet wood or coals is placed on a floor of rammed clay, and set fire to; upon this are thrown by degrees moderately small pieces of unburnt ore, till a stratum is formed, about half a foot in thickness; these presently take fire, by their own bitumen, and are then covered with a stratum of nearly the same thickness of ore that has been already roasted and lixiviated; to this succeeds a layer of unburnt ore, and thus alternate layers, eight or nine in number, are gradually added, till the pile is completed. Care is taken by protecting it from heavy rains, and covering those parts exposed to the wind, to keep up the heat of a moderate equable degree till the bitumen being consumed, the fire goes out of itself. If the ore is now examined it will be found to be of a reddish colour, containing a small quantity of sulphated iron and alumine,

alumine, and in some of the Swedish manufactories is accordingly lixiviated without any further preparation. In the English and German alum-works, however, the roasted ore is watered lightly, and exposed for a greater or less time to the action of the air, by which the sulphur of the pyrites is more completely oxygenated, and in consequence a larger proportion of alum is obtained. In the manufactory of Flone, already mentioned, the singularly judicious practice is observed, of lightly roasting the ore *after* spontaneous efflorescence.

The acid being thus developed, and in part united to the alumine, the process of lixiviation takes place. For this purpose the ore is thrown into large reservoirs of stone or wood, furnished with a false bottom, to serve the purpose of a filter; water is then poured on, and remains for twenty-four hours or more, in which time it dissolves the greater part of the salts; this being let out by means of a cock fixed nearly level with the bottom of the reservoir, a fresh quantity of water is added, in order to exhaust the ore of all soluble matter. The second lixivium is weaker than the first, but is afterwards concentrated by being used instead of water for the first lixiviation of the next parcel of ore. The water with which the lixiviation is performed is cold, and it might seem at first to be an obvious improvement to make use of boiling water; the experiment has, however, been tried without the desired result, the increased strength of the lixivium not being adequate to the time and expence of fuel. Where the lixivium is kept in large reservoirs, exposed to the weather, much depends on the dryness of the season, a few heavy rains weakening the liquor to such a degree, as to add considerably to the cost of boiling down. In Sweden and the northern countries, various attempts have been made to concentrate the liquor by freezing, but the success has not answered expectation; for a saturated solution of alum congeals at nearly the same temperature with common water.

The process of boiling down succeeds to that of lixiviation, and is always performed in leaden boilers, copper being for the most part too dear a material, and iron being attended with the inconvenience of decomposing alum. The lixivium is mixed in the boiler with the mother-water of a preceding boiling, and this is done either by filling the boiler with a mixture of mother-water and liquor, and supplying the loss by evaporation with fresh liquor, or by filling the boiler at first with liquor, and supplying the waste by the above mixture. The evaporation lasts from twenty-four to forty-eight hours, according to the proportion of mother-water. In Saxony, where the proportion of mother-water is large, and the lixivium is brought to a high degree of concentration, the boiling continues without interruption for eight days. At the end of these respective periods the specific gravity of the liquor is assayed by a leaden hydrometer, or, with greater exactness, by filling a bottle of known size with the liquor, and then, by weighing it, to ascertain the comparative specific gravity between it and water. This being done, an alkaline solution is added, and the first crystallization is brought about. In the Saxon manufactories, where the liquor is uncommonly concentrated, as soon as the evaporation is finished the contents of the boiler are let out into a reservoir, where they are strongly agitated for half an hour, during which time a certain proportion of soap-makers lees and putrefied urine is added; and the liquor being then let into another vat, the crystals of alum begin immediately to be deposited; at the end of a few days the mother-water is laded out, and the crystals are collected and washed. The method followed in the English works differs somewhat from the Saxon practice; in these, when the li-

quor appears by the hydrometer to be sufficiently evaporated, the fire is withdrawn from the boiler, and a stream of impure alkaline lixivium, from kelp and soap-maker's ashes, is let into the liquor already in the boiler; at the same time the cock at the bottom of the boiler is turned, so as to allow the contents of it to flow into a reservoir, by which management the two liquors are speedily and effectually mixed. It remains in this reservoir for three hours, during which it deposits an earthy and ferruginous sediment by the action of the alkali, and becomes of a clearer colour; it is now transferred into another large vat, and has its specific gravity again taken, according to which a greater or less quantity of putrid urine is added to lower it to the proper standard; being then agitated briskly for a quarter of an hour it is left at rest, and in the course of five days the crystals are deposited. In some French and Swedish manufactories the liquor, after being boiled down, is merely agitated for some time without adding any alkali, and then passed into the crystallizing tub. The rough alum being washed in order to separate it from the green vitriol which is deposited along with it, is put into a small pan with a little water, and when dissolved and boiling hot, some bullocks blood, or other similar substance, is usually added for the purpose of clarification: when this is effected, the liquor is run into casks, where the crystals are deposited in large masses; after ten or twelve days the mother-water is poured out, and the salt, being then dried, is ready for sale. By keeping in mind the analysis and experiments in § 1. of this article, it is easy to understand the *raisonale* of the manufacture, as well as the advantages and faults of each process. As soon as the pyrites is converted into sulphat of iron, whether by roasting or by spontaneous efflorescence, it begins to be gradually decomposed by the lime and magnesia that may happen to be in the ore, therefore the less there is of these two earths, the greater *ceteris paribus* will be the produce of alum. Clay is incapable of decomposing sulphat of iron; but by exposure to the air, especially when assisted by the action of heat, the metal becomes highly oxygenated, and is no longer combinable with the acid which then unites with the clay, as being the substance in the ore of next affinity. Hence arises the advantage of the practice at Flone of roasting the ore *after* the formation of the sulphat of iron. We have already seen in § 1. that sulphat of alumine, even with excess of earth, is soluble in water, but that it becomes insoluble on the addition of potash; on this account, therefore, coal, which contains little or no potash, is a far preferable fuel for roasting the ore than wood which yields a great deal, as all the alum, thus rendered incapable of extraction by lixiviation, is lost. The bitumen in the ores, however, diminishes the consumption of wood, and the lixivium consists of the sulphats of iron, of alumine, of lime, and magnesia. By long boiling and evaporation the iron becomes so far oxygenated, that the addition of an alkali will decompose the sulphat of iron, rather than the sulphat of alumine. If the alkali is ever so little in excess, the aluminous sulphat will be the next decomposed; this is therefore to be carefully avoided. Nor is the kind of alkali a matter of indifference, for since only ammonia and potash are capable of forming crystallizable alum, it would appear that the use of soda in the English manufactories might be advantageously superseded by potash; indeed the chief use of the kelp seems to consist in the potash which this impure soda contains. The principal thing to be attended to in the boiling down is to bring the liquor to such a degree of concentration, that the alum shall be deposited with as little as possible of the other salts.

The mother-water, when thrown away, holds in solution sulphats of potash or soda, and sulphat of magnesia, the extraction of which was made the subject of one of Lord Dundonald's

donald's patents, but we believe the profits have not yet answered the expence.

The nature of alum, and consequently the true theory of its manufacture, has only been known since the publication of Vauquelin's excellent memoir on the subject in the *Annales de Chimie*; it is not surprising, therefore, that all the long-established processes should be more or less defective. Perhaps the following method would be found to combine more advantages, and be subject to fewer inconveniences than any which has been hitherto put into practice. The ore should be first slightly roasted with coal to drive off the bitumen, and forward the decomposition of the pyrites, which may be further accelerated by moderate waterings, and exposure of fresh surfaces to the action of the air. When saline efflorescences appear at the top of the heaps of ore, and their interior, upon being dug into, also seems penetrated with white saline particles, let the ore be disposed in alternate strata with coal, and again roasted, so as to decompose as much as possible of the sulphated iron, and combine the acid with the clay; the slower and more gently this process can be carried on, the more completely will its object be answered. The lixivium obtained from this roasted ore will consist chiefly of sulphated alumine, nearly saturated with earth, but, on account of the absence of potash, perfectly soluble. By the subsequent boiling and agitation, part of the sulphat of iron would be decomposed, and this oxydation of the iron might perhaps be still further effected, by pouring the liquor through heaps of faggots, exposed to the wind, as is done in the *houses of graduation* for brine in France and Germany. The ferruginous and selenitic sediments being now allowed to settle, the clear liquor ought to be transferred into another reservoir, and there mixed with a hot solution of acidulous sulphat of potash, such as remains after the distillation of aquafortis from nitre and sulphuric acid; crystals will be immediately deposited of an alum much purer than common; and these, by a further clarification, may be made equal to that of La Tolfa.

§ 5. *Manufacture of Alum by Chaptal's process.*

An attempt had been made, but with little success, at the manufactory of Javelle near Paris, to prepare alum by the direct combination of its constituent principles; but it was not till the admirable and decisive experiments, in the large way, by Chaptal, published by him in the genuine spirit of philosophical liberality, that the practicability of this method could be said to be established. According to the modern way of preparing sulphuric acid, the requisite proportions of sulphur and nitre being mixed together, are brought to combustion in a closed chamber lined with lead; the sulphur is thus acidified and converted into vapour, which by degrees unites with the water that overspreads the floor of the chamber, and forms a liquid, diluted, sulphuric acid. A similar process was instituted by Chaptal, only substituting dried clay for the water; the result of which was so favourable, that a large manufactory on the same plan was set on foot; which, having continued in full activity for several years, and producing alum only inferior to that of La Tolfa, merits a particular description.

The chamber in which the combustion is performed is 91 feet long, 48 feet wide, and 31 feet in height to the pitch of the roof. The walls are of common masonry, lined with a moderately thick coating of white plaster; the floor is a pavement of bricks, set in a mortar, composed of baked and unbaked clay; and this first pavement is covered by a second, in which the bricks are made to overlie the joints of the lower ones, and are themselves firmly connected to each other by a cement, composed of equal parts of pitch, tur-

pentine, and wax, made boiling hot, and poured between the joints instead of mortar. The roof is of wood, and the beams are set at much less distance than common; they are also channelled with deep longitudinal grooves, for the purpose of receiving the planks that fill up the space between the beams; so that the whole of this great area of carpentry does not present a single nail. The chamber thus constructed was covered on the sides and top with a layer of the cement just mentioned, applied as hot as possible so as to penetrate into all the pores of the wood and plaster; three more successive layers were then laid on, and the last was polished so as to present an uniform, even, solid face. In order to prevent the wood-work of the ceiling from warping, it was covered on the outside with a thick coating of cement, and a light roof of tiles was laid over the whole. By substituting this cement for a lining of lead, a vast saving was effected in the first expence; and it has been found, by long experience, to require much fewer repairs than even lead itself.

The clay ought to be of the purest kind, such as pipe-clay; that it may contain neither lime nor magnesia, and as little as possible of iron. It is to be tempered with water, and made into balls five or six inches in diameter; these being dried in the sun, are afterwards calcined in a furnace; the first effect of the heat is to blacken them, but soon after they become red hot, the carbonaceous matter which causes the blackness is burnt out. Being thus withdrawn from the fire and cooled, they are broken down into small fragments, and spread on the floor of the chamber. In this state they are exposed to the vapour of sulphuric acid from the combustion of sulphur and nitre; and in a few days the pieces are observed to crack and open, and to be penetrated with slender saline crystals. The earth being at length covered with efflorescences, it is removed from the chamber, and exposed to the air under shelter of a shed, that the acid may obtain its highest degree of oxygenation, and become thoroughly united with the earth. It is now lixiviated, and the liquor contains, in solution, little else than acidulous sulphat of alumine: this being boiled down to the proper consistence, a solution of sulphated potash (being the residue in the pots of combustion from which the sulphuric acid was produced in the chamber, and consisting of the alkaline base of the nitre combined with some of the sulphuric acid) is poured in, and the liquor being then transferred into a large vat, perfect crystals of alum are shortly deposited, which are afterwards refined in the usual manner.

The advantages of this process are numerous. It may be carried on whenever a supply of proper clay can be had. The space taken up by the works is much less extensive than what is required according to the common methods. The whole manufacture is performed in at most one-third of the time usually necessary. A large quantity of fuel is saved. The extraneous salts in the mother-water are fewer; an important use is made of the residual sulphat of potash; and lastly, the alum itself is much purer, and almost equally well adapted to fix the delicate dyes as that of La Tolfa, the commercial price of which is generally about double that of the English alum.

§ 6. *Brunswick Alum.*

The dilute red colour of the roch alum, and the flesh-coloured efflorescences with which its crystals are covered, being its distinguishing character among the merchants, occasioned two brothers of the name of Gravenhorst to manufacture, some years ago, a spurious imitation of it at Brunswick. We know not whether the manufacture is still carried on or not; but if it is, the public will be benefited by the communication of an easy method of detecting the counterfeit, more especially

especially as the roch alum is the kind used in medicine, and the Brunswick imitation of it contains *arsenic*. The external appearance of the two sorts differs but little. The taste of the Brunswick alum is less styptic than that of the roch alum, it is less soluble in water, and when heated to redness, it loses only 37.5 per cent. of its original weight, while the other loses 50 per cent. The roch alum, when exposed to the blow-pipe, becomes opaque, swells, foams, and is converted into a spongy white mass. The Brunswick alum, on the contrary, swells less, scarcely foams at all, but melts, and becomes of a green colour, exhaling at the same time an arsenical vapour. Again, the precipitate from a solution of roch alum by potash or soda, being mixed with borax, fuses before the blow-pipe into a white or yellowish white; whereas the Brunswick, by the same treatment, affords a violet-coloured globule: and in fact it is nothing more than common alum, containing a little cobalt and arsenic.

§ 7. *Comparison of English, Roman, Levant, and French Alum.*

The Roman alum, manufactured at La Tolfa, is the purest and dearest of all; it is in pieces about the size of a walnut, shewing more or less of its crystalline form, and is opaque, on account of a farinaceous efflorescence with which it is covered. The Levant or roch alum appears in fragments of nearly the same size as the former, but in which the crystalline form is more obscure; it is externally of a dirty rose-colour, and internally exhibits the same tinge, but clearer. Smyrna is the place whence it is usually shipped for Europe; but it was anciently made at Roccha, or Edeffa, in Syria, whence its commercial name roch-alum. The French alum, that is, Chaptal's, described in § 5, is in small, clear, colourless crystals. The English is in large, irregular masses, considerably harder than the others. Equal portions of all these kinds, being exposed in a muffle to a red heat, were weighed after the intumescence was over, and the loss by calcination in the Roman alum was 50 per cent.; in the Levant alum 40 per cent.; in the French alum 57 per cent.; and in the English 47 per cent. Of pure water, at 144° Fahr. Roman alum required 14 times its weight for solution; Levant alum required 12 parts; French alum 13 parts; and English 15 parts.

Equal parts of these four kinds of alum being dissolved separately in water, the same quantity of prussiated lime was added to each solution. That of the English alum became slightly blue at the end of a few minutes, as was also that of the French alum, though the tint was rather lighter; after some time the Roman alum became faintly blue; but the solution of Levant alum was only lightly yellow, the natural colour of the prussiated lime. After two days an inappreciable quantity of blue precipitate was deposited from the English alum, rather less from the Roman and French, and only a few atoms from the Levantine; the three first solutions were of a bluish green tint, but the last was a very dilute yellow.

Equal parts of the four sorts were dissolved separately in pure water, and their earthy base was precipitated by an excess of ammonia. The precipitate from the Roman alum was of a pure dead white; that of the Levantine and French was nearly equal to the Roman; but that of the English was of a just perceptible bluish tint. By calcination in a red heat, they all at first became blackish, and ended with being perfectly white.

Hence is apparent the superiority of the Roman alum, and the inferiority of the English, when used as mordants for the most delicate colours: for other colours, and for the various uses besides to which alum is applied, each kind may

be used indifferently. The English possesses less water of crystallization than the Roman or French; and a given weight of it will go further than the same quantity of any of the rest, as 12 per cent. is to be deducted from the Levantine, on account of the reddish insoluble sediment with which it is contaminated.

§ 8. *Historical notice of the introduction of alum-making into Europe.*

The ancients appear to have been acquainted only with the native plume alum, which they procured from Lapani, and the neighbouring volcanic islands. In the 12th, 13th, and 14th centuries it was manufactured at Edeffa (Roccha) in Syria, in the vicinity of Constantinople, and at Phocæa (Foya nova), not far from Smyrna. Bartholomew Perdis, a Genoese merchant, who had often visited Roccha, discovered, about the year 1459, a vein of alum ore in the island Ichia, and there established the first European manufactory of alum; soon after John de Castro discovered the body of ore at La Tolfa. Establishments were then made at Viterbo, Volaterra, and other places in Italy with such success, as induced Pope Pius II. to prohibit the importation of Oriental alum. In the 16th century this art was introduced into Germany and Spain; and a little before its conclusion the English alum-works at Whitby were instituted by Sir Thomas Chaloner, who had the honour of being personally excommunicated by the reigning pope on this very account. The earliest of the Swedish works dates no higher than 1637. Macquer's *Chymisches wörterbuch* von Leonhardi, art. Alaun. Annales de Chimie, vols. viii. xiv. xxii. xxix. Plinii. Hist. Nat. lib. xxxv. c. 52. Bergman's *Essays*, vol. i. Mémoires de l'Acad. Royale, vol. v. Encyclopedie Method. art. Alum.

ALUM, in *Chemistry*, *Materia Medica*, &c. See SULPHAT of ALUMINE.

ALUMINE.—PURE EARTH OF ALUM.—PURE CLAYEY OR ARGILLACEOUS EARTH. *Alumine*.—*Terre d'alun*.—*Terre argilleuse*, Fr.—*Thon-erde*, Germ.

The word alumine has been adopted, without alteration, from the modern French nomenclature, by the majority of English chemists, as the technical name of pure argillaceous earth, on account of its being generally procured by the decomposition of alum, when required to be in a state of extreme purity.

Next to silex and lime, alumine appears to be the most commonly occurring earth in those stony or earthy masses, of which the globe, as far as we are acquainted with it, is principally composed. It forms the essential, though seldom the greatest part of all kinds of clays, giving to them the property of ductility or plasticity when mixed with water. When in a state of more intimate combination with silex it loses its quality of plasticity, and gives to the minerals in which it enters, the characters of opacity, of hardness inferior to that required for striking fire with steel, of that odour known by mineralogists under the name of earthy, and of that absence of crystalline form which is called amorphous; such are the immense masses of slate and argillaceous schistus that abound in almost all mountainous tracts, the boles, the colorific earths, the toadstones and clay porphyries. Alumine, however, occasionally, though very rarely, enters in large proportion into crystallized minerals, and then in its external characters of hardness, transparency and lustre approaches very nearly to silex: such is the adamantine spar, inferior only in hardness to the diamond, and which contains from 80 to 90 per cent. of alumine: such also is the sapphire, which by the analysis of Klaproth appears to contain no less than 98 per cent. of pure

pure alumine. These, however, which are more properly the mineralogical than chemical characters of alumine, will be treated of more at large in the subsequent mineralogical articles.

Pure alumine, in a state proper for chemical experiment, has hitherto never been found native, and it is only of late that chemists have discovered the method of obtaining this earth sufficiently free from foreign admixture. The method of Bergman and his contemporaries was to decompose a solution of purified crystals of alum by an excess of carbonated potash, or soda, and to wash the earthy precipitate in repeated quantities of distilled water, till it came off perfectly tasteless and pure; a white uniform soft matter was thus obtained, which was supposed to be carbonated alumine, and this by drying in a heat below that of redness, was deprived of its acid and water, and was then esteemed pure alumine. The insufficiency of this method had begun to be suspected for some time, however, particularly from the appearance of sulphurated hydrogen, when alumine thus purified was heated with charcoal, and afterwards moistened with a diluted acid, and the admirable memoir of Vauquelin on alum, (which has already been referred to under that article) not only established the validity of these suspicions, but pointed out the method of avoiding the errors of his predecessors, and thus introduced a very important improvement in the difficult art of chemical analysis. Alum has already been shewn to be a triple compound of alumine, potash and sulphuric acid in excess, and when this excess of acid is taken away, either by the addition of alumine or of an alkali, an insoluble salt is produced differing from alum only in the proportion of its earthy base; now the ease with which a salt is decomposed depends very materially on its solubility, when, therefore, we add gradually to a solution of alum a solution of carbonated alkali, the first effect is to neutralize the excess of acid, and the precipitate consists principally of the insoluble salt just mentioned; a further quantity of alkali, especially if assisted by heat, will effect the decomposition of part of the salt, but in proportion as this takes place the residue becomes mixed with the alumine, and thus is covered from the further action of the alkali. This being the case, it is obvious that no subsequent washings can do more than separate the sulphated potash; and therefore the residue, instead of being pure alumine, contains besides a variable proportion of earthy alum, from which last proceeds the sulphur observable on heating it in a close vessel with charcoal.

The only way by which alum can be made to yield its earth in a state of sufficient purity for delicate chemical experiments, is the following. Take any quantity of Roman alum, and dissolve it in lukewarm distilled water, filter the solution, and set it to crystallize. When by cooling and spontaneous evaporation, a sufficient portion of this purified alum is deposited, take it out and redissolve in cold distilled water; to this solution add liquid caustic ammonia, a white precipitate will be thrown down, and continue the gradual addition of ammonia till no farther precipitation takes place; heat the liquor then nearly to boiling for a few minutes, add more water, and throw the whole on a paper filter; in proportion as the fluid drains off add water, till it passes through quite tasteless. The precipitate, while yet in a pulpy state, is to be removed into a flask, and digested with muriatic acid till it is dissolved. The muriatic solution being then concentrated by very gentle evaporation, will at length deposit crystals of alum, which are to be removed, and this process is to be continued till the liquor ceases to yield any more. Nothing now but pure alumine remains in the solution, the potash and sulphuric acid being got rid of, at the expence of a little of the alu-

mine in the crystals, the liquid is to be evaporated with water, and ammonia fully restored; for the decomposition of the mineral alumine being then added, the process of filtration and calcination is to be gone through as before, and the result will be pure alumine. On account of the length of this method, and the possibility that even after all a very minute proportion of sulphurated potash may remain, it has been the practice of Berzelius, Berthollet and Berthollet to procure their pure alumine from the finest of the natural clays, which contain only clay and alumine, by digestion in muriatic acid and decomposition of the filtrate by ammonia.

Pure alumine, obtained by the above methods, is opaque, of a fawn white colour, a touch more white in the sun, and has no taste, even when heated upon, or melted with warm water, nor any property; when placed upon the tongue, however, it absorbs all the moisture with which it finds itself in contact, and then exudes a peculiar sensation of astringency. It is readily diffusible, and remains for a long time suspended in water, but appears to be totally insoluble in this fluid. Its specific gravity is variously estimated, according to the degree of calcination, by Bergman it is reckoned 1.305, while Kirwan allows it as much as 2.0. After being thoroughly dried in a heat just not sufficient to destroy its plasticity, it is capable of absorbing $2\frac{1}{2}$ times its weight of water, without allowing any to drop out, and the water thus mixed is retained more obstinately at the usual atmospheric temperature by alumine than by any other earth; a freezing cold however causes this earth to contract remarkably, and thus squeeze out a large proportion of its water.

Alumine is the only earth that possesses the property of plasticity, or of being kneaded up with water into a soft ductile paste, capable of being formed by the hand or the potter's wheel into any shape that may be required; the plasticity therefore of all the natural clays is owing to their aluminous part; nor is this property destroyed even by a very large admixture of other earths; in the finer kinds of pottery scarcely a fourth of the whole mass is pure alumine, and yet its plasticity is unimpaired. If a piece of tempered clay is dried gently in the air, it retains its form, but becomes quite brittle; its former ductility may, however, be restored by again kneading it with water. If exposed to a red heat it hardens, contracts in all directions, becomes more compact, and of greater specific gravity, and is no longer plastic, nor can this property be restored to it by any other means than by solution and precipitation; hence bricks or pottery ware, after having been baked, if pounded ever so fine, are no more capable of forming a paste with water.

The action of caloric on alumine is accompanied by some interesting phenomena which deserve mentioning. If the purest plastic alumine is exposed to a low red heat, it becomes of a bluish black colour, especially on the inside, as is manifested by breaking a piece across that has been thus heated; as soon as this colour is perceived the plasticity is destroyed, a fact that renders it probable that this property of alumine depends on something else than mere water. As a further increase of the heat with access of air, the carbonaceous colouring matter is burnt out, and the alumine acquires a resplendent white colour, becoming at the same time harder, denser, and of less bulk: all these changes advancing in gradual progression in proportion to the heat; and after it has thus experienced the full effect of our most powerful furnaces, it will be found to be so hard as to give way with steel, and reduced to nearly one half of its original bulk. Upon this last property is founded the use of *Berzelius's* PYROMETER, for measuring the higher degrees of heat. The

decrease of bulk is in part occasioned by the expulsion of the last particles of water; but from the augmented specific gravity of the alumine, it is plain that an actual condensation or approximation of molecular takes place, as is observable in various other porous substances previous to fusion. Whether any artificial heat is able to bring this earth into real fusion is as yet dubious; for though Lavoisier, by means of a blow-pipe charged with oxygen gas, reduced a piece of alumine to a pasty semi-fluid state, yet it is probable, as the earth was obtained from alum, that a minute portion of potash might still be contained in it, and thus act as a flux.

Alumine has a strong affinity for metallic oxyds, especially the oxyd of iron; hence arises the difficulty, and indeed almost impossibility, of obtaining alum. free from iron in the great way, because all natural clays and aluminous ores contain more or less of this metal. The only way of accurately separating these two substances is by digestion in caustic potash or soda, which will dissolve the earth, but not the oxyd.

These two substances are also capable of acting on each other in the dry way at high temperatures; and some important experiments on this subject are recorded by Achard and Kirwan, from which it appears, that when the proportion of alumine exceeds that of the oxyd of iron, the mixture is in all cases very difficultly fusible; that when the proportions of the ingredients are equal, and especially when the iron predominates, the result, after exposure to a heat of about 160° Wedgewood, is a dark-coloured vitreous slag.

The attraction too that subsists between alumine and vegetable or animal colouring matter, is singularly powerful. Thus, if, to a watery infusion of cochineal or madder, a few drops of a solution of alum are added, a decomposition shortly takes place, and the whole of the tinging particles unite, and are precipitated together with the aluminous base of the earthy salt, leaving the supernatant liquor wholly colourless. Fugitive colours also, by this combination, become of sufficient permanence to resist for a long time the changes to which they are subject: hence is explained the preparation of the *LAKE pigments*, and the theory of *Mordants* in the art of *DYING*.

In the direct way sulphur appears to contract no union with alumine; and the hepatic gas that is separated by an acid from alum, after having been heated with charcoal, is no longer a decisive evidence of sulphuret of alumine, since the discovery of the necessity of potash to the very constitution of common alum.

Upon the gaseous substances alumine has not been observed to produce any change, although Humboldt has published (*Annales de Chimie*, vol. xxix.) a long and plausible memoir, to shew that alumine absorbs the oxygen of the atmosphere, and hence produces an important effect in the economy of vegetation. It is true, indeed, that many natural clays will deoxygenate atmospheric air; but this is solely owing to the carbonaceous matter and oxyd of iron that they contain, it having been proved by accurate experiments, instituted for this purpose by Theod. Saussure and others, that pure alumine has no effect whatever on oxygen gas or atmospheric air.

All the acids are capable, in particular circumstances, of combining with alumine; but these combinations are not accomplished with the same ease as those between the acids and alkaline earths. The stronger mineral acids will take up alumine from clay by digestion at a boiling heat, but the vegetable and other weaker acids will not readily effect a solution, except the alumine is presented to them recently precipitated by an alkali from sulphuric, nitric, or muriatic acid. All the aluminous salts are decomposed with precipitation of the earth by the caustic or carbonated alkalies, or alkaline

earths. For further particulars see the salts under their respective acids.

Ammonia has not yet been observed to exert any action on pure aluminous earth; but both potash and soda, when caustic, will dissolve it without any difficulty. This may be done by evaporating to dryness, and igniting in a silver crucible, a mixture of caustic alkali and alumine, and then lixiviating the mass, or merely by boiling some fresh precipitated alumine in a watery solution of the alkali. This alkalinized alumine has of late been recommended as a preferable mordant to common alum in the fixing of those colours that are injured by the presence of sulphuric acid. To separate alumine from its solution in caustic alkali, it is necessary to add nitric or muriatic acid in sufficient quantity to neutralize the alkali and dissolve the alumine, and then to precipitate the earth by caustic ammonia.

The action of barytes on alumine is analogous to that of the alkalies, yet presents some peculiar characters. When a solution of caustic barytes in water is added to a liquid muriat of alumine, the first effect is the appearance of a precipitate, owing to the decomposition of the salt by the barytes; if this last, however, is added in excess, the alumine is redissolved by it, and the liquor becomes clear.

Again, if equal parts of newly precipitated alumine and caustic barytes are boiled together in a quantity of distilled water sufficient to take up the barytes, about half the mixture will be dissolved, and upon analysis the insoluble residue will be found to consist of alumine, with a small proportion of barytes, while the solution will consist of much barytes and a little alumine. By adding to the liquor some muriatic acid, to engage the excess of barytes, a flocculent precipitate will be deposited, consisting of the two earths, nearly in the proportion of the original insoluble residue. Hence it appears that alumine combines with barytes into a salt which is insoluble in mere water, but is capable of being rendered soluble therein by the assistance of barytes. In the dry way, at about 150° Wedgewood, any mixtures of the two earths in which the alumine preponderates remain pulverulent; but when the barytes is three or four times as much as the alumine, the powder concretes into a hard mass, without, however, shewing any signs of fusion. In order to decompose barytic alumine, dissolve the whole in muriatic acid, and add caustic ammonia; the alumine alone will be precipitated.

Strontian produces the same effect on alumine as barytes, but more feebly; the action of these two substances in the dry way, on each other, has not yet been the subject of experiment.

It appears highly probable that lime has a similar affinity for alumine, as the rest of the alkaline earths possess; the only experiment, however, upon the subject, is one of Morveau's; he mixed equal parts of muriat of alumine and muriat of lime in solution, and immediately a precipitate took place, which was insoluble by an excess of acid; this has been since repeated by Darracq, a pupil of Vauquelin, without effect, the liquor remaining perfectly limpid; hence it is probable that the alumine of Morveau was not quite free from sulphuric acid, and that the insoluble precipitate was merely selenite. In the dry way lime and alumine in any proportions are infusible, except by means of a blow-pipe, charged with oxygen gas.

The action of magnesia on alumine is not yet fully ascertained: it appears, however, from Mr. Chenevix's experiments, that the ammoniaco-magnesian triple salts, are formed with difficulty, when alumine is present, and that magnesia prevents, in a great measure, the solubility of alumine in the caustic fixed alkalies. This combination of the two earths

earths is, however, soluble in muriatic or nitric acids, and may then be decomposed either by hydrofulphuret of soda or of ammonia, which will precipitate the alumine and retain the magnesia in solution, or by an alkaline prussiate, which will also separate the alumine while the prussiated magnesia remains dissolved. In the dry way, according to Kirwan, magnesia and alumine at 150° Wedgewood have no action on each other in any proportions.

A considerable degree of affinity exists between filix and alumine, and the unsuspected formation of this compound in many analytical experiments on minerals has often produced a number of deceitful and embarrassing appearances, which have vitiated the results of many a laborious analysis. Chemistry is, therefore, indebted to Klaproth for shewing, that when to a solution of pure filix in caustic potash is added a solution of alumine equally pure in the same menstruum, the liquor immediately assumes a reddish brown colour, and after standing an hour or more, coagulates into a thick opaque whitish jelly. This jelly, by the addition of a little warm water, is resolved into a fluid, and being then mixed with muriatic acid, to the exact saturation of the alkali, a copious precipitate is deposited, consisting of the two earths, in a state of combination; if now a slight excess of acid is dropped in, the filix as well as the alumine, will be perfectly dissolved. Carbonated potash will again cause the precipitate to appear, and this even when separated by filtration and dried, will be still entirely soluble in dilute sulphuric acid, without the smallest deposition of filix. If the sulphuric solution is now gently evaporated, crystals of alum will be deposited, and the remainder will assume the form of a clear jelly, the surface of which, after a few days, will be covered with crystalline pyramids; and in order to shew that it is really filix mixed with alumine, which has thus repeatedly been dissolved in acids, nothing more is necessary than to mix this jelly with a large quantity of water, and digest it for some while in a moderate heat, stirring it repeatedly at the same time, when the liquor will become turbid and pure filix will be deposited. In the dry way, according to Kirwan, equal parts of alumine and filix at 160° Wedgewood concrete together, but shew no signs of fusion.

Alumine is as yet a pure chemical element, never having been composed or analysed. From its affinity with colouring matter, and its blackening in a low heat, Baron was of opinion that it was of a metallic nature, and even Lavoisier entertained the idea that it might be a metallic oxyd, whose component elements were united together by a very powerful affinity. Beaumè considers the earth of alum as essentially the same with filix, being led into this mistake by fusing rock crystal repeatedly with potash, and always obtaining alumine; this experiment of Beaumè's was repeated by Scheele, who found indeed that it was true whenever an earthenware crucible was made use of, but perceiving the crucibles corroded internally after every process, he suspected that the alumine was furnished by the action of the alkali upon them; in proof of which he repeated the fusion of filix with potash in an iron crucible, and as might be expected, did not procure a particle of alumine.

The uses of pure alumine are wholly confined to the laboratory; it gives, however, their peculiar character to all clays; every thing, therefore, that depends on the cohesiveness and plasticity of these substances when fresh, and their hardness after being baked, may be fairly attributed to the alumine which they contain; hence, it is the basis and material of all the arts of pottery, from the common brick to the finest porcelain, and these include more of the comforts and elegancies of life than are perhaps dependent on any other substance in nature.

Journal de Physique, vol. lxxx.—Scheele's Essays.—Klaproth's Analytical Essays.—Kirwan's Mineralogy, vol. i.—Annals de Chimie, vol. xxxviii.—Smith's Mineralogy.—Macquer's Chimie, Winterbach, vol. i.—Dumas's Chimie Experimentale, vol. i.

ALUMINA, in *Botany*, a name given by some of the old Latin writers to the plant, which is called *alum* and *camellia*, and by the Greeks *αλμυρα*. It is the same with our *gaulthria officinalis*, or *camellia*, and is used by the dyers, and by the ladies, to give their hair yellow, the colour that was esteemed most beautiful in those times.

ALUNGU, or *Alungu*, in *Botany*, is a name of the Malabar language, and the name given by the Malabarians to an animal resembling a large lizard, except as to head and tail, which are both pointed. It is a German lizard, long, and its breadth is half an ell. It is a species of the *MANIS* of Linnaeus, and belongs to the family of *ASTORION*, which have no teeth, but a long round tongue, with which they catch the ants. Phil. Trans. vol. lxxv. p. 170.

ALUNKAN, or *Alunkan*, in *Geography*, a town of Persia, in the province of Zabulistan, 100 miles south of Candahar.

ALUNTUM, ALONTUM, or *Aluntum*, in *Ancient Geography*, a town of Sicily, on a steep eminence, near the mouth of the river Chydus. It is now in ruins; but from these arose the hamlet St. Peter, &c. in the Val di Demone. The inhabitants were called *Aluntini*.

ALVOR, in *Geography*, a small place, with a millham in the province of Algarve, between Villa Nova de Portimao and Lagos.

ALVOREDO, an island of South America, on the coast of Paraguay, three leagues south of St. Catharine's island. S. lat. 27° 43'. W. long. 49° 16'.

ALVORNINHA, or *Alvorninha*, a small town of Portugal, in Estremadura, containing about 1500 inhabitants.

ALURNUS, in *Entomology*, a genus of insects of the order of COLEOPTERA, with filiform antennæ, six very short palpi or feelers, and horny arched maxilla or jaw. There are three species, viz. 1. *A. griffus*, black, with crimson thorax and yellow elytræ, found in South America and India. 2. *A. femoratus*, of a green reddish colour, with the hinder thighs and legs dentated, the tenebrio femoratus of Drury, and the tenebrio viridis of Sulzer, found in India, with the antennæ half the length of the body, and the last joints black. 3. *A. dentipes*, black, with the hinder thighs and legs dentated, found at the Cape of Good Hope.

ALUS, in *Ancient Geography*, a village of Macedonia, in the vicinity of Nicopolis. Also an ancient town of Arabia Petrea, where was the 10th encampment of the Israelites.

ALUSMA *Caramanica*, in *Botany*, a name sometimes to express a plant growing in Caramania, and sometimes a preparation of that plant, or pigment made from it. The word frequently occurs in the writings of Avicenna and Serapion.

ALUTA, in *Ancient Geography*, a river of Dacia, now called *Alti*, or *Olt*, which rises at the foot of the Carpathian mountains, and passes through the east and south regions of Transylvania into Walachia, dividing it into the eastern and western parts. It discharges itself into the Ister.

ALUTA, a small village of Palestine, placed by Jerome near the river Chebron.

ALUTÆ, a people of Illyria.

ALUTRAENCES, a people of the Alps, according to Pliny.

ALVUS, among *Anatomists*, is sometimes used to express the lower belly, or *venter*.

Alvus is more usually taken among *Physicians* for the

state and condition of the *faces*, or excrements, contained within that cavity.

Thus, when a person is laxative, it is called *alvus liquida*; and when costive, *alvus aspera*.

They who are of a loose belly in their youth are generally costive in their old age; and they who are bound in youth are often loose when old. A laxer state in youth, and rather bound than loose in old age, is most desirable.

Binders of the belly are labour, sitting in a chair, fullers' clay laid over the body, diminution of food, eating once a day instead of twice, little drinking, and that only after a full meal, rest after meals. On the contrary, things which loosen the belly are, walking and eating more than usual, stirring after meat, intermixing draughts with eating, and it ought to be observed, that a vomit binds a loose belly, and loosens a bound one; and that a vomit taken immediately after meat binds the belly, but, delayed until a considerable time after, loosens the same. Celsus.

ALWAIDII, a sect of Mahometans, who hold that all great crimes are unpardonable, and the criminals reprobated to eternity. The alwaidii stand in opposition to the MORGI. They attribute less efficacy to the true belief in the salvation of men than the rest of the Mussulmen.

ALWEIL, in *Geography*, a lake of Switzerland, in the canton of Bern, seven miles long, and one and a half wide, seven miles south-east of Arau.

ALWEN, a river of North Wales, which runs into the Dee, seven miles north-north-east of Bala, in Merionethshire.

ALWOS, a large and populous village of Hungary, on the side of the Danube, in the district of Comarro, and famous for an aqueduct made there in 1747.

ALYATTIS *sepulchrum*, in *Antiquity*, the tomb, or rather burial-place of Alyattis, the father of Cræsus, near Sardis, which was six stadia in circumference.

ALYBA, in *Ancient Geography*, a town on the eastern part of Pontus, belonging to the Alybians, who inhabited this coast; supposed to be the same with the Chalybes, whose country furnished metals.—Also, a mountain of Africa, the same with *Abyla*.

ALYCUS, a town of Peloponnesus which was either Asine of Megaris, or near it.

ALYMNE, a town of Asia Minor, situate towards the confines of Phrygia, Caria, Lycia and Pisidia.

ALYMOHAU, in *Geography*, a town of Hindostan, in the country of Guzerat, and circar of Champaneer, 100 miles north-east of Surat, and 32 east-south-east of Champaneer.

ALYPIAS, in the *Materia Medica* of the ancients, a species of turbeth, prescribed for the purging of bile. Some write the word *alypon*, and define it by white turbith. Galen used *alyrium*, *αλυριον*, for a minorative, or a medicine that gently purges.

ALYPIUS of *Alexandria*, in *Biography*, a Platonic philosopher, was much celebrated for the acuteness of his genius, and the subtlety with which he lectured upon the abstruse speculations of the Platonic school. Jamblichus, who was his contemporary, and who wrote his life, commends him highly on account of his exemplary virtue, as well as his distinguished talents. His stature was very diminutive, so that he was denominated a dwarf, but his mind was proportionably capacious and superior. He died at Alexandria in an advanced age. Gen. Dict.

ALYPIUS of *Antioch*, a geographer of the fourth century, lived under the reign of Julian the apostate, and was sent into Britain as deputy-governor, where, says Mr. Gibbon, his humanity was tempered by severe justice and manly fortitude, and while he exercised his abilities in the civil administration of the country, he imitated, in his political compo-

sitions, the harmony and softness of the odes of Sappho. To Alypius, Julian entrusted the execution of his plan for rebuilding the temple of Jerusalem. Ammianus Marcellinus informs us, that whilst Alypius, assisted by the governor of Palestine, urged, with vigour and diligence, the accomplishment of the work, horrible balls of fire breaking out near the foundation, with frequent and reiterated attacks, rendered the place, from time to time, inaccessible to the scorched and blasted workmen; and the victorious element continuing in this manner oblatinately and resolutely bent, as it were, to drive them to a distance, the undertaking was abandoned. On this relation Mr. Gibbon, in his usual manner, observes, that "Such authority should satisfy a believing, and must astonish an incredulous mind. Yet a philosopher may still require the original evidence of impartial and intelligent spectators. At this important crisis, any singular accident of nature would assume the appearance, and produce the effects of a real prodigy. This glorious deliverance would be speedily improved and magnified by the pious art of the clergy of Jerusalem, and the active credulity of the Christian world; and, at the distance of 20 years, a Roman historian, careless of theological disputes, might adorn his work with the specious and splendid miracle." The impartial enquirer into the credibility of this event will derive greater satisfaction from the testimonies for and against it, cited by Dr. Lardner, than from the sarcastic reflections of this popular historian, whose scepticism on the subject of religion has sometimes perverted his judgment with regard to historical facts. Julian's attempt for rebuilding the temple, and the defeat of it by divine interposition, are mentioned by three contemporary writers, *viz.* Gregory Nazianzen, Chrysostom and Ambrose, bishop of Milan, all Christians; and also by Ammianus Marcellinus, a learned heathen; and afterwards by Rufinus, Socrates, Sozomen, Theodoret, and Philostorgius, as well as by later writers. Some Jewish writers, as R. David Ganfius, and R. Geddalus, have also been alledged as bearing testimony to this event. The truth of the history, thus confirmed, has been maintained by Fabricius, Witfius, bishop Warburton, and others of high reputation in the republic of letters. Basnage has made some objections to this history, and Dr. Lardner, with his usual modesty, has suggested several reasons for doubting its authenticity. He first argues, that Julian's own writings lead us to think that he never attempted to rebuild the temple at Jerusalem; it is also unlikely that he should give orders for this purpose, and allot money for it out of the public treasury, when he was setting out in his expedition against the Persians; and though great stress is laid upon the testimony of Ammianus Marcellinus, a heathen, and an impartial historian, yet he had his account from the Christians, which he seems to have taken up without examination, and it sufficiently appears from other circumstances, that he was credulous: besides, the history of this event, as it is related by Christian writers, is loaded with miracles, or pretended miracles, which appear to be incredible: nor was there at that time any occasion for such miraculous interpositions. And, lastly, there are several Christian writers, who have said nothing about this affair, but who were likely to have mentioned it if any thing of this kind had been done; such are Jerome, Prudentius and Orosius.

Whether Alypius was ever employed in rebuilding the temple or not, it appears that towards the latter part of his life, he was accused, with others, of practising magic. Hierocles, his son, was condemned to death, and he himself suffered confiscation and banishment. They were charged with administering poison; but Ammianus represents their suffering as unjust. Alypius was the author of a treatise

in geography, of which Julian speaks favourably; but it is probably lost. Another treatise published by Gossrey, in Greek and Latin, under the title of "A Description of the Old World," &c., at Geneva, in 1625, was probably not the work of Alypius, though it has been ascribed to him, because the author speaks of Britain from report, and not from his own observation. This work is thought to have been written in the reigns of the emperors Constantius and Constans. Ammian. Marc. l. xxiii. c. 1. l. xxix. c. 1. Lardner's Works, vol. viii. p. 377—391. Gibbon's Hist. vol. iv. p. 105—119. 8vo.

ALYPIUS of *Taghata*, a town of Africa, was the intimate friend of Augustine, and baptised with him at Madaia, p. 338. On his return from Palestine, in 394, he was made bishop of his native place. Whilst Augustine was engaged with the Manichees, Alypius was induced to join them; but he afterwards avowed himself a zealous advocate for the catholic faith. He made successive attempts to convince the Donatists of their errors, and to recover them to an union with the church; particularly at the council of Carthage, in 403, and again in 411: but neither his arguments, nor the penal decrees of the emperor Honorius were sufficient to reclaim them. Alypius was also deputed by the churches of Africa about the year 419, to Honorius, in order to obtain severe decrees against the Pelagians, and in this office of persecuting zeal he so far succeeded as to break up their assemblies and banish their ministers. He died about the year 430, less honoured in remembrance for his Christian charity than his orthodoxy and zeal. Gen. Dict.

ALYPIUS, in *Biography*, one of the seven Greek writers on music, that have been collected and published with a commentary and notes, in 1652, by Meibomius. It is difficult to ascertain the time of his existence. Cassiodorus (*de musica*) placed him before Euclid and Ptolemy, and has ranged his tract, *Εισαγωγή μουσική*, or *Introduction to Music*, between that of Nichomachus and Gaudentius. The contents of this work furnish the most ample nomenclature of all the sounds of the several scales and modes of the ancient Greek music, that has come down to us. The characters for sound used by the Greeks for their several modes in the three genera, amounted to 1620. These notes were formed of the twenty-four letters of the Greek alphabet, entire, mutilated, single, double, or lengthened; sometimes turned to the right, sometimes to the left, or lying horizontally, so that their corners or sides were turned upwards; and lastly, some were barred, and others distinguished by the grave and acute accents, which had likewise a place among these numerous discriminations.

This tract was first published by Meursius, 1616, from the MS. of Joseph Scaliger, but not very correctly, according to Fabricius. Kircher has given extracts from Alypius in his *Musurgia*, 1650; pretending that he had translated the whole into Latin; but the table which he has inserted from him of ancient musical notation, is so inaccurate, that Meibomius, who consulted not only the Greek MS. of Scaliger, but that of Bolejanus, Barocius, Barberitti, and Selden, affirms, that he found in it more than 200 errors.

It is from the indefatigable labour of the learned Meibomius, in his commentaries upon the ancient Greek musicians, particularly Alypius, that we are able to decipher those characters; which, before his time, had been so much altered, corrupted, disfigured, and confounded, by the ignorance or inattention of the transcribers of ancient MSS. that they were rendered wholly unintelligible. See GREEK MUSIC, and NOTATION.

ALYPON *Montis Ceti*, or white turbith, in *Botany* and the *Materia Medica*. See CONVOLVULUS.

ALYPIUM, in *Botany*. See CONVOLVULARIA.

ALYPIUM, in *Botany*, is a genus of the natural order of the *Malvaceae*, and is distinguished by the following characters: the leaves are lanceolate, linear, or ovate, and are hoary beneath; the flowers are in corymbs, and the petals are five, and are of a bright yellow colour. The fruit is a capsule, which is covered by the persistent calyx, and is divided by five seeds. The name of this genus is derived from the name of the physician Alypius, who is supposed to have discovered it. The first species of this genus is *Alypium officinale*, which is a native of the mountains of Provence, and is cultivated in Italy, mount Cenis, &c. It differs from the *Alysum* in having an ovate-acute filicle, not inflated. To the *herbaceous* division belong, 5. *A. Hypoleucum*, Northern M. with leaves hoary toothed, and flowers four-toothed; found in North America. 6. *A. Incanum*, hoary, covered by Gmelin, with stem erect, leaves lanceolate, hoary, quite entire, flowers in corymbs, and petals bilid. This grows to the height of

ALY SOLDES, in *Botany*. See ALYPIUM.

ALYSSON. See ALYPIUM, CYNICIDA, DRACA, MARITIMA, MYAGRUM and VERONICA.

ALYSSUM, in *Botany*, is a genus of the natural order of the *Malvaceae*, and is distinguished by the following characters: the leaves are lanceolate, linear, or ovate, and are hoary beneath; the flowers are in corymbs, and the petals are five, and are of a bright yellow colour. The fruit is a capsule, which is covered by the persistent calyx, and is divided by five seeds. The name of this genus is derived from the name of the physician Alypius, who is supposed to have discovered it. The first species of this genus is *Alyssum officinale*, which is a native of the mountains of Provence, and is cultivated in Italy, mount Cenis, &c. It differs from the *Alysum* in having an ovate-acute filicle, not inflated. To the *herbaceous* division belong, 5. *A. Hypoleucum*, Northern M. with leaves hoary toothed, and flowers four-toothed; found in North America. 6. *A. Incanum*, hoary, covered by Gmelin, with stem erect, leaves lanceolate, hoary, quite entire, flowers in corymbs, and petals bilid. This grows to the height of

two feet, with woody stalks, dividing into several branches; the flowers are produced at the extremity of every shoot in round bunches, small and white; the filicle is oval, and full of brown seed; it grows naturally in the south of France, Spain and Italy, Germany, Austria, Sweden, &c. chiefly on rocky or gravelly soils, is perennial, and was cultivated here by Parkinson in 1640. 7. *A. Minimum*, least *M.* with stems diffused, leaves linear, downy, and filicles compressed. This is annual, and grows wild in Spain: the petals are yellow and submarginate. 8. *A. Calycinum*, calycine *M.* with stamens all toothed, and permanent calyxes. It is annual, and found wild in Austria, Carniola, France, Germany and Switzerland. The petals are small and yellow, becoming white with age: the filicle has two seeds in each cell, one of which is commonly abortive: it was cultivated by Miller in 1768. 9. *A. Montanum*, mountain *M.* with stems diffused, leaves sublanceolate, dotted and echinate. The branches trail, the leaves hoary, rough and alternate, the flowers produced in small clusters at the ends of the branches, and of a dark yellow colour; it grows naturally upon rocks in Burgundy, and some other parts of France, about Basil, in Germany, Austria, Carniola, &c. is perennial, and cultivated by Miller in 1759. 10. *A. Campellre*, field *M.* (omitted by Gmelin) with stamens guarded by a pair of bristles, and calyxes deciduous; resembles the 8th in stem, leaves and petals, is annual, and a native of France, Germany and Switzerland, and cultivated by Miller in 1768. 11. *A. Clypeatum*, buckler-podded *M.* with stem erect, filicles sessile, oval, compressed-flat, petals pointed and linear. This is a biennial (annual, Linn.) plant, and grows naturally in Spain and Portugal, and it was found by Tournefort, on Mount Libanus; it was cultivated by Gerard in 1596. To the division with *filicles inflated*, or *calyxes oblong and closed*, belong the following species. 12. *A. Sinuatum*, sinuate-leaved *M.* with stem herbaceous, leaves lanceolate-deltoid, and filicles inflated. This is a low spreading plant, which divides into small branches, garnished with hoary leaves through the year; the flowers produced at the ends of the branches are of a bright yellow colour. It is annual, or triennial, and grows wild in Spain by the way-side, and in the islands of the Archipelago, and sufficiently hardy to bear the open air in England, in a dry soil and warm situation; it was cultivated in the Kew garden in 1680. 13. *A. Creticum*, cretan *M.* with stem shrubby, leaves lanceolate, a little toothed, downy, filicles inflated and globular. This species seldom continues longer than two years in England, and in a warm, dry situation, will live in the open air. It is a native of Spain and Candia, and was cultivated by Miller in 1759. 14. *A. Gemonense*, *gemona M.* with stem herbaceous, branches divaricated, root-leaves obovate, rather downy, and filicles inflated. This differs from the last in having divaricated branches, and smaller flowers of a deep yellow colour. The root is perennial; the stem spreads on the ground; the leaves are roughish and ash-coloured, about five inches long, and scarcely an inch broad; the perianthium is spreading, yellow and hirsute; the petals are twice the length of the calyx, obovate and emarginate. This species was discovered by Arduini in 1759, on the mountain Della Fontana, near Gemonia, in the district of Forlì in Italy, in the clefts of rocks: it flowers in May and June. 15. *A. Utriculatum*, bottle *M.* with stem herbaceous, erect, leaves smooth, lanceolate, quite entire, and filicles inflated. This has the flower of *lunaria*; and resembles it, except in its inflated filicles; it was found by Tournefort in the Levant, and grows in the vineyards of Savoy: it is a hardy and beautiful perennial, flowering from April to June, when it begins to form its curiously inflated pods: it is well adapted to the decoration of walls or rock-

work; it was cultivated in 1739 by Miller. 16. *A. Vesicaria*, bladder *M.* *vesicaria* of Tournefort, with leaves linear, toothed, filicles inflated, angular and acute. This species and the next have trailing stalks, and produce their flowers towards the extremities in loose spikes. 17. *A. Deltoideum*, deltoid-leaved *M.* *leucoium faxatile*, &c. of Bauhin, with stems under-shrubby, prostrate, leaves lanceolate-deltoid, and filicles shaggy. The flowers of this resemble those of the stock-gillflower, and are of a purple colour; it was cultivated in 1739 by Miller. This and the last were found by Tournefort in the Levant. The *alyssum sativum* of Dr. Smith, with an herbaceous stalk, lanceolate and fagittated leaves, and obovate inflated filicles, or gold of pleasure, is a species of MYAGRUM in the Linnæan system.

All the species may be propagated by seed, and most of them by slips and cuttings. The seeds should be sown in a border of light earth in April. Cuttings or slips should be planted in April or May; shaded in the heat of the day, and gently refreshed with water. In rich ground they seldom live through the winter in England; but in a dry, poor, rubbishy soil, or on old walls, they will endure the cold and remain much longer. Martyn.

ALYSSUM. See CARDAMINE, CLYPEOLA, DRABA, MYAGRUM, PELTARIA, STACHYS, SUEULARIA and SISYMBRIUM.

ALYTARCHA, in *Antiquity*, a priest of Antioch in Syria, whose office was to lead up the *magistrophori*, or *flagelliphori*, officers with whips in their hands, who attended at the games or combats of the *athleta*, encouraged them to behave stoutly, and, on occasion, served to preserve good order, and keep off the crowd.

The officer who presided at the Olympic games was also sometimes denominated alytarcha.

Some will have the alytarcha to be the same with the *hellenodicus*, of which opinion are Faber and Prideaux.

Van Dale shews them to be different offices; not but that the alytarchi might sometimes be substituted for the *hellenodici*, to perform some part of their function.

The alytarchi were the same with what were called, in some other places, *alyta*.

ALYXIA, in *Botany*. See GYNOPOGON.

ALYZIA, in *Ancient Geography*, a town of Greece in Acanania, about 15 stadia from the sea, and near the port of Hercules.

ALZA, in *Geography*, a river of Germany, which runs into the Inn, six miles east of New Oeting, in the circle of Bavaria.

ALZACHI, in the *Materia Medica*, the name given by the Arabian Physicians, to that kind of gourd called in the shops the *CITRUL*, and by the people of some parts of Italy, the *anguria*. It is an oblong, and usually crooked gourd, and contains in its cavity a considerable quantity of water, which is drank by people of the places where the plant is common, to quench thirst. It contains seeds of an oblong figure, flattened, and covered with a hard skin.

ALZAGIAT, a name given, by the Arabian writers, to all the vitriolic minerals. It is also written *zagi*, or *ZEGI*.

ALZARAC, a name given to a kind of CAMPHOR, which was coarse, and of a brown colour. It seems to have been the same with our rough camphor, as imported from the Indies, before being purified.

ALZATO, in *Geography*, a town of Italy, in the territory of Coma, in the Milanese, four miles south of Coma.

ALZBACH, a town of Germany, in the archduchy of Austria, four miles west of Schwannstatt.

ALZEY. See ALTZEY.

ALZIRA. See ALGEZIRA.

ALZIZ, a name given by Serapio and Avicenna to the roots of the *trapa*. The word *ZIZ* is the name of a river

river in Africa, according to Leo; and the roots probably had this name from their being found in great plenty on the banks of that river, the *treſi* always growing in wet places.

ALZNIA, in *Geography*, a province of Asia, in Great Armenia, towards the river Tigris, comprehending nine very considerable districts, which extend along the river to Karamut or Diarbekir.

ALZON, a town of France, in the department of the Gard, and chief place of a canton, in the district of Vigan, 15 miles north-north-east of Lodeve.

ALZON, a river of France, which runs into the Gard, about a league below Uzès.

ALZONNE, a town of France, in the department of the Aude, 2½ leagues west of Carcassonne.

ALZUM, in *Botany*, a name given, by the ancients, to the tree which produces the gum *BELLUM*. It is also written *alrum* and *aldum*, which last seems the proper way. The gum of this tree was called, by the Arabians, *mokel*, and the same word *mokel* is used as the name of a fruit of a palm-tree.

AM, in *Geography*, a famous city of Armenia, where they formerly reckoned 100,000 houses, and about 1000 mosques. It was taken by the Tartars in 1219, and is now considerably reduced. It is thought to be the present Ani.

AMA, in *Ecclesiastical Writers*, denotes a vessel wherein wine, water, or the like, were held, for the service of the eucharist: in which sense, the word is also written *amula*; sometimes also *hama* and *hamula*.

AMA is sometimes also used for a wine-measure, as a cask, pipe, or the like.

AMA, AME, or rather AMES, *αμς*, a sort of cake. Aretæus used this word to express the quantity of hellebore which is sufficient for a dose in strong constitutions, when given in a *vertigo*.

AMA, or AMAN, in *Geography*, a town of Syria, once the celebrated city of APAMEA, now reduced to ruins.

AMA, or HAMA, a town of Germany, in the circle of Westphalia, and bishopric of Liege, 8 miles south-west of Liege.

AMAAD, in *Scripture Geography*, a town of Palestine, on the borders of the tribe of Azer.

AMABYR, or AMVABYR, *q. d.* in ancient British, "the price of virginity," in some *Ancient Customs*, a sum of money to be paid the lord upon marrying a maid of his manor.—This custom is said to have anciently obtained in Wales, where amabyr was paid to the prince: also in the honour of Clui belonging to the earl of Arundel, till earl Henry, in the times of queen Mary, in consideration of sixty pounds, released it to all his tenants by the name of the custom of *amabyr* and *chevage*.

AMACACHES, in *Geography*, a people of South America, in Brasil, inhabiting the vicinity of the territory that extends from St. Sebastian to Rio Janeiro.

AMACASTIS, in *Ancient Geography*, a town of India, on this side the Ganges, according to Ptolemy.

AMACCURA, a town of Africa.

AMACI, a people of Spain, whose capital, according to Ptolemy, was Asturia Augusta.

AMACK, in *Geography*, an island of Denmark, joined to Copenhagen, and consequently to Seeland, by two bridges over the channel that separates them. It is about one and one-half geographical mile in length, and above half a mile in breadth. It is level and without woods; the soil is uncommonly fertile, so that it is considered as the kitchen-garden and store-house of the city; and the inhabitants supply it twice every week with all sorts of esculent vegetables, and also with milk, butter and cheese. The present inhabitants occupied it in 1516, being invited hither by Christian II. from the province of Water-land, in North Holland. The

whole island contains about 800 families, and is divided into two parishes. The dialect of the people is a mixture of the low Dutch, German, and Danish languages; their mode of dress, and of living is peculiar to themselves. In the Summer they drive their cattle for pasture to a small neighbouring island, called Saltholm. There are excellent quarters of stone for lime and building on this island.

AMACORE, or AMACOT, a river of South America, which waters the Caribana, and runs into the Northern sea, near the mouth of the Orinoco.

AMACOSQUE, in *Geography*, a name given by Fernandez to a Mexican bird, supposed by Latham to be a species of CHARADRIUS or Plover. It is a noisy bird, the plumage is mixed with white and black, and it has a double comb. It is seen the whole year on the lake of Mexico, where it lives on aquatic worms.

AMACUSA, in *Geography*, an island and province of Japan, with a town of the same name, that bordered upon that of Oyanau, and is south-west of the island of Kiushu. It is between 31° 3' and 32° N. lat. and 129° 29' E. long.

AMADABAD. See ARMEENIAD.

AMADAN, or ILERDANS, a town of Persia, in the province of Irac-Agemi, between Bagdad and Isfahan, about 80 leagues from one and the other. It is seated at the foot of a mountain, whence issue streams that water the country; its extent is large, as it encloses waste and cultivated land, though it has but one tolerable street formed of houses, that are built of brick, hardened in the sun. The adjacent country is fertile, and productive of corn and rice; the air is salubrious, but in Winter the cold is intense. The Armenians have a church in this town, and the Jews have a synagogue, near which is a tomb, where, according to report, Esther and Mordecai were interred. This place is resorted to by several pilgrims from all parts of the Levant; and in its vicinity is a mountain called *Nalbana*, abounding with various herbs, and the sick repair hither to recover their health by imbibing their salutary effluvia. Amadan is an ancient city; and it is said that it was destroyed by Nebuchadnezzar, and rebuilt by Darius. The kings of Persia retired to it on account of its delightful situation, and hence it obtained the name of the "Royal City." It was reduced by the Caliph Othman, and was nearly destroyed by Jenghis Khan in 1220. Its castle and walls are now in ruins; and it is merely distinguished by its gardens and springs. N. lat. 35° 15'. E. long. 47° 39'.

AMADANAGEN, a town in the Hither Peninsula of India, in the province of Decan. It was taken by the Moguls in 1598. N. lat. 18° 10'. E. long. 74° 15'. See AHMEDNAGUR.

AMADEUS V., count of Savoy, in *Biography and History*, succeeded to the sovereignty in 1285, and obtained the surname of "The Great," by his wisdom and successes. His possessions were much enlarged by marriage, purchase, and donation. In defending Rhodes, against the Turks, in 1311, he gained distinguished honour; and in memory of this service, he and his successors took for their device, F. E. R. T. the initials of the Latin words "Fortitudo ejus Rhodum tenuit," i. e. his valour preserved Rhodes. The grand master of the knights of St. John, to whom Rhodes belonged, granted him a palace at Lyons, as a reward of his effectual succour. He died after a reign of 38 years, in 1323, at Avignon, where he was soliciting pope John XXII. to publish a crusade in favour of Andronicus, emperor of the East, who had married his daughter. He was much loved and honoured by all the sovereigns of Europe, and was generally the mediator in all their differences. Mod. Un. Hist. vol. xxxiv. p. 16.

AMADEUS VIII., count of Savoy, succeeded his father Amadeus VII., in 1391, and acquired the titles of the "Pacific," and "the Solomon of the Age." Savoy was erected by the emperor in 1416, into a duchy; but after this elevation, Amadeus formed the resolution of retiring from his throne and family into a religious house at a place called Ripaille. In this retreat, which he had sought according to the opinion of the world from religious motives, he devoted himself to every kind of pleasure and luxury, so that *faire ripailles* became proverbial to signify a life of exquisite gratification and indulgence. Here he instituted the order of St. Maurice, or the Annunciata, consisting of a number of hermits, who excluded women from their community, but in other respects maintained the character of Epicureans and votaries of pleasure. In this retreat Amadeus aspired to the papacy, and employed large sums of money at the council of Basil, to secure the object of his ambition. Accordingly, in 1439, this council, having deposed pope Eugenius IV., conferred the triple crown on Amadeus, under the name of Felix V, though he had never taken holy orders. A schism was the consequence of this extraordinary election; and Eugenius at length excommunicated his rival. On his death Amadeus was persuaded to abdicate, and a new pope was chosen in his room. But his resignation was amply recompensed by the dignities of cardinal, bishop and apostolical legate, and by his being allowed to retain most of the pontifical insignia. He died at the age of 69, in 1451, at Laufanne, which, during the latter part of his life, he had chosen for his residence, and was succeeded by his son Lewis, to whom, in his life-time, A. D. 1433, he had resigned the title, but few or none of the revenues of the dukedom. Mod. Un. Hist. vol. xxxiv. p. 78.

AMADEUS IX., count of Savoy, was furnished the "Happy," on account of his virtue and piety, his readiness to forgive those who offended, his love of justice, and his study to promote the welfare of his subjects. He succeeded Lewis in 1464, and though his bodily infirmities prevented his engaging in any great exploits, he acquired and maintained a very exemplary character. He was eminently distinguished by the benevolence of his disposition. Being once asked by a courtier, whether he kept hounds; he pointed to a great number of poor people, who were seated at tables, eating and drinking, and replied: "those are my hounds, with whom I go in chase of heaven." When he was told that his alms would exhaust his revenues: "take the collar of my order," he said, "sell it, and relieve my people." He married Iolande of France, who concurred with him in all his good deeds. His death, in 1472, at the age of 37 years, and after a reign of seven, was universally regretted. Mod. Un. Hist. vol. xxxiv. p. 82.

AMADIA, in *Geography*, a fortified and trading town of Asia, in the province of Kurdistan, situate upon a high mountain. Its environs produce tobacco and gall-nuts, which furnish means of commerce. It is the residence of a bey, who governs the whole country. N. lat. 36° 25'. E. long. 43° 1'.

AMADOCA, in *Ancient Geography*, a town of European Sarmatia, inhabited by the *Amadoci*, and whose habitations were also on mountains of the same name, between the Roxalane and Bactrae.

ALMADIS, in *Natural History*, a species of the *Conus*, in the *VERMES TESTACEA*, with a shell dilutely brown, broad fascia, and articulated bands above and below; and an acute, crowned spire, finely and transversely striated.

AMADOW, a kind of *black-match*, tinder, or touch wood, which comes from Germany. It is made of a sort of large mushrooms, or spongy excrescences, which com-

monly grow on old trees, especially oaks, ash, and firs. This substance being boiled in common water, and afterwards dried and well beaten, is then put into a strong ley prepared with salt-petre, after which it is again put to dry in an oven. The druggists sell this match wholesale in France, and several hawkers retail it. See *AGARIC*.

Some give to the *amadow* the name of *pyrotechnical sponge*, because of its aptness to take fire.

AMADOWRY, a kind of cotton which comes from Alexandria, by way of Marseilles.

AMÆA, or **AMMÆA**, in *Ancient Geography*, a town of Lusitania, inhabited by the Ammienfes, between the Elvas and Tagus.

AMAGETOBRIA, now *Broie*, an ancient town of Gaul, mentioned by Cæsar, placed by M. d'Anville on the Arar, to the south of Segobodium, and to the west of Vefontio.

AMAGOR, in *Geography*, a town of Africa, in the empire of Morocco, and province of Hea.

AMAGUANA, the name of one of the Lucayan or Bahama islands, called also *Mayaguanu*.

AMAIA, or **AMAGIA**, formerly *Varegia* and *Natricia*, a town of Spain, belonging to the Cantabri, on the confines of Asturias, about three leagues from Villa-Diego, at the foot of a very high rock.

AMAILLOU, a town of France, in the department of the Two Sevrès, and chief place of a canton, in the district of Partenay, three leagues south-east of Bressuire.

ALMAIN, or **AMAYNE**, a *sea* term, used by a man of war, to his enemy; and signifying *yield*.

Hence, *to strike amain*, is, to lower, or let fall, the top-sails. The word is also written *amayne*.—Waving *amain*, is to make a sign to another vessel, by waving a bright sword, or other thing, as a demand for striking its top-sails.—This is commonly done either in the fore-top, or on the poop. *Amain* is also a term used in letting down a thing, by a tackle, into the hold, or elsewhere, in the lowering a yard, or the like, to denote, that the sailors are to let go that part of the rope which they held before, and let down the thing easily, and by degrees. *Amain* is also used to denote at once and instantly; as let go *amain*.

AMAK, called also **ABULNAGIE AL BOKARI**, in *Bio-graphy*, a celebrated Persian poet, was a native of Bokhara, and flourished towards the close of the 11th century, under the sovereigns of the Seljuk race. He was at the head of an academy, consisting of about 100 men of letters, with handsome pensions, established by Khedar Khan, who reigned in the Transoxian provinces, and who was a very munificent patron of letters, and particularly of poetry. This prince presided in the academy, seated on a throne, at the foot of which were four large basons of gold and silver coin, which were intended for the recompence of those poets who obtained his approbation. Amak was a distinguished favourite, lived by the bounty of his patron in great affluence, and kept a number of slaves, and thirty richly caparisoned and trained horses. Thus favoured, he became the object of envy, and Raschidi, whom he had recommended, endeavoured to supplant him. Amak and Raschidi were appointed to contend for poetical victory in the sultan's presence; and the satirical verses of the latter gained the prize, very much to the mortification of the former. Amak lived nearly a century. His principal work is the "History of the Loves of Joseph and Zoleiskah," a romance, founded on the account of the patriarch Joseph, in the Koran. He was most distinguished for his elegies. When sultan Sangiar was inconsolable for the death of his sister, and disregarded all the elegiac verses of other poets, Amak was sent for to soothe him; and an elegy transmitted by him, when he was too aged

aged and infirm for travelling, obtained a decided preference. D'Herbelot. Gen. Biog.

AMAL, AMALIA, in *Geography*, a town of Sweden, in the province of Thalland or Dalsland, seated on the Wener-lake, which divides the town and the market place into two parts. The town was founded in 1640; it has a good harbour, and carries on a considerable trade, particularly in timber, deals and tar. It is the 89th town of those that vote in the diet. N. lat. 58° 53'. E. long. 12° 40'.

AMALAEVA, a river of Siberia, which runs into the Frozen Ocean. N. lat. 71° 10'. E. long. 128° 14'.

AMALAGO, in *Botany*. See PIPER.

AMALANCHIOR. See MESPILUS.

AMALARIC, or AMAURY, in *Biography and History*, king of the Visigoths, was the son of Alaric II.; but being an infant of five years, at his father's death, in 506, the throne was usurped by Geislaric, the natural son of Alaric. Amalaric in the mean while retired into Spain; and the Visigoths were governed by his grandfather, Theodoric, king of the Ostrogoths, who expelled Geislaric from the throne, till his death in 526, when Amalaric assumed the government. This prince was zealously attached to the Arian doctrine and cause, and as he had married Clotilda, the daughter of Clovis, who inherited the piety and orthodoxy of her mother, he used various means, and as the Catholic historians say, those of violence, to profelyte her to his own opinion and party. In process of time, after patiently enduring the wrongs she suffered, she communicated an account of them to her brothers, and testified the truth of her relation by accompanying it with a handkerchief stained with blood. In consequence of this complaint, her brother Childebert, king of France, marched with a numerous army into the territories of Amalaric, defeated him in an engagement, and forced him to take refuge on board his fleet. But recollecting that his treasures were left in the city of Narbonne, he went on shore again, in order to recover them; but had no sooner entered the city than he was surprised by the enemy; and seeking safety in a church belonging to the Catholics, a common soldier ran him through with a spear, A.D. 531. Some say, that he retired to Barcelona, and was assassinated by his own subjects; but it is more probable, that the assassin was either a Frank or some person employed for this purpose by Theudis, who succeeded him. Mod. Un. Hist. vol. xvi. p. 10.

AMALASONTHA, regent and queen of Italy, was the daughter of Theodoric the Great, king of the Ostrogoths, by Audeslida, the sister of Clovis, and united in her person the two most illustrious families of the Barbarians. She was born about the year 498, and in 515 was married to Eutharic, the last heir of the royal race of the Amali, whom her father had sent from Spain, and designed for his successor; as the sex of his daughter excluded her from the Gothic throne. Eutharic soon died and left an infant son, Athalaric, and Amalasontha assumed the guardianship of her son and of the kingdom of Italy. Her beauty was animated by manly sense, activity, and resolution. Education and experience had cultivated her talents; her philosophical studies were exempt from vanity; and though she expressed herself with great elegance and ease in the Greek, the Latin, and the Gothic tongues, she maintained in her counsels an impenetrable silence. By a faithful imitation of the virtues of Theodoric, she revived the prosperity of his reign; and she also strove, with pious care, to expiate the faults, and to obliterate the less favourable remembrance of his declining age. The children of Boethius and Symmachus were restored to their paternal inheritance; she inflicted neither

corporal nor pecuniary penalties on her Roman subjects, and she dispelled the terrors of the Goths, who, at the end of 455 years, enslaved the people of Italy as their slaves or their enemies. The means of her administration were directed by the wisdom, and also celebrated by the eloquence, of Cassiodorus; she fostered and directed the friendship of the emperor; and the kingdoms of Europe respected, both in peace and war, the majesty of the Gothic throne. The education of her son engaged her particular attention; and she employed three venerable Goths to instil into his mind the principles of honour and virtue, whilst he was diligently instructed in all those arts and sciences, which might be either useful or ornamental to a Roman prince. But the queen's solicitude for her son's improvement and good conduct, produced a degree of vigilance and discipline, against which his untractable disposition recoiled, and which his subjects disapproved. At length when the Goths were assembled on a public occasion, in the place of Ravenna, the youth escaped from his mother's apartment, and complained with tears of pride and anger of the chastisement, which his stubborn temper had induced her to inflict. The indignation of the Barbarians was roused, and they accused the queen regent of conspiring against the life and crown of her son; and proceeded to demand, that he should be rescued from his present tuition, and educated, like a valiant Goth, in the society of his equals. Amalasontha was compelled to submit; and the young prince became dissolute and licentious, despised his mother, and counteracted the salutary measures which she had been pursuing. In these circumstances she entered into a negotiation with the emperor Justinian, and prepared for retiring from a scene of discontent and faction. In the mean while she yielded to the impulse of ambition and revenge; three of the most dangerous malecontents, who had been separately removed to the frontiers of Italy, were assassinated by her private emissaries; and this act increased the popular dissatisfaction and complaint. At this time the death of her son, at the age of 16, in consequence of premature intemperance, left her destitute of any firm support or legal authority. Instead of submitting to the laws of her country, and retiring to a private station, she conceived the design of sharing, with one of her cousins, the regal title, and of reserving in her own hands the substance of supreme power. The eloquent Cassiodorus announced to the senate and to the emperor, that Amalasontha and Theodatus had ascended the throne of Italy. The issue of this scheme of ambition soon proved disastrous and fatal. Infligated by the principal Goths, Theodatus caused the queen to be imprisoned in a small island, in the lake of Bolsena, where, after a short confinement, she was strangled in the bath, (A.D. 535,) by the order, or with the connivance, of the new king. Gibbon's Hist. vol. vii. p. 206—210.

AMALEK, in *Scripture History*, was the son of Eliphaz, Esau's eldest son, by his concubine Timna. Gen. xxxvii. 12—16. 1 Chron. i. 36. He succeeded Gatam, who was one of the dukes in the land of Edom; and was the father of the Amalekites, who inhabited that part of Arabia Petræa, which lay east of the Edomites, with Midian on the north, Arabia Petræa on the south, Arabia Deserta on the east, and extended almost as far north as the Dead Sea, and southward to the Red Sea, or between Havilah and Shur, 1 Sam. xv. 7. These people had no constant dwelling, nor do they seem to have had any cities; but they changed their abode, like the Arabs, and lived in tents or booths, as they migrated from one part of the country to another, and sometimes in subterraneous caverns. It is not, therefore, easy to ascertain the limits of their country. Mr. Reland

places them between the deserts of Kadesh and those of Engedi, though somewhat nearer to the Mediterranean. Josephus, in one place, affirms, that they extended from Pelusium to the Red Sea, and in another place he fixes them between Gabolitis and Petra. *Antiq. lib. vi. c. 8. Ibid. lib. iii. c. 2.*

As soon as the Israelites had crossed the Red Sea, the Amalekites determined to cut them off; and with this view they fell on their rear, as they were marching from Rephidim to Mount Hor, and slew those who, through weakness or fatigue, were left behind. But this unprovoked assault was very justly and severely avenged upon themselves by Joshua, who defeated them with great slaughter, *A. M. 2517, B. C. 1487.* Between the Amalekites and the Israelites, there seems to have subsisted an irreconcilable enmity; and it has not been improbably traced to their progenitor's having been deprived of his birth-right and blessing by Jacob. Under the Judges, they joined with the Midianites and Moabites against Israel, who were delivered from the former by Ehud, and from the latter by Gideon. *Judges, vi. 3. 11. 13.* Saul, soon after he was advanced to the throne of Israel, marched against the Amalekites with a large army; advanced to their capital; slew a great number of them, and laid waste their country; but by reserving to himself the best of the cattle and moveables, in violation of the divine command, he laid the foundation of the calamities that afterwards befell him, *B. C. 1093.* Some fugitives escaped; and we find that some years after this event a troop of Amalekites pillaged Ziklag, which then belonged to David; but he pursued and dispersed them, and recovered the captives and treasures which they had taken. *1 Sam. xxx.* The Amalekites were thus gradually reduced; and at last, in the days of Hezekiah, king of Judah, who began his reign, *B. C. 726,* they were utterly destroyed and scattered by the sons of Simeon, who took possession of their country. *1 Chron. iv. 40—43.* Thus the declaration of Balaam, recorded *Numb. xxiv. 20,* was literally fulfilled; "Amalek was the first of nations; but his latter end shall be, that he perish for ever." According to the account of the Arabians, Amalek was the son of Ham, and grandson of Noah; he was the father of Ad, and grandfather of Schedad. Calmet inclines to this opinion; for he says, it is not easy to conceive how the Amalekites, if they were merely the posterity of the son of Eliphaz and grandson of Esau, could be so numerous and powerful as these people are represented to be when the Israelites departed out of Egypt. Besides, when we call to mind the previous wars of the Amalekites with Chedorlaomer (*Gen. xiv. 7.*); when we consider that Balaam calls them the first, or beginning, of nations; when we reflect, that Moses never styles them the brethren of Israel or Edom; that the latter never held any confederacy or friendly correspondence with them in all their wars, but suffered them to be invaded and butchered by Saul, without affording them any assistance; and, lastly, when we find them always mentioned with the Amorites, Philistines, and other Canaanitish nations, and with them involved in the same curse, we can scarcely forbear looking upon them rather as a tribe of those nations, than as the descendants of Esau, who probably formed but a small tribe, and not permanently conspicuous. Of the Amalek, destroyed by Saul, the Arabians give the following account. He was the father of an ancient tribe in Arabia, which contained only the Arabians called *pure*, the remains of whom were mingled with the posterity of Jocktan and Adnan, and so became Mosarabes or Mostaarabes, *i. e.* Arabians blended with foreigners. They believe, that

Goliath, who was overcome by David, was king of the Amalekites, and that the giants who inhabited Palestine in Joshua's time, were of the same race; and that part of them retired into Africa, while Joshua was living, and settled on the coasts of Barbary. The son of Amalek was Ahi, a celebrated prince among the Arabians, whom some make the son of Uz, and grandson of Aram, the son of Shem. Calmet. See ADITE.

AMALEE, in *Geography*, a mountain in the land of Ephraim, on which the town of Pirathon was situated, where Abdon, son of Hillel, judge of Israel, was buried, *A. M. 2848, B. C. 1156. Judges xii. 14, 15.*

AMALFI, or AIALPHI, an ancient sea-port town and archiepiscopal city of Italy in the kingdom of Naples, and Principato citra, situate on the west coast of the gulf of Salerno. N. lat. $40^{\circ} 35'$. E. long. $15^{\circ} 20'$. The most generally received opinion of the origin of this city is, that about the middle of the 4th century a considerable number of Roman families, either with views of emolument or by compulsory orders of the emperor, left Rome, and embarked for Constantinople; but meeting with adverse storms, they were cast away on the shore of Salerno; and determined to form a settlement on the present site of Amalfi. This feeble and rising colony was guarded by impervious mountains and inaccessible coasts, from the first fury of the Lombards, who seldom attempted the conquest of a maritime people. In the year 825 this small republic, under the patronage of the eastern emperor, attained a degree of wealth and reputation which invited the attack of Sico, prince of Salerno, who marched a body of troops by night, surprised Amalfi, and carried off the greatest number of its inhabitants to supply the place of those, of whom Salerno had been deprived by an epidemical disorder. The Amalfitans taking advantage of the absence of the chiefs of Salerno, in an expedition against the Beneventans, armed themselves, and, after burning and plundering Salerno, marched back in triumph to their native abodes. Being thus restored to their country, they formed a better constitution and code of laws, and adopted various measures likely to prevent internal discord, and the assault of foreign enemies. Under these new regulations Amalfi rose to the summit of its military and commercial glory. Pope Leo IV. found the Amalfitans an useful ally in his war with the infidels, and conferred upon the commonwealth the distinguishing title of defender of the faith. The Neapolitans sought their friendship, and the Mussulmen courted alliance with them. Their situation was favourable for commerce; and their attention to naval affairs induced the emperor of Constantinople to establish a court at Amalfi for the decision of all maritime disputes, and the code and reports of this court obtained authority through this part of Europe. The merchants of this town engrossed the trade of the Levant, and transacted the commercial business of the world in a lucrative and exclusive manner. The importance of Amalfi, in its various maritime and commercial connections, led to the establishment of the order of knighthood, under the patronage of St. John of Jerusalem, the members of which were afterwards called knights of Rhodes, and since of Malta. The charitable traders of this port obtained leave of the Mussulmen chief at the caliph's court, in 1020, to erect two small hospitals and a chapel for the use of votaries coming from the western parts of Europe. From Pafitano, says Mr. Swinburne, in the neighbourhood of Amalfi, was derived the first knowledge of the mariner's COMPASS.

The flourishing state of the Amalfitans exposed them to various assaults; but they derived from the holy war temporary

heres to mercury when applied to its surface; and, when a plate of this, suspended to the arm of a balance, is brought in contact with mercury, a greater or less counterpoise will be required to break the adhesion, as the chemical affinity between the two is stronger or weaker. (See ADHESION.) Nor is this adhesion an effect taking place merely at the plane of contact, but an actual penetration or absorption of the mercury is produced by the other metal: thus, when a plate of gold is placed in contact with mercury, not only the surface of adhesion is whitened by the mercury, but, after remaining in this state a few hours, the gold will become brittle, and particles of mercury may be observed through its whole substance, having no doubt been drawn up through its minutest pores by the force of chemical attraction.

During amalgamation, as is the case in all other instances of simple solution, a considerable quantity of caloric is absorbed, producing the sensation of cold, and lowering the thermometer. This is rendered very sensible to the touch, by rubbing together in the palm of the hand equal parts of an amalgam of bismuth and an amalgam of lead; the two solids will almost immediately become fluid, and a very considerable cold will be produced. The same may be shown by the thermometer: if a quantity of mercury is heated to about 80° Fahr. and the bulb of a thermometer wrapped round with tinfoil is then immersed in it, a speedy solution will take place, and at the same time the mercury in the thermometer will descend a few degrees.

Another remarkable phenomenon of amalgamation is the disposition to oxydate which both metals exhibit while the solution is going on, and even after it is completed: it is impossible to combine bismuth, tin, or lead, with mercury, without observing as the process advances the formation of a quantity of black powder, which rises to the surface of the metals, and is a compound oxyd of mercury and the other metal. Upon this also depends Dr. Priestley's simple and ingenious method of separating from mercury a large proportion of the lead, &c. with which it is usually contaminated; for this purpose nothing more is necessary than agitation of the mercury in a bottle, with a little water, till it ceases to be discoloured, or, in other words, till the amalgam is almost wholly decomposed. Hence too is explained the observation of Isaac Hollandus, that gold and silver may be calcined in a reverberatory furnace, if they have been previously mixed with mercury.

§ 3. General Properties of Amalgams.

The specific gravity of amalgams, as of all other alloys, is different from the mean specific gravity of their component parts: sometimes it is greater, at other times less; and, according to Gellert, the amalgam of silver is of superior specific gravity even to mercury, the weightiest of the two ingredients. This takes place, however, only at a low temperature; for it was found by Sage that the amalgam of silver, when heated, floats on the surface of mercury.

The more decidedly crystalline form of amalgams, owing to their soft or semi-fluid state, at a moderately warm temperature, is a circumstance that remarkably distinguishes them from the pure metals. Any metal, when melted and cooled very slowly, will exhibit in its fracture a crystalline structure, and the crystals of which it is composed may, by particular management, be exhibited in a state of separation from each other; but similar appearances may be produced with much greater ease in amalgams. All amalgams are brittle, and any of them, being broken, will exhibit a granular or laminated texture, which, by the microscope, will be found to be owing to a multitude of minute crystals, applied by their

surfaces to each other, but not adhering with any considerable force. Induced by these appearances, M. Sage, after many trials, succeeded in obtaining regular crystals of most of the amalgams by the following method. Having prepared a very fluid amalgam, by adding four, five, or six times a greater quantity of mercury than of the other metal, he put it into a retort, and proceeded to distillation in a sand-bath, till a fourth, or even a third, of the mercury had been driven off; the residue, being then allowed to cool very gradually, was found regularly crystallized at the bottom of the vessel. He thus obtained silver amalgam in the form of articulated tetrahedrons and aluminiform octahedrons, resembling the native dendritic silver. In the same manner the amalgams of gold, bismuth, tin, and zinc, assumed the form of regular crystals, but those of copper, arsenic, and antimony, refused to crystallize.

Amalgams may be decomposed by heat, but the last portions of mercury are not driven off without a much greater heat than is required for the volatilization of pure mercury. Hence a large proportion of the volatile metals, such as zinc and arsenic, unites with the mercury, and is carried over with it, and even the more fixed ones, as gold and silver, are thus rendered in part volatile.

As each metal has its peculiar affinity for mercury, it is obvious that an amalgam may be decomposed by the addition of a metal that has a stronger attraction to mercury than that of which the amalgam is composed: upon this subject, however, no accurate experiments have as yet been made, which is the more to be regretted, as it would much assist the investigation of the difficult but important subject of metallic alloys. One amalgam may even decompose another in a great measure, as is the case with the amalgams of lead and bismuth: these being made separately, with a quantity of mercury equal to the other ingredient, will be solid and friable, but, upon mixture, will combine into a fluid scarcely to be distinguished by its appearance from pure mercury: by standing some days, however, in a temperature not exceeding 40° Fahr. cubic crystals will be deposited of almost pure bismuth. For other particulars see the several amalgams under the word MERCURY. Encycloped. method. art. Amalgame.

AMALGAMATION, in *Metallurgy*. See SILVER ores, extraction of.

AMALI, in *Ancient Geography*, a people comprehended under the appellation of Getae.

AMALIA, in *Entomology*, a species of PAPILIO in the *Nymphales* section, with indented wings: upper side brown, under side yellow with two streaks and spots of blue, the lower ones marked with black dots. Fabr. Ent. Syst. tom. iii. p. 1. p. 129. sp. 398. Obs. In addition to this specific character FABRICIUS says, above the brown colour of the wings inclines to fulvous, and the posterior pair is marked with an obsolete row of fulvous spots. Beneath, the apex of the anterior wings has a black mark, and two blue spots with a black character in the middle of each; the exterior margin, two streaks, and seven spots on the posterior wings are blue, the latter with black dots in the middle. Inhabits Sierra Leon.

AMALLOBRIGA, in *Ancient Geography*, a town of Spain, upon the Durius, to the south-east of Pallentia.

AMALRIC, AUGERI, in *Biography*, an ecclesiastical historian of the 14th century, dedicated to pope Urban V. a history of the popes, under the title of "Chronicon Pontificale," brought down to pope John XXII. and said to be collected from more than 200 writers.

AMALTHÆA, in *Mythology*, the Cuman Sibyl, who

is said to have come from a far country to Tarquin's Supplices, and to have offered for sale nine books of Sibylline, or prophetic oracles. Upon Tarquin's refusal to give her the price she asked, she went away and burnt three of them. Returning soon after, she demanded the same price for the remaining six. The king ridiculed her for her folly, upon which she went and burnt other three; and returning asked the same price for the three which remained. A. Gellius (l. 19.) says, that the books were burnt in the presence of the king. Tarquin, surprised by this strange conduct, consulted the augurs, who, regretting the loss of the books which had been destroyed, advised the king to give the price, which the woman required. Amalthæa, having surrendered the books, with a desire that they might be carefully kept, disappeared, and was never afterwards seen. Dionys. iv. 62. Lactantius, i. 6. Gell. i. 19. Pliny (xiii. 13. l. 27.) says, that she burnt two books, and only preserved one. See SIBYLS.

AMALTHEA, the daughter of Melissus, king of Crete, and nurse of Jupiter, whom she is said to have fed with goat's milk and honey. According to others, Amalthæa was a goat which nourished Jupiter, and whom, in recompence for her attention, he translated into the heavens, and thus she became the constellation which bears this name. It is added, that one of the horns of this goat was given to the daughter of Melissus, as a reward for their kindness, and that it had the peculiar property of furnishing them with whatever they wished for: and hence the Greeks formed of it their *cornucopia*, or horn of abundance.

AMALTHEO, in *Biography*, the name of a family of the 16th century, celebrated for literature originally from Pordenone in Friuli, and branched out into several places in that province. In this family there were poets, physicians, and professors of belles lettres. The most distinguished were the sons of Francesco Amaltheo, professor of belles lettres in Sacile; viz. *Girolamo*, or *Jerom*, born in 1507, at Oderzo in the Trevisan, who was solicited by the queen of Poland to be her physician, but declined it. He taught medicine at Padua, and practised as a physician in several towns of Friuli, till 1574, when he died at Oderzo highly honoured by his townsmen. He so much excelled in Latin poetry, that he is placed by Muretus at the head of all the Italians who exercised their talents in this way. The famous epigram of "Acon and Leonilla," is by this author. *Gimbasila*, or *John Baptista*, was born at Oderzo in 1525, educated at Padua, and at the age of 20, called to Venice to instruct the youth of the Lippomana family in polite literature. His own studies comprehended, besides the Greek, Latin, and Italian languages, philosophy, jurisprudence, and theology. In 1554 he accompanied the Venetian ambassador, Michele, to England; he was afterwards secretary to the republic of Ragusa, and accompanied the cardinals deputed to the council of Trent, as first secretary to pope Pius IV. He died at Rome in 1573, much lamented by the learned men of his time, by whom he was highly esteemed for his genius and erudition. His Latin poems, first printed in 1550, gave him a reputation equal to that of his brother; and he likewise wrote poems in his own language that are much valued. The Latin poems of these two writers, and of another brother named *Cornelius*, who was a physician, are contained in the first volume of the "Deliciae Poet. Italicæ," and were published in a separate volume, at Venice in 1627, and at Amsterdam, in 1689. Gen. Biog.

AMAMA, SIXTINUS, an eminent biblical critic of the 17th century, was born in West Friesland, educated under Drusus in the university of Franeker, and obtained a

very considerable acquaintance with the oriental languages. Wood (Athlon. Oxon. ii. 611.) says, that about the year 1612, he visited Oxford, resided in Peter-house, and taught Hebrew in the university. Upon his return to his native country, he was appointed professor of the Hebrew language in the university of Franeker, where he continued, notwithstanding, earned doctorates for his doctoral to Leyden, in order to succeed Episcopius, till his death, which happened in December 1620. His first work was a criticism on the Vulgate translation of the Pentateuch, printed in 4to. in 1620, at Franeker, and entitled, "Censura Vulgate Latine Editionis Pentateuchi." This was part of a plan which he had formed with a view to a "General Censure of the Vulgate Version of the Scriptures," which the council of Trent had declared authentic. But his attention was diverted from the completion of his design by a collation of the Dutch version of the Scriptures, with the originals, and the most approved translations. The result of this collation was published in 1623, in the Dutch language, under the title of "Bybelsche Conferentie." Whilst he was thus engaged, he received information that father Mercennus, in vindication of the Vulgate, had written a refutation of his criticism on the first six chapters of Genesis, and he, therefore, resumed his original design; and, in 1627, published a letter to Mercennus, and in 1628 a work, entitled, "Anti-Barbarus Biblicus;" or containing a farther reply, together with a censure of the Vulgate on the historical books of the Old Testament, on Job, the Psalms, and the books of Solomon, to which are added, dissertations on particular subjects. This book was reprinted at Franeker, in 4to. in 1656, with a criticism of the Vulgate upon Isaiah and Jeremiah. Amama also wrote a learned dissertation, "De Nomine Tetragrammati," which was published in 8vo. at Franeker in 1620. So successfully did he expose the defects and errors of the Vulgate, and so earnestly did he recommend the study of the original languages of the Bible, that it was decreed by some synods, that those only should be admitted to the ministry, who understood, at least in some degree, the Hebrew and Greek texts of the Scripture. Amama also evinced his solicitude for the honour of the university at Franeker, by his attempts to reform some irregularities of conduct that prevailed in it. He was so much respected by his countrymen, that, after his death, they testified their regard for his memory by their liberality to his children. Gen. Dict.

AMAMASSIUS, in *Ancient Geography*, a town of the isle of Cyprus, in which they worshipped Apollo Hylates.

AMAM-SAMA, a town of Judea, in the tribe of Judah.

AMAN, in *Commerce*, a sort of blue cotton cloth, which comes from the Levant by the way of Aleppo.

AMAN, in *Ancient Geography*, a town of Palestine, in the southern part of the tribe of Judah.

AMAN, in *Geography*, a sea-port town of Africa, on the Atlantic, between Cape Ger and Cape Cantin, in the kingdom of Morocco.

AMAN, a district of Sumatra, about the centre of the island.

AMANA, in *Ancient Geography*, a mountain of Palestine, on the other side of Jordan, in the tribe of Manasseh.

AMANA, a town of Asia, in Media, according to Ptolemy.

AMANCE, in *Geography*, a town of France, in the department of the Meurte, and chief place of a canton in the district of Nancy, three leagues south-west of Chateau-Salins, and 14 north-east of Nancy.

AMANCE is also a town of France, in the department

of the Upper Saone, and chief place of a canton in the district of Jusley, two leagues east of Jusley.

AMAND, MARK ANTHONY GERARD, SIEUR DE SAINT, in *Biography*, a French poet of the 17th century, was born at Rouen in Normandy in 1594. His father commanded a squadron of ship in the service of queen Elizabeth for 22 years, and his two brothers were killed in a battle against the Turks. As for himself, his whole life was spent in a succession of travels in Europe, Africa, and America, which, whatever might be the amusement or information he derived from them, were injurious to his fortune. His works were chiefly miscellaneous poems, most of which are of the comic or burlesque, and of the gallant or amorous kind. Three volumes of his poems were published in 4to, at Paris; the first in 1627, the second in 1643, and the third in 1649, under the title of "Les Œuvres de St. Amand;" and they have passed through several editions. His "Stanzas upon the Pregnancy of the Queen of Poland and Sweden" were printed in 1650; his "Moses saved, a heroic Idylhum," Paris, 1653, 4to, and 1660, 12mo: his "Stanzas to Monf. Corneille, upon his Imitation of Jesus Christ," Paris, 1656, 4to; and his "Rome ridicule," printed several times in 4to and 12mo; and when it was printed clandestinely at Paris in 1643, the printer was thrown into prison. The earlier part of Amand's life was licentious and debauched; but towards the close of it he was reformed, in consequence of the penury and distress of his circumstances. M. Broffete, in his notes upon Boileau, says, that he wrote a poem upon "the Moon," in which he complimented Lewis XIV. upon his skill in swimming, in which he was accustomed to exercise himself in the Seine; but the king could not bear to hear this poem read to him; and this circumstance is said to have mortified the author to such a degree that he did not long survive. He died in 1661, at the age of 67 years. He was admitted a member of the French Academy from its first foundation in 1633; and he was excused from making a speech upon his introduction, on condition of his compiling the comic part of the Dictionary which the Academy had undertaken, and collecting the grotesque and burlesque terms. Boileau represents the genius of St. Amand as adapted to works of low humour and satire; but he adds, that he spoils all by the mean and trivial circumstances which he introduces. Gen. Dict.

AMAND, PIERRE, born at Riez in Provence, about the middle of the 17th century, practised midwifery with credit at Paris. In the year 1705 he published "Nouvelles Observations sur la Pratique des Accouchemens," in 8vo. of which a second edition appeared in the year 1715. He relates the cases of several women who had extra-uterine fetuses, and gives an account, accompanied with engravings, of a kind of net he had invented for extracting the heads of fetuses, when left in the uterus, separated from the body. The invention is ingenious, but has long been laid aside for the crotchet, by which the extraction is performed with much greater ease and certainty. *Vide* Essais Historiques sur l'Art des Accouchemens, par M. Sue.

AMAND, ST. in *Geography*, a town of France, in the department of Cher, seated on the river Cher, 20 miles south of Bourges. N. lat. 46° 45'. E. long. 2° 30'.

AMAND, ST. is also a town of France, in the department of the North, in which was lately a celebrated abbey. When the combined forces of Prussia and Austria invaded France in 1792, it was taken by them, but evacuated afterwards in their memorable retreat. It was given to France by the treaty of Utrecht. It is seated on the river Scarpe, seven miles north of Valenciennes. N. lat. 50° 27'. E. long. 2° 35'.

AMAND, ST. a small town of France, in the diocese of Auxerre.—Also a small town in the diocese of Clermont.

AMANDA, in *Ancient Geography*, a country of India, which, according to Pliny, contained various people, under the denominations of Samarabriz, Sambruceni, Bisambriti, Osi, Antixeni, and Taxillæ.

AMANDAVA, in *Ornithology*, a species of FRINGILLA that inhabits Asia, and is correctly described by LINNÆUS, as being of a brown and reddish colour, spotted with white. It is about the size of a wren, or four inches in length: the upper part of the plumage brown, with a mixture of dull red, the under part of the same colours, but paler, except the middle of the belly, which is darkest. Every feather in the upper wing-coverts, breast, and sides, has a white spot at the tip. The bill is dull red, tail black, and legs pale yellow. The female has a mixture of white on the throat and fore-part of the neck, and the belly is pale yellow.

This species is frequent in Bengal, and has been called the Bengal finch (or Amaduvade). In allusion to this, Brisson names it Bengalus punctatus, and Buffon Bengale piqueté.

There is a variety of this species, the AMANDAVA β . of Linnæus, hitherto found only in Bengal, which is said to be entirely brown, and without spots. This is the Bengalus fuscus of Brisson, and Bengale Brun of Buffon. Pl. enl. 115. f. 2. but it seems this variety is not always immaculate. Some have a small white spot at the tip of each of the wing covert feathers, and there is in general a little white on the breast also. The female is brown, without white spots: the legs, as in the preceding, yellowish.

AMANDRA, in *Ancient Geography*, a town of Ethiopia, placed by Suidas in the territories of king Cepheus.

AMANGO Cape, in *Geography*, lies on the south-east part of the island of Corfica, and forms the limit of Bonifacio bay. It is easily known by a large castle, and two rocks, which are situated just below the haven.

AMANGUCHI, a town of Japan, the capital of the kingdom of Nagaro, and one of the richest towns of Japan.

AMANIA, in *Ancient Geography*, a name given to Arabia Felix, or to that part of it called Yemen.

AMANIBO, a town of South America, on the coast of Guiana, between Paramaribo and Cayenne.

AMANICÆ, or AMANIDÆ, *parts or pyles*, in *Ancient Geography*, denote defiles in the mountain AMANUS.

AMANITA, in *Botany*. See AGARICUS.

AMANNIA. See AMMANNIA and PEPLIS.

AMANOÏA, in *Botany*, a genus of the *pentandria monogynia* class and order. Its characters are, that the *calyx* is quinque-partite; no *corolla*; the germen is triangular, the stigma trigonous, concave, and fimbriated. There is one species, *viz.* *A. guianensis*. Aubl. pl. gui.

AMANOBI, in *Ancient Geography*, a people placed by Ptolemy in Sarmatia, in the vicinity of the Roxolanz.

AMANOIDES, a promontory of Cilicia, between the rivers Pyramus and Cidnus.

AMANTEA, a sea-port town and bishop's see of the kingdom of Naples, on the west coast of Calabria Citra, near the bay of Euphemia. N. lat. 39° 15'. E. long. 16° 21'.

AMANTHONTE, in *Entomology*, a species of PAPILIO in the section *Danai Candidi*, with rotund wings, white and black at the tips. The margin of the posterior wings on the under side is brown. Inhabits South America.

AMANTIA, in *Ancient Geography*, a town in that part of Epirus called by Ptolemy Orestides, and since denominated

nated New Epirus. It is placed by M. d'Anville in the interior of the country, on the river Celadon. The inhabitants were denominated Amantes, or Amantides.

AMANUS, the name of a mountain, situate in the eastern extremity of the Median realm, near the gulf of Persia, and separating Cilicia from Syria. The declivity just of this mountain, which forms a common cation between these countries, is called *Pars Armenia*, or *Pars Cilica*, the Gates of Cilicia. The Persian army, under Darius, passed through this pass, while that of Alexander was detained at Issus, after having passed the summit of Mount Taurus, called also one of the Gates of Cilicia. This pass was so famous for the victory gained by Septimius Severus over Pescennius Niger. This mountain extends between the 37th and 38th degree of latitude, and its direction is from the north-east to the south-west. Some geographers have made it a branch of Mount Taurus. Stephanus Byz. says, that it took its name from the Greek word *amanos*, which Orestes was delivered here from the furies which agitated him after the assassination of his mother.

AMANUS, or OMANUS, in *Mythology*, the deity of the ancient Persians, which they believed to be the sun, or the perpetual fire, which they adored as an image or emblem of the sun.

AMANZIRIFDIN, in *Geography*, a town of Arabia, 440 miles east of Mecca, and 584 north-east of Mocha. N. lat. 20° 25'. E. long. 67° 30'.

AMAPALLA, a sea-port town in the province of Guatemala, in North America, situate on a gulf of the same name, 220 miles south-east of the town of Guatemala. The inhabitants of this town and its vicinity carry on a considerable trade in cochineal, cocoa, hides, and indigo, and the other commodities of the province. N. lat. 12° 30'. W. long. 86° 40'.

AMAPALLA Bay, or Gulf, lies on the western coast of Mexico, in North America, south-east from Guatemala, and north-west from Realejo, in the direction of the coast. The entrance into the bay is between two peninsulas, which approach near each other, and defend the bay from the ocean; but within it is very spacious, extending from north-west to south-east. It forms the harbour of the town of Amapalla, sometimes called Fonseca or Pensfeca. The coast, within the limits of the gulf, and without the bay, is free from rocks and shoals, and affords good anchorage; on the west side of the bay there is a hill, called the Hill of Amapalla, with a port at the foot of it called Martin Lopez. In the Gulf of Amapalla are two islands: one, called Mangera, is a high round land, encompassed by rocks, with a small sandy creek on the north-east side; and the other, called Amapalla, and the largest, is about the distance of

two miles. The gulf, though it runs a great way beyond the island, is not deep enough to receive ships of burden. MALLIN'S GULF.

AMARA, in *Acoustic Geography*, a town of Arabia Felix.

AMARA JUDAEA, in *Botany*. See MORMONICA.

AMARACUS, in *Ornithology*.

AMAPANTLI, in *Geography*, a small town, and the seat of a Bishopric, in the province of Vera Cruz, in the eastern part of the Kingdom of Mexico, and in the northern part of Mexico. It is situated about 100 miles from the city of Mexico, and is a very delightful country.

AMARANTH, an order of plants, which is said to be a Swedish Queen Christina, in commemoration of an annual feast, celebrated in that country, and called *Amorant*.

This feast was solemnized with entertainments, balls, masquerades, and the like diversions, and held from evening till the next morning. That princess, thinking the name too vulgar, changed it into that of the flower, *amarante*, and each person here represented some deity according as it fell to his lot. The queen assumed the name of *Amarante*, that is, *amara*, or *amara*. The young nobles, dressed in the habit of nymphs and shepherds, danced and sung on a table. At the end of the feast, the queen threw off her habit, which was covered with diamonds, leaving it to be pulled in pieces by the musketeers, and afterwards she gave a feast, founded a military order, called in Swedish *gefeichaffti*, into which all that had been present at the feast were admitted, including sixteen lords, and as many ladies, besides the queen. Their device was the cypher of *amarante*, composed of two A's, the one direct, the other inverted, and interwoven together on a jewel of gold adorned with diamonds; the whole inclosed by a laurel crown, with this motto, *dolce nella memoria*. The jewel was worn by the knights either in a gold chain, or a crimson or blue ribbon. Bulltrode Whitlock, the English ambassador from Cromwell to the court of Sweden, was made a knight of the order of *amarante*. On which account it seems to be, that we sometimes find him styled Sir Bulltrode Whitlock.

AMARANTH denotes a colour inclining to purple, derived from the flower of this name.

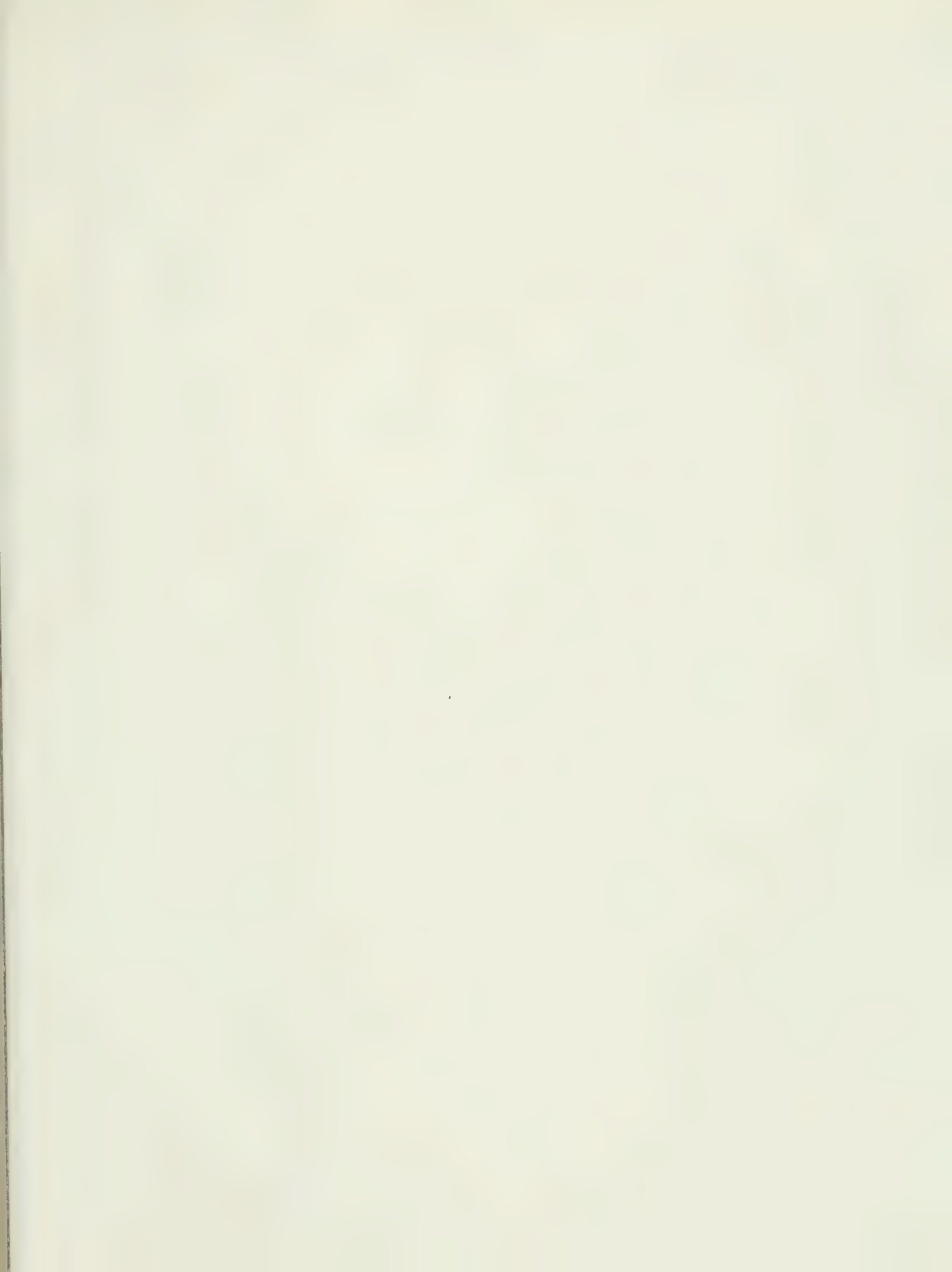
AMARANTH, *Cult. in Botany*. See GOMPHRESA.

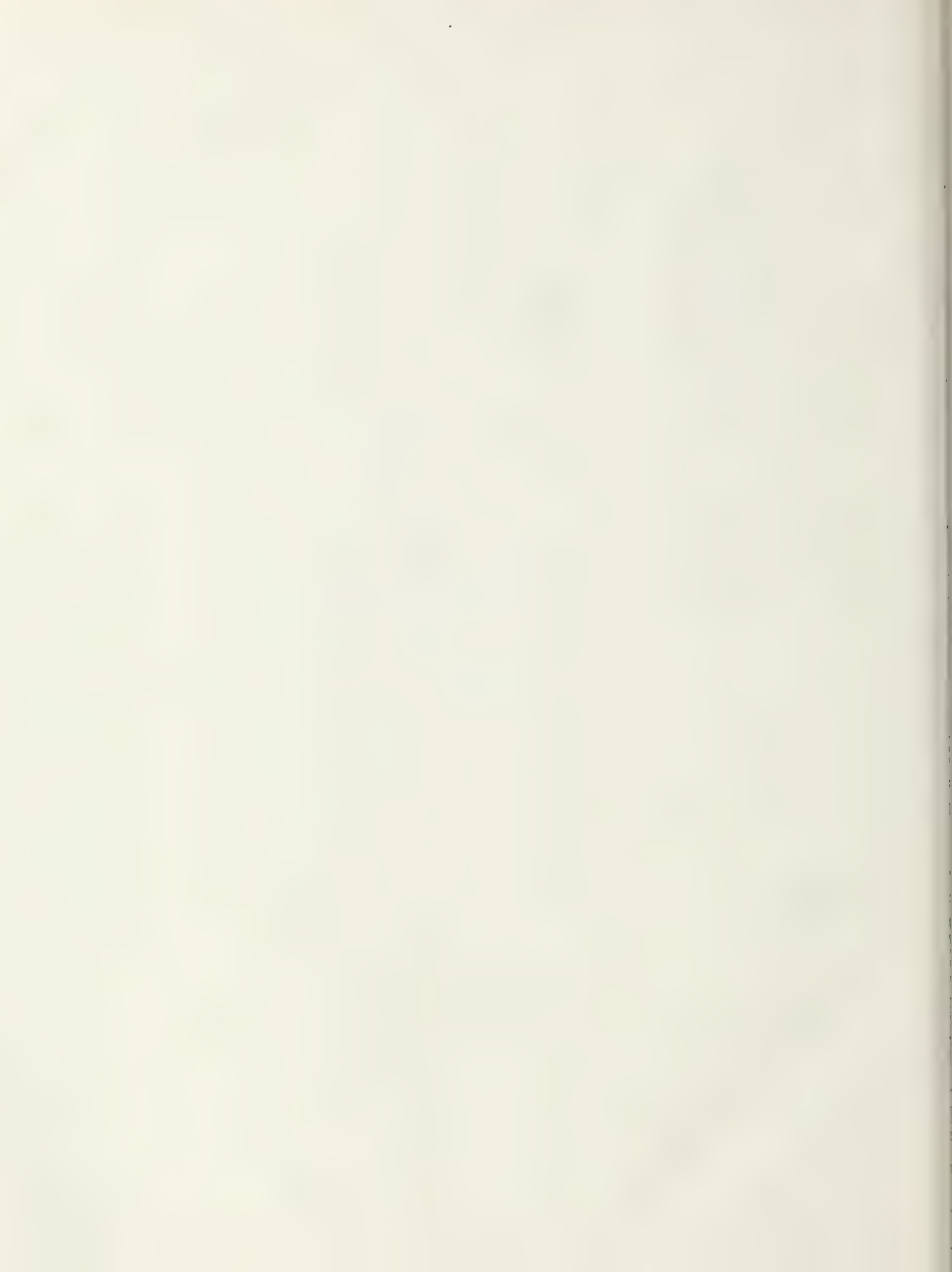
AMARANTHI Spica. See PHRYMA.

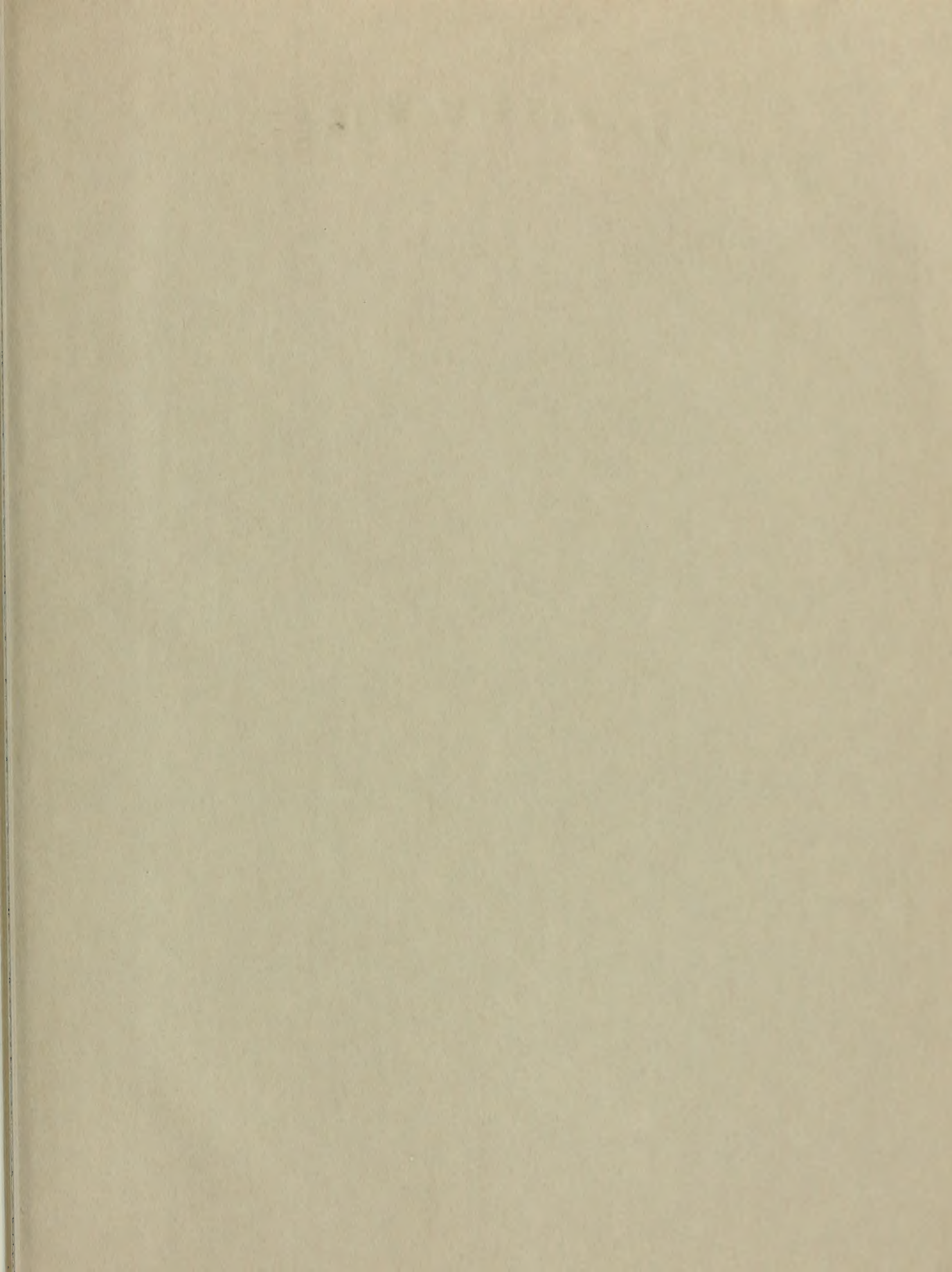
AMARANTHIO Lili. See GOMPHRENA and ILLECITHUM.

AMARANTHOIDES. See CIGOLA, GOMPHRENA and ILLECITHUM.

END OF THE FIRST VOLUME.

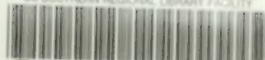






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